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The functioning of retail electricity markets for consumers in the European Union

FINAL REPORT

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Prepared by ECME Consortium

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Contents

Page

Contents

Page

Contents

Page

Glossary

Terminology abbreviations

DSO	Distribution System Operator
PPS	Purchasing Power Standard
kWh	Kilo watt hours
GWh	Giga watt hours
kva	Kilo volt-amperes
kw	Kilo watts

Member State abbreviations

BE	Belgium	LU	Luxembourg
BG	Bulgaria	HU	Hungary
CZ	Czech Republic	MT	Malta
DK	Denmark	NL	Netherlands
DE	Germany	AT	Austria
EE	Estonia	PL	Poland
EL	Greece	PT	Portugal
ES	Spain	RO	Romania
FR	France	SI	Slovenia
IE	Ireland	SK	Slovakia
IT	Italy	FI	Finland
CY	Cyprus	SE	Sweden
LV	Latvia	UK	United Kingdom
LT	Lithuania		

Executive summary

Subject of the study

The European Commission's DG Health and Consumers commissioned the ECME Consortium to undertake a sectoral market study of the functioning of the retail electricity market for consumers in the European Union. The retail electricity market had been identified as a market with a high likelihood of not functioning well for consumers in the second Consumer Market Scoreboard and a number of surveys had indicated that consumers in the retail electricity market faced a number of problems.

The purpose of the current study is to provide further evidence and analysis of how retail electricity markets really work for consumers. The overall aim of the study is to address the following two overarching questions:

1) Can consumers benefit from a well-functioning electricity market in terms of price, choice and innovation?
2) Are consumers able to make informed, rational and empowered decisions?

The first of these two questions focuses on the functioning of the market and for example whether the range of products on offer, the quality of products and services, and the price meet consumers' expectations.

The second question focuses on the decision making process of consumers and their ability to take the best possible advantage of what the market offers.

Scope of study

The study and data collection covers household consumers in all 27 Member States. Non-household consumers such as SMEs fall outside the scope of the study, although some of the issues raised in this report may also apply to non-household consumers.

The scope of the study is limited to the *retail* electricity market. The retail electricity market is the final part of the electricity supply chain and does not include generation, transmission and distribution of electricity. Hence, the study focuses mainly on the interaction between suppliers and (household) consumers of electricity.

However, we note that in some cases certain aspects related to electricity supply such as metering typically is undertaken by distribution system company (DSO). Furthermore, in some Member States part of the electricity supply chain is vertically integrated. For example, it is common for distribution companies to also supply electricity to household consumers and in some countries there are also strong ties between generation companies and suppliers.

The structure of the electricity supply chain and the liberalisation process obviously play a major role in how electricity markets function but these issues are only considered when necessary to describe the context, give a complete picture of the consumer conditions, or in so far as they provide an explanation for the functioning of the retail market or consumer participation.

Study approach

The selected approach consisted of three parts:

- development of detailed research questions;
- primary data collection and analysis; and
- comprehensive review of existing material and secondary data sources.

First, the ECME Consortium in consultation with the Commission developed a number of detailed research questions which would assist the assessment of the functioning of the retail electricity markets and consumers' participation in the market.

The research questions on the functioning of the retail market focused on regulatory environment, market structure, choice, price, affordability, billing and payment, quality of service, and innovation.

The research questions on consumer participation in the market focused on general consumer attitudes and expectations, consumer awareness, availability and quality of information, customer mobility, customer experiences, problems, complaints and complaint handling.

The detailed research questions were principally addressed through an extensive primary data collection exercise. In particular, as part of this study the ECME Consortium has undertaken:

- A **general consumer survey** which focused on consumer awareness, consumer attitudes and expectation, consumer mobility, choice, affordability, quality of service, problems experienced by consumers and complaint behaviour.
- A **follow-up consumer survey** related to billing and payment were respondents were asked to have their electricity bill in front of them.
- A number of **mystery shopping exercises** focusing on the availability and quality of information and assistance provided by consumers and all aspects of the supplier switching process from initial enquiries about termination policies, search for alternatives and evaluation of alternatives.
- A **price collection exercise** collecting detailed tariff information from suppliers covering at least 80% of consumers, for three different consumption levels and for different contract types (peak/off-peak vs. unique price contracts, fixed vs. variable price contracts, green vs. non-green energy contracts and for social vs. non-social tariffs).
- **Surveys of national stakeholders**, i.e. of national electricity regulators, consumer protection authorities, national ombudsmen and alternative dispute resolution bodies, company-specific ombudsmen and consumer associations. The surveys were tailored to the type of stakeholder and aimed at collecting data about stakeholders' views and perceptions of the functioning of the market and consumer behaviour as well as information about the regulatory environment, roles and responsibilities of different stakeholders, complaint handling, innovation and enforcement regimes.
- **Consumer focus groups** focusing on consumer attitudes, awareness and expectations in relation to smart-metering as well as possible behavioural changes associated with implementation of smart-meters. Information was collected in two consumer focus groups: one focusing on the ex-ante expectations associated with implementation of

smart-metering (Belgium) and one focusing on the ex-post experiences after implementation (Italy).

In addition, a comprehensive review of existing material in the area was undertaken and relevant data from secondary data sources such as Eurostat and Eurobarometer was analysed.

Information at the country level was collated into 27 country fiches summarising the information collected for each country as part of the desk research. These country fiches were presented to the national electricity regulators for comment and regulators were asked to check that there were no major omissions or misunderstandings. In the few cases where no comments were received we have taken this to imply that there are no significant misunderstandings (Annex A).

One page country sheets present the most relevant features and findings for each Member States (Annex B).

We now turn to a synthesis of the main results of the study.

Choice and comparability

An outcome of the liberalised electricity markets appears to be increased choice of suppliers and tariffs. If tariffs and products offered by different providers are transparent and consumers actively compare alternatives and choose the best alternative, consumers may enhance price competition in the market.

Choice of electricity products

The price collection exercise allows for an assessment of the range of tariffs available in the 27 Member States at the time. The results indicate that:

- most tariffs are fixed rate rather than variable rate tariffs;
- more tariffs have a unique price, rather than different peak and off-peak prices; and
- most contracts have an unspecified duration, rather than a fixed one-year or two-year duration.

In some Member States there is a choice of a wide range of suppliers and tariffs, while in other Member States choice is relatively limited. For example, only variable price contracts are available in some countries while only fixed price contracts are available in other countries. Similarly, in some countries no green energy options appear to be available, although there does seem to be an appetite for environmentally friendly products.

In contrast, contracts with unspecified duration, contacts with a unique price and peak/off-peak contacts exist in almost all Member States. However, our analysis suggests that peak/off-peak tariffs are not available in Denmark, Malta and Sweden.

A notable finding is that the average price paid per kWh is generally higher for consumers with lower consumption levels. This feature is unfortunate because it reduces the incentives to reduce electricity consumption and it implies that low consumption consumers pay a disproportionately high share of the costs of the electricity supply chain. If consumers with low electricity

consumption are also consumers with a low income, this has unfortunate distributional consequences.

The study suggests that consumers value a wide choice of tariffs and suppliers and a positive link appears to exist between the extent to which consumers believe that their supplier offers a sufficient choice of tariffs and the extent to which consumers are satisfied with services and tariffs provided by their supplier. In addition, consumers tend to be more satisfied if there is a large variety of tariffs, suppliers and contract types.

Generally consumers would like more choice in terms of tariffs offered by their current supplier and by alternative suppliers. This is particularly the case in Greece, Cyprus and Malta where a large share of consumers also indicate that they would like to change electricity supplier in the future but are currently unable to do so because the markets are characterised by national monopolies.

Comparability of tariffs and suppliers

However, if the choice becomes too complex, it may become difficult for consumers to compare alternatives and price transparency may be reduced.

The results of the general consumer survey indicate that it seems to be easier for consumers to compare different tariffs from the same supplier than from different suppliers. This is not surprising given the added complexity involved with comparing, for example, levels of customer service and different terms and conditions. Both the comparability of tariffs and the comparability of suppliers could be improved.

Price comparison tools seem to make it easier for consumers to compare alternative offers from different suppliers. However, consumers generally have limited experience using price comparison tools although the results of the mystery shopping exercise show that such tools are available in most Member States. Similarly, consumers in most Member States have very little experience comparing offers from the same or alternative suppliers

Overall, the findings suggest that the markets are not very transparent and that consumers are not very active in terms of comparing alternatives. This indicates that, although there is competition in most markets (in terms of alternative offers and suppliers), the strength of competition in practice is lower than it could be.

Customer mobility

In most Member States the percentage of consumers who have switched supplier within the last 2 years is very low and across the EU 6.2% of consumers have switched supplier within the last 2 years. However, switching rates vary with relatively high switching rates in countries such as Ireland, Germany, Sweden and the United Kingdom and low switching rates in Hungary, France, Luxembourg, Portugal, Slovakia, Slovenia and Spain.

Low switching rates are consistent with the finding that consumers are not particularly active in terms of searching the market. This finding further supports the conclusion that the actual level of competitive pressures arising from consumers in the market may be limited.

Ease of switching

In some Member States it appears that switching is not as easy as it could be and this suggests that switching procedures could be improved and simplified. However, switching rates are not necessarily high if consumers find it easy to switch. In particular, consumers in Denmark and Luxembourg indicate that switching is relatively easy but supplier switching rates in these countries are low.

Unsurprisingly, there is evidence that it is easier for consumers to switch tariff with their current supplier than to switch to alternative suppliers. This finding fits well with the finding that the comparability of tariffs from the same supplier is better than the comparability of offers by different suppliers.

Consumer loyalty

The interest in switching is largest in countries where there is no real possibility to switch (Greece, Cyprus, Malta and Bulgaria). This may be because the quality of service and supplier behaviour is particularly poor in some of these countries. In particular, Greece, Malta and Bulgaria appear to have relatively low quality of service, perhaps due to the lack of competition. However, despite having no competition, Cyprus does not stand out as an example of a country where conditions for consumers appear to be particularly poor.

Choosing the best alternative

Evidence from the mystery shopping exercise suggests that in some countries the average potential savings associated with supplier switching are very large and these savings appear to be increasing with the complexity[1] of the choice.[2] On the other hand, evidence from the survey suggests that savings achieved by those consumers who have switched tariff is on average quite small.

There may be several reasons for these striking results. One is that some of the potential savings are due to introductory offers and so do not reflect savings on the steady-state. Another is that consumers who have switched may not have done so as a result of a fully informed choice and the corresponding savings have thus fallen far below the maximum they could have achieved with a more informed choice.

This latter explanation is further supported by the finding that consumers generally are relatively uncertain that they are on the cheapest tariff given their electricity consumption. Furthermore, consumers across EU-27 generally rate the competitiveness of prices and the fairness and reasonableness of prices relatively low. This suggests that consumers expect that there are cheaper tariffs in the market. In light of this finding, it is surprising that more consumers have not searched for alternative offers from the same supplier or from alternative suppliers.

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[1] The complexity of the choice is measured by a composite index which takes into account 1) the number of different contract types found in the price collection exercise, 2) the average number of tariffs found per consumption level and power intensity per supplier and 3) the average number of alternative suppliers found by mystery shoppers.

[2] There is also a positive link between the complexity of the market (measured by the choice complexity index) and price dispersion measured by the range of prices collected in the price collection exercise.

This suggests that, despite having a large variety of choices and large potential savings from switching, consumers in mature, liberalised markets are not on average on the cheapest tariff. Hence, large potential benefits associated with choice are not currently being realised.

The results, however, do not suggest that this is because there are fewer tools for consumers to compare tariffs and suppliers in Member States where there is a high complexity of tariffs. In fact, the results suggest that the contrary is the case. This may be because Member States with a highly complex choice of tariffs are also Member States where consumers have access to good price comparison tools and where consumers have prior experience comparing different offers.

Instead, an explanation might be that consumers are somewhat reassured by the high perceived level of competition in mature, liberalised markets and so expect that prices are low in general regardless of the supplier selected. Consumers in these markets may assume that there is thus no need to search for alternative offers and switch tariff or supplier.

Determinants of switching

A cross-country analysis of differences in supplier switching rates shows that supplier switching rates increase with the awareness of alternative suppliers that consumers can switch to. As a result, supplier switching rates would be expected to increase if awareness of alternative suppliers is higher.

Furthermore, supplier switching rates increase with the maturity of the liberalised market; possibly because switching procedures become easier with time and consumers become more familiar with switching and the possibility of switching. The analysis also shows that consumers who have switched supplier in the past 2 years also are less loyal to their current supplier.

Finally, supplier switching rates depend positively on the market share of the largest four suppliers when controlling for awareness of alternatives and the maturity of the market.

It is worth noting that the analysis also suggests that satisfaction with suppliers is not a statistically significant variable explaining supplier switching.

Consumer views on the functioning of the market

Overall consumer satisfaction

One indicator of the functioning of the retail electricity market for consumers is overall consumer satisfaction.

Generally, consumers indicate that they are quite satisfied that the services provided by their current supplier live up to what they want.

However, there are cross-country differences and analysis of these differences shows that consumer satisfaction increases with reliability of supply, bill transparency, and perceived fairness and reasonableness of prices.

Consumer awareness about the retail electricity market

One of the clearest findings of the study is that consumers across all 27 Member States feel very poorly informed about the retail electricity market. This may cause significant problems of informational asymmetry where suppliers are in a position to exploit consumers' lack of knowledge to their benefit.

Consumer awareness varies considerably across different aspects of the electricity market and in particular:

- Consumers across EU-27 have a relatively good understanding of the amount they pay for electricity. In comparison, consumers have less knowledge of the volume of electricity they consume in kWh and consumers mainly think in monetary terms (rather than volume terms) when evaluating their consumption and measures to reduce consumption.

- Consumers have a poor knowledge and understanding of their current electricity agreement and a limited awareness of alternative tariffs.

- There are large variations across the 27 Member States in terms of consumers' ability to name an alternative supplier. In Ireland, the Netherlands and the United Kingdom consumers are generally able to do so but consumers' ability to name alternative suppliers is low or very low in Hungary, France, Luxembourg, Poland, Portugal, Slovakia and Slovenia.

- It is worth noting that Latvia and Lithuania stand-out as countries with a high level of awareness of the volume of electricity consumed, the amount consumers pay, and understanding of the bill. This suggests that the metering and payment system in these countries works relatively well in terms of keeping consumers informed despite the fact that consumers do not receive a bill.

- Ireland, Germany and Cyprus also stand out as examples of countries where consumers seem relatively well-informed.

Availability and quality of information and assistance

The low level of awareness may be due to the fact that consumers, in general, do not feel that they are kept regularly informed by their supplier about tariffs and services. However, the results of the general consumer survey and the mystery shopping exercises show that suppliers typically do make such information available for example on their website or by providing assistance through their customer service department. Therefore, it appears that consumers feel inadequately informed when they need to actively search among information that suppliers make available to them in a non-tailored form.

The evidence also suggests that the information provided by suppliers on electricity bills, in contract terms and about tariffs could be clearer and easier for consumers to understand. Furthermore, the assistance provided by suppliers in response to questions could be improved as, generally, satisfaction ratings for assistance provided are low.

All these factors are likely to contribute to the fact that consumers do not feel particularly well-informed about the electricity market.

Trust in suppliers

Assessments of the trust in suppliers and the quality of service provide additional indications of the functioning of the market.

Evidence from the consumer survey suggests that consumers do not always trust suppliers to behave in an appropriate way and provide fair contract terms which guarantee consumer rights and advertising material that is not misleading or deceiving.

The ratings of the consumer trust in suppliers to generally respect consumer protection rules and to ensure that bills accurately reflect consumption are more favourable with the latter being slightly better rated than the former.

Perception of quality of service of suppliers

In terms of perceptions of quality, the evidence gives rise to the following conclusions:

- Consumers across EU-27 rate the reliability of service highly but notable exceptions are Malta, Bulgaria and Greece.
- In comparison, other quality measures such as the speed of service in relation to connection and disconnection, overall service quality and staff quality are rated slightly less favourably.
- The biggest quality of service problems seem to be related to the quality of technical customer services provided by suppliers and the reaction to problems and questions raised by consumers.
- Most significantly, consumers generally indicate that there is room for improvement of supplier behaviour in terms of the quality of advertising and pre-contractual information as it is sometimes seen as deceiving, misleading or omitting relevant information.
- Bulgaria and Malta, and to a lesser extent, Greece and Spain stand out as countries with relatively poor quality perceptions. At the other end of the scale we have Austria and Cyprus, and to some extent Ireland, Germany and Finland.

The views of stakeholders and consumers are often diverging with regards to the perceived quality of service and advertising.

Attitudes towards energy consumption

Actions taken by consumers to reduce energy consumption suggest that most consumers across EU-27 have actively tried to reduce electricity consumption within the last year; mostly by switching off light and appliances or by purchasing energy saving light bulbs.

Consumers may try to reduce electricity consumption for environmental reasons or to reduce costs. Evidence suggests that efforts to reduce energy consumption are higher in countries where

the cost of electricity is high. Furthermore, evidence from the smart-metering focus groups suggests that consumers equate reductions in consumption with reductions in the costs of their consumption.

Billing and payment

Information and transparency

Bill transparency appears to be one of the key determinants of consumer satisfaction and, in addition, the electricity bill can be used as a regular means for the supplier to actively provide its customers with information. In some Member States regulation in the area is very prescriptive in terms of what information the bill must provide.

Analysis of the extent to which consumers are able to find and understand specific pieces of information on their electricity bill suggest that the ability to find and understand information varies greatly according to the information:

- Only the *amount due*, the *supplier name* and the *billing period* were found easily or fairly easily on the bill by *90% of more* of survey respondents on average across the EU27. There are a few Member States where a smaller share of respondents indicated that it was easy or fairly easy to find and understand the information. However, generally the variation around the EU27 average was small.

- Other important pieces of information such as the *supplier contact details*, the *payment details*, the *complaint procedures* and the *electricity consumption* were on average easy or fairly easy to find and understand for *between 80% and 90%* of survey respondents across EU-27. However, there was a wider dispersion across Member States.

- Information about whether the bill was based on *actual or estimated consumption*, the *price breakdown* into taxes, distribution and transport charges, etc, the *amount of fixed charges*, the *methods of payment* that can be used, the *price per kWh*, the *type of tariff* the respondent is on, whether *online payment* can be made and how to *access the account* were viewed as being easy or fairly easy to find and understand by only 50% to 80% of survey respondents. Moreover, the data suggest that the actual outcomes are highly varied across Member States.

- Only *25% to 50%* of respondents reported that it was easy or fairly easy to find and understand information on the bill on *help with payment issues*, the *standing charge elemen*t, the *date of the next bill*, *alternative bill formats, the amount payable on next bill*, the *penalty for late payment* and the *energy sources.* The data again suggests a substantial degree of variation around the EU average.

- Finally, *less than 25%* of survey respondents found it easy or fairly easy to identify and understand information on the bill relating to *energy saving*, the *duration of contract*, the *name of a third-party* to contact in case of problems, *special offers*, the *notice period if switching* and *switching information*. While dispersion of the results at the Member States level remains important, it is somewhat less than for the two previous sets of information.

The impact of different billing frequencies and billing and payment methods on consumer awareness is also analysed. The evidence suggests that:

- **Less frequent billing** does not result in a systematically lower awareness of the amount of electricity consumed or the amount paid. Nor does it impact on consumers' assessment of the usefulness of the information provided on the bills.

- In contrast, the use of **estimated consumption** does reduce consumers' awareness of the volume of electricity consumed and the consumers' assessment of the usefulness of the information provided on the bill. However, it has only a very small impact on consumers' awareness of the amount paid.

- The reception of **regular bills in addition to the reconciliation bill** does not contribute to increase consumers' awareness or assessment of the usefulness of the billing information.

- Finally, consumers who have chosen an **automatic payment means** (direct debit or standing order) which does not require them to take even a cursory look at their bill are significantly less aware of their electricity consumption and somewhat less aware of the amount they have to pay.

Reconciliation bills

Most consumers are able to identify whether their bill is a reconciliation bill but there are large variations in the extent to which consumers are able to find and understand the information on reconciliation bills:

- In many Member States consumers are also able to find and understand the *actual meter reading*, *the amount paid*, and *the balance* (whether credit or debit). However, there were large variations in the responses and in some countries a large share of respondents was not able to find this information at all.

- Consumers across the EU found it harder to find and understand information about whether their regular instalments would be recalculated.

- With respect to the evolution of electricity consumption year-on-year and through the year the predominant response across the EU was that consumers failed to find the relevant information on their reconciliation bill. However, in some Member States, such as Belgium, the Netherlands and Denmark, information regarding these elements was easy to understand.

Problems and satisfaction in the area of billing and payment

In the last 2 years less than 20% of consumers in most Member States contacted their supplier regarding payment or billing issues. The most common billing and payment problems were related to an incorrect billing amount, an incorrect meter reading or higher than expected prices.

The consumer survey and the mystery shopping exercise suggest that assistance is generally available to consumers who contact their supplier with problems related to billing and payment.

Furthermore, most consumers were very or fairly satisfied with the assistance they received although there appears to be room for improvement also in this area of complaint handling.

Problems, complaints, complaint handling and enforcement

Incidence and type of problems

Approximately one in ten consumers across the EU has experienced problems with their supplier within the last 2 years. However, there are examples of countries where much more consumers have experienced problems (Malta, Greece, Bulgaria and Spain).

Quality of service problems such as power interruptions and poor customer service were among those problems that consumers most frequently mentioned as the most serious problems they had experienced. Hence it appears that although the reliability of service is generally rated quite highly, when power interruptions do occur this is experienced as a relatively serious problem. In addition, pricing problems were frequently reported by consumers as the most serious problem they had experienced within the last 2 years.

Stakeholders generally fail to recognise that problems related to power interruptions, customer service and pricing are the most serious problems experienced by consumers.

Complaint behaviour

Consumers who feel empowered might be expected to respond to problems by complaining to their supplier or another body in order to get the problem rectified. However, generally the complaint propensity (i.e. the share of consumers who complain if they experience a problem) is relatively low across EU-27.

Two results suggest that complaint propensities may be increased by improving complaint handling procedures:

- Although, consumers generally know where and how to complain and do not find complaint procedures too difficult, there is evidence of a negative link between the complaint propensity and the perceived difficulties associated with making a complaint.

- Furthermore, the study shows that complaining consumers generally are not satisfied with the way their complaints are dealt with.

  Moreover, satisfaction with complaint handling seems to be positively related to the time taken to deal with the complaint. There is considerable variation in speed with which problems are dealt with. Countries such as Lithuania, Luxembourg and the Netherlands fare relatively well on this component whereas the response time in Belgium and Spain are much less favourable.

There also seems to be scope for improving consumer empowerment by improving awareness of *alternative* bodies that consumers can complain to. Results from the consumer survey show that consumers mostly complain to their supplier and only rarely complain to other organisations (such as ombudsmen, courts, consumer associations, regulators or consumer protection agencies). This

is the case even when consumers are dissatisfied with the solution offered by suppliers and may be related to limited awareness of bodies that consumers can turn to for help and advice.

Innovation

Incentives and barriers to innovation

Stakeholders' assessments of the legislative and regulatory incentives and barriers to innovate suggest that:

- Overall the legislative and regulatory environment is most stimulating for innovation in the area of provision of green energy, the opportunity to sell back excess own-generation and new types of metering.

- In comparison, legislation generally appears to have little impact on innovations in billing and payment via the internet, bundling and new payment modes in these areas.

- Stakeholders were divided in their assessments of legislative incentives to innovate in the area of comparison websites and tariff flexibility. While many stakeholders suggested that legislation stimulates innovation in comparison websites, many suggest that there is a lack of legislation supporting innovation in the area. In relation to tariff flexibility, price regulation is clearly seen as a barrier to innovation in the area.

Besides regulatory and legislative incentives to innovate, suppliers also recognise that innovation can be a way to respond to market changes and achieve improved services and increased profitability.

Recent innovations

Stakeholders indicate that the main innovations in the retail electricity sector across EU-27 are:

- Innovations in **metering** were identified as a key innovation across the European Union and it is generally viewed by stakeholders as having a very beneficial impact on consumers. However, the Austrian consumer protection authority suggested that the effect of smart-meters on consumers could be negative.

- **Market liberalisation** and **tariff and contractual** innovations also appear to have been widespread. However, not all stakeholders agreed that it had been beneficial for consumers.

  Market liberalisation was seen as generally more beneficial for consumers by regulators than by consumer protection authorities, consumer associations and company specific ombudsman. Similarly, consumer associations, consumer protection authorities and company-specific ombudsmen generally view innovation in tariffs and contracts as detrimental for consumers.

- **Green energy** was seen as a main innovation by stakeholders in 8 out of the 19 Member States from which responses were received and the impact on consumers was generally viewed as positive.

- Innovations resulting in **improved transparency** and innovations in **billing and payment, electricity products and services** and **standards and regulation** were also seen as widespread and positive for consumers.

Prices

For the household segment, the level of intervention in electricity prices remains high for much of the EU. In most Member States, some prices for household consumers are still regulated, and in the majority of these countries most consumers remain on regulated tariffs.

Prices compare very differently between Member States depending on whether they are measured in Euros or purchasing power standards (PPS), illustrating the importance of accounting for the general cost of living when comparing electricity prices across the EU.

In addition, the structure of household electricity prices differs considerably across countries. Thus, cross country price comparisons provide a different picture depending on whether factors such are taxes and levies and network costs are included or excluded. In some countries taxes contribute a large part of the overall price, whereas in others electricity costs and supply margins are more important. Therefore, any measures taken in relation to prices need to consider the specific price structure of the country in question.

Empirical analysis of the determinants of household electricity prices net of taxes and network costs found, unsurprisingly, that the mix of input factors used to generate electricity impacts on price levels. The analysis found little evidence that any other factors exert much influence on prices.

Affordability

The rate of arrears with utility bills and the frequency that consumers have difficulty paying for electricity varies across countries and demographic groups. Single parents and those with low incomes are significantly more likely to be in arrears than members of the population in general, and the share of consumers having difficulty paying electricity bills varies across countries from 5% to 69%.

Differences in income levels, consumption levels and prices influence household spending on electricity as a share income in different ways for different countries. For example, in some countries the share of income spent on electricity is relatively high because incomes are low compared to other Member States, whereas in others the share is high because consumption is high.

Interestingly, the share of the population having difficulty paying for electricity in a country does not seem to be related to other national level characteristics such as average prices (in PPS) or the average share of income spent on electricity.

However, at the individual consumer level there does seem to be a link between consumer characteristics and the likelihood that they will have difficulty paying for electricity. In particular, if consumers are less aware and do not compare the offers and tariffs available to them, then they are more likely to be unable to pay their bills. Further, consumers are less likely to have difficulty paying their electricity bills if suppliers provide personalised tariff advice.

Measures for consumers with problems paying energy bills

The types of measures provided to assist those having difficulty paying for electricity include both economic measures and non-economic measures. The most common economic measures are temporary financial arrangements such as deferred payment and simulations of cost savings. These measures were identified in all Member States. Other common economic measures are specific prices, often referred to as social tariffs, which are available to certain consumers. Such measures were found 23 Member States.

Non-economic measures include regulation of the process for dealing with arrears and disconnection for non-payment, measures to help consumers find the best tariff and measures to help consumers reduce their energy consumption.

Conclusions

Our main conclusions can be summarised as follows:

1. In terms of price and product competition, consumers would like more choice of suppliers and tariffs and have difficulty in comparing offers. In spite of good availability of comparator tools there seems to be very low usage of these tools. Overall, while some of the important conditions to enhance competition seem to be present in most Member States, there is a general view that competition is not as strong as it could be

2. Price structure – we identified some potentially negative aspects in the pricing structure of retail electricity. Consumers with lower electricity usage pay higher per unit prices which result from the fixed charges levied by some suppliers. In addition, there is low availability of green electricity tariffs and peak/off-peak tariffs are not on offer in three countries.

3. Choice complexity and tariff proliferation seem to increase as markets become more developed. This may be at the root of the apparently paradoxical result that, in some of the most mature and seemingly most competitive markets, the unrealised gains from switching are highest.

4. There are still a number of Member States where consumers find that it is not easy to switch suppliers. This is a situation that clearly deserves addressing.

5. Consumers feel poorly informed about the electricity retail market, have trouble understanding the terms of their current supply contract and claim to have low awareness and understanding of the available tariff choices. These different observations suggest that consumers may require information to be more tailored to their personal situation and provided to them more proactively.

6. Regarding the quality of service, we find that, in terms of the technical aspects of electricity supply (e.g. reliability of service), electricity suppliers rate quite highly (apart from very few exceptions). However, they fare far worse in terms of customer service and dealing with complaints.

7. Some aspects of supplier behaviour appear to contribute to weaken or distort competition, particularly, the use of misleading advertising and unfair contract terms.

Furthermore, in a few countries, consumers report a strikingly high incidence of perceived pressure by suppliers into signing contracts.

8. Satisfaction with complaint handling is low and consumers show little awareness of other organisations to which they could direct unresolved complaints.

Policy recommendations

The study has highlighted significant informational problems in the retail electricity markets across the EU. Consumers generally do not feel well-informed about the market and this may reduce consumers' ability to make informed, rational and empowered decisions.

- **Recommendation 1: Raise consumer awareness and knowledge about alternative suppliers.** For the awareness campaigns to be effective they would preferably have a local focus and hence make consumers better aware of alternative suppliers in their area.

- **Recommendation 2: Raise consumer awareness and knowledge about possible benefits from switching**.

- **Recommendation 3: Information about suppliers and tariffs should be provided to consumers more proactively and better tailored to particular usage patterns.** This should address the fact that, even though high levels of information are made available to consumers, they seem often unable to take the best possible advantage of that information.

- **Recommendation 4: Improve consumer awareness of third-party organisations such as regulators, ombudsmen and consumer protection agencies that can assist consumers with problems**.

Consumer empowerment could also be enhanced by improving processes in the area of switching and complaint handling. Evidence from the study suggests that it is not always as easy to switch supplier and tariff as it could be. Furthermore evidence suggests that consumers are generally dissatisfied with complaint handling and that complaint propensities are generally higher when it easy to complain.

- **Recommendation 5: Improve and simplify switching processes**.

- **Recommendation 6: Improve processes for handling complaints and dispute resolution**.

The results of the consumer survey indicate that consumers would like an improved choice of tariffs and suppliers.

- **Recommendation 7: Improve choice of electricity products to consumers for example by encouraging provision of green tariffs and peak/off-peak tariffs to all consumers**.

The analysis has shown that the choice complexity increases with the maturity of the retail electricity market and that use of comparison tools may help consumers compare alternatives. In many Member States price comparison tools are available but are not being used by most consumers.

- **Recommendation 8: Provide tools for consumers to help them compare alternatives and increase awareness of tools provided**. For tools and help available to consumers to be as effective as possible, it is essential that consumers are made aware that the help exists and that the tools are as easy to use and accurate as possible.

- **Recommendation 9: Encourage suppliers to present their tariff offers in a way that is clear and transparent for consumers to interpret and compare across suppliers**.

The study identified some potentially negative aspects in the pricing structure of retail electricity. Consumers with lower electricity usage pay higher per unit prices as a result of the fixed fees charged by a number of suppliers. This is unfortunate both in terms of encouraging reductions in electricity consumption and in terms of the possible distributional consequences if low consumption consumers are also consumers with low income.

- **Recommendation 10: Change tariff structure to avoid higher per unit prices for low-consumption consumers**.

The study also suggests that there may be scope for improving the quality of service and customer service relations.

- **Recommendation 11: Encourage suppliers to improve customer service and customer relations.**

- **Recommendation 12: Discourage suppliers from pressuring consumers into signing contracts.**

1 Introduction

The ECME Consortium has been commissioned by EC DG Health and Consumers to undertake a sectoral market study of the functioning of the retail electricity market for consumers in the European Union.

Prior to commissioning the study, EC DG Health and Consumers identified the retail electricity market as a market with a high likelihood of malfunctioning for consumers. The 2009 Consumer Market Scoreboard and a number of surveys had indicated that consumers in the retail electricity market face a number of problems.

The purpose of the current study is to provide further evidence and analysis of how retail electricity markets really work for consumers. The study describes, analyses and assesses the consumer situation in the retail electricity markets focusing on problems faced by consumers.

The overall aim of this analysis is to address two overarching questions:

1) Can consumers benefit from a well-functioning electricity market in terms of price, choice and innovation?
2) Are consumers able to make informed, rational and empowered decisions?

The first of these two questions focuses on market situation as it is for consumers and whether all consumers have access to secure electricity at an affordable price. In order to respond to this question evidence was collected in the following areas:

- regulatory environment;
- market structure;
- choice;
- price;
- affordability;
- billing and payment;
- quality of service; and
- innovation;

This information feeds into the assessment of the functioning of the retail electricity markets.

The second question focuses on consumer's participation (or lack thereof) in the market. To that end, the study has collected information related to research questions in the following areas:

- general consumer attitudes;
- expectations and trust;
- consumer awareness;
- availability and quality of information;
- customer mobility;
- unfair commercial practices;
- customer experience and

- problems, complaints and complaint handling

1.1 Selected approach

The research questions have been addressed based on secondary data sources and primary data collection. In particular, as part of this study the ECME Consortium has undertaken:

- a general consumer survey;
- a follow-up consumer survey related to billing and payment;
- a number of mystery shopping exercises;
- a price collection exercise;
- a survey of national stakeholders; and
- consumer focus groups.

Data collected from different sources is analysed and compared in order to provide as complete a picture of retail electricity markets in the European Union as possible. For example the views of consumers and stakeholders are compared and contrasted.

Further details on the implementation of the data collection exercises are included in Annex 10 and the questionnaires developed for the consumers and stakeholder surveys and the mystery shopping scenarios are included in Annex D.

In addition, a comprehensive review of existing material in the area was undertaken and information at the country level was collated into 27 country fiches summarising the information collected for each country as part of the desk research (included in Annex A). These country fiches were presented to the national electricity regulators who were asked to comment and check that there were no major omissions or misunderstandings. In the few cases were no comments were received we have taken this to imply that there are no significant misunderstandings.

1.2 Scope of study

The study and data collection covers all 27 Member States and is limited to the EU Member States. Furthermore, the study focuses solely on household consumers. Non-household consumers such as SMEs fall outside the scope of the study, although some of the issues raised in this report may also apply to non-household consumers.

Equally, it is important to stress that the scope of the study is limited to the *retail* electricity market. The retail electricity market is the final part of the electricity supply chain illustrated in Figure 1 and hence the study focuses mainly on the interaction between suppliers and consumers of electricity.

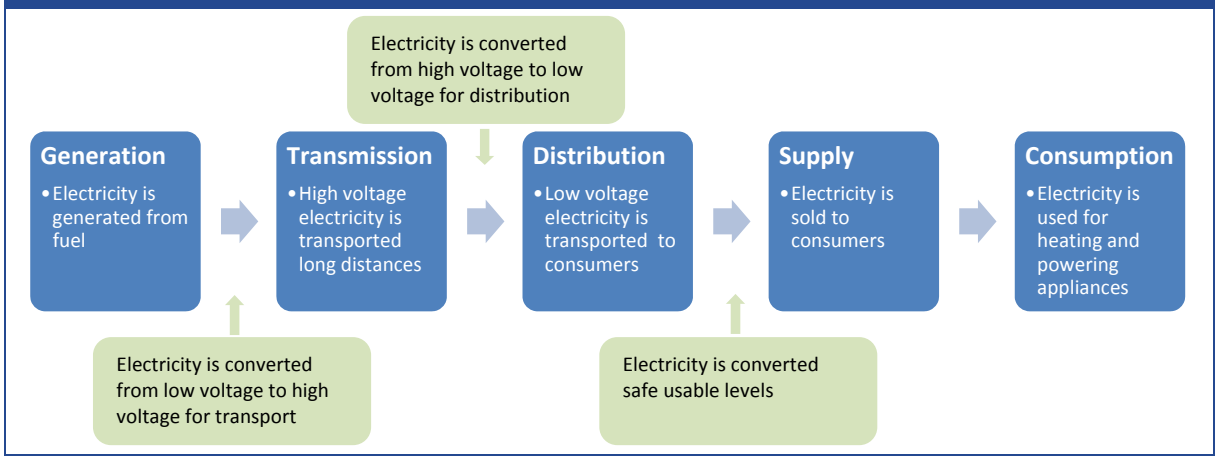
However, we note that in some cases certain aspects related to supply such as metering typically is undertaken by the distribution company. Furthermore, in some Member States part of the electricity supply chain is vertically integrated. For example, it is common for distribution

companies to also supply electricity to household consumers[3] and in some countries there are also strong ties between generation companies and suppliers.

The structure of the electricity supply chain and the liberalisation process obviously play a major role in how markets function but these issues are only considered when necessary to describe the context, give a complete picture of the consumer conditions, or in so far as they provide an explanation for the functioning of the retail level and activities related to consumers (e.g. switching and complaint handling).

Finally, it should be noted that the study does not attempt provide an exhaustive analysis of the competitiveness of the retail electricity markets in the different Member States, rather the main focus is to asses the functioning of the retail electricity market from the point-of-view of the consumer.

Figure 1: Electricity supply chain



Source: ECME Consortium

1.3 Structure of the report

The report is structured as follows:

- Chapter 2 gives an assessment of the choice of electricity products and tariffs as well as the comparability of tariffs and products.
- Chapter 3 addresses consumer mobility and in doing so assesses the level of switching, reasons for switching and potential barriers to switching.
- Chapter 4 presents and discusses consumer views on the functioning of the retail electricity market. This includes an analysis of consumer satisfaction, consumer awareness

[3] According to ERGEG (2009), 'Status Review of DSO Unbundling with Reference to Guidelines of Good Practice on Functional and Informational Unbundling for Distribution System Operators', it is possible for Distribution System Operators (DSOs) to own suppliers in Estonia, Finland, France, Italy, Luxembourg, Portugal and Slovakia. In Portugal DSOs may only own *suppliers of last resort* and not free market suppliers. No information was available for Bulgaria, Cyprus, Denmark, Greece, Latvia, Luxembourg and Slovakia.

and consumers' experience. In addition, the chapter analyses consumers' attitudes towards energy consumption.

- In chapter 5 we present findings related to billing and payment, i.e. whether consumers understand their electricity bill, the extent and type of payment problems and consumer satisfaction with billing and payment.
- Chapter 6 analyses the incidence and types of problems experienced by consumers in the retail electricity markets are discussed as well as complaint procedures, complaint behaviour and enforcement.
- In chapter 7 innovation in the retail electricity market is analysed. This includes both process and product innovation.
- A cross-country analysis of price trends and structure is provided in chapter 8.
- Chapter 9 analyses and discusses affordability of electricity and measures improving affordability.
- Finally, chapter 10 concludes and provides policy recommendations.

As background documents to this report we provide a number of annexes with detailed information related to the regulatory environment and the market structure in each Member State.

2 Choice and comparability

Economic theory generally assumes that consumers make use of all the information available to them and make rational decisions by weighing up the costs and benefits of different alternatives before choosing the alternative that best matches their preferences (given income constraints). It follows from this line of argument that increased choice and product variety should in principle increase consumer welfare by enabling individual consumers to choose products (and tariffs) that better match their preferences.[4]

However, a series of empirical studies have shown that consumers either do not use or only make limited use the information at their disposal.[5] If attention capacities are indeed limited, then additional information can cause degradation in the quality of decision making, a phenomenon typically referred to as "information overload". Information overload has been experimentally investigated in psychology, consumer research[6], and management studies[7] and a particularly striking experiment is reported by Agnew and Szykman (2005)[8] who show how information overload can affect financial decision-making. They show that with increasing information overload, experimental subjects who face an investment task are more likely to stick to their default position.

This section investigates how much choice consumers have in terms of the number of different products and tariffs available to them according to the price collection exercise undertaken for the present study. In addition, the chapter considers consumer and stakeholder views on choice as well as views on comparability. The comparability and transparency of tariffs is essential in terms of understanding the complexity of the information available to consumers. Comparisons of tariffs from different suppliers may involve a higher level of complexity than comparison of prices from the same supplier because of the added difficulties involved with comparing different contracts, quality of service etc. If tariffs and suppliers are easily comparable, this may help consumers overcome problems related to information overload.

2.1 Choice of electricity products

As part of this study a price collection exercise was undertaken where prices were collected from suppliers covering at least 80% of consumers. In order to allow for comparisons between Member

[4] Provided the wider range of products and prices encompasses consumer preferences.

[5] See for instance, Payne JW and Bettman JR (2001), 'Preferential choice and adaptive strategy use', in Bounded Rationality: The Adaptive Toolbox, pp. 123-145 (G Gigerenzer and R Selten, editors), Cambridge, USA, MIT Press; Bröder A and Newell BR (2008), 'Social preferences and public economics: Mechanism design when social preferences depend on initiatives', *Journal of Public Economics*, Vol. 92; Deshmuckh S, Fatemi A, and Fooladi IJ (2008), 'Complexity of information and trading behaviour: The case of dividend increase announcements', *Journal of Economic Psychology*, Vol. 29; and Timmermans D (1993), 'The impact of task complexity on information use in multi-attribute decision making', *Journal of Behavioural Decision Making*, Vol. 6.

[6] Grether.D and Wilde.L (1983) Consumer choice and information: New experimental evidence, Information Economics and Policy, vol. 1(2) pp. 115-144; and Héroux.L., Laroch.M. and McGown.K (1987) Consumer product label information processing: An experiment involving time pressure and distraction, *Journal of Economic Psychology*, vol.9(2):195-214.

[7] With strong effects reported in Chervany.N and Dickson.G (1974) An experimental evaluation of information overload in a production environment, Management Science, vol. 20(10).

[8] Agnew.J and Szykman.L (2005) Asset allocation and information overload: The influence of information display, asset choice and investor experience, *Journal of Behavioural Finance*, vol. 6(2), pp. 57 – 70

States, prices were collected for three consumption levels (1,000kWh, 3,500kWh and 10,000kWh) and for different energy sources (green and non-green), contract durations (unspecified, 1 and 2 year duration) and tariff types (peak/off-peak tariffs, unique price tariffs, social tariffs, and fixed and variable price contracts).

Based on the price collection exercise, this section considers the choices of electricity products and contracts that consumers have (i.e. which offers are available from electricity suppliers?). In particular the analysis focuses on:

- types of tariffs available (flat rate, volume contingent, peak/off-peak, day/night, etc); and,
- types of electricity available (green, etc).

In addition, we provide a discussion of price dispersion within Member States. Price dispersion can be viewed as both a measure of the financial incentives to search for the cheapest available tariff and the complexity of tariffs available in the market.

Methodological note

It should be noted that in Italy, Portugal, Spain and France electricity prices also vary according to power intensity. In particular, in Italy, Portugal and Spain different tariffs are available to consumers depending on the kw or kva at which they are supplied with electricity. During the price collection, prices were collected not only for different consumption profiles and contract types but also for the power intensities summarised in Table 1.

The analysis of the price collection data was, in these cases, limited to the middle band(s) as an analysis covering all power intensities would have been likely to lead to an overestimation of the number of tariffs, the standard deviation and the range of tariffs. For Italy, consumers supplied at 3kw and 4.5kw are included in the analysis. For Portugal, consumers supplied at 6.9kva, 10.35kva and 13.8kva are included in the analysis. For Spain, consumers supplied at 4kw are included in the analysis.

Table 1: Power intensities collected and used for analysis

Country	Range of different electricity intensities collected	Electricity intensities used in analysis
Italy	1.5kw; 3kw; 4.5kw; 6kw	3kw and 4.5kw
Portugal	1.15kva; 2.3kva; 3.45kva; 4.6kva; 5.75kva; 6.9kva; 10.35kva; 13.8kva; 17.25kva; 20.7kva	6.9kva, 10.35kva and 13.8kva
Spain	2.5kw; 4 kw; 12 kw	4kw

For France, in the case of consumers with consumption profiles of 1000kwh/year, different unique price tariffs are available depending on whether they are supplied with electricity at 3kva or 6kva. Since most 1000kwh/year consumers who have a unique price tariff are also supplied at 3kva, these tariffs are used in the analysis.

2.1.1 Types of tariff available

A key aspect of consumer choice in the retail electricity market is the range of different types of tariff on offer. Tariffs vary in terms of a number of different characteristics:

1) **Fixed or variable prices:** This refers to whether the unit rate charged is fixed for a defined period of time, or may be revised regularly. If a tariff has a fixed price, the price cannot change during the period even if the market price changes (i.e. there is no indexation). At the end of the period the price is reviewed and the consumer may choose the new fixed price or move to a variable price tariff (or change supplier). Conversely, with a variable price tariff the price paid by the consumer can vary over time as the market price changes.
2) **Contract duration:** This refers to how long consumers need to stay with the supplier or how long a given tariff is applied. The variable can take one of three categories: consumers can have a contract of a unspecified duration of either 1 or 2 years, or consumers can have a contract of specified duration (i.e. there is no restriction on the length of time that consumers need to stay with the supplier).[9]
3) **Unique or peak/off-peak prices:** This refers to whether a single unit rate is charged throughout the day or there are separate peak and off-peak rates.

The mix of tariffs with fixed and variable prices is important for the present study. If consumers are on variable price tariffs, then increases in the per-unit rate they pay will lead to higher overall bills. If they do not budget for these increases, perhaps because the increases are unexpected, then this could lead to some consumers going into arrears. Since unexpected increases in the unit rate may lead to arrears it is important that suppliers clearly notify consumers if the rate changes.

On the other hand, there may be a risk premium for consumers who choose a variable price tariff. The amount paid by a consumer with a variable price tariff over the duration of the contract could be higher than that paid by a consumer with a fixed price tariff. However, since consumers are risk averse, in order for consumers to accept the risk of a variable price tariff they must expect that on average variable price tariffs will cost less over the duration of the contract.

The contract duration of tariffs may affect the level of switching. If a large share of tariffs on offer in a country have a long fixed duration this may result in lower rates of switching. However, this effect depends on the nature of the regulations which apply concerning the termination of contracts (in particular whether consumers have the right to do so during the term of a contract).

The option to take up peak/off-peak tariffs may be beneficial for consumers, since, depending on the tariff structure and level, it may allow them to reduce their bills if they can adapt their consumption patterns accordingly. In several countries, the introduction of a greater variety of tariffs including peak/off-peak tariffs was cited by regulators during the field work as an important innovation which benefits consumers.

[9] Consumers who have a 1 or 2 year contract with a fixed price will pay the same price for the whole period (1 or 2 year), irrespective of the evolution of market prices. At the end of the period, the price is generally reviewed. Consumers then have the choice to: a) be on this new fixed price, b) change for a variable price, or c) change provider

Consumers who have a 1 or 2 year contract with a variable price will see the price they pay vary during the whole period of the contract according to the evolution of market prices. At the end of the period, they have the same choices as above: a) continue with a variable price, b) move to a fixed price, c) change supplier

If consumers are on a fixed price tariff with unspecified contract duration, this does not mean that the price is fixed for an indefinite period of time. This means that it is not known for how long the price is fixed. This depends on the supplier's terms and conditions. The same applies if consumers are on a variable price tariff with unspecified contract duration.

For each Member State, information on the number of tariffs available in each of the categories described in points 1 to 3 above was gathered through the price collection exercise undertaken for the present study. The price collection exercise also identified whether each tariff is available to customers with a low, medium or high consumption profile, defined as:

- Low consumption: 1,000kWh/year.
- Medium consumption: 3,500kWh/year.
- High consumption: 10,000kWh/year.

Standard tariffs

Both standard tariffs and social tariffs were found in several countries. Since only standard tariffs are available to consumers in general (social tariffs are only available to specific consumers with low incomes or who are having difficulty paying bills) the choice of different standard tariffs on offer in each country is examined first.

For the EU as a whole, 866 standard tariffs available to medium consumption consumers were identified during the price collection exercise (in general, the same tariffs are available to consumers of any consumption level)[10] (Figure 2):

- Most apply a fixed rate (60%), rather than a variable rate.
- More tariffs have a unique price (63%), rather than peak and off-peak prices.
- Most contracts have an unspecified duration (58%), rather than a fixed one-year (30%) or two-year (12%) period.

At Member State level (Figure 3 and Table 2):

- In 18 countries, fixed price tariffs were found more often than variable price tariffs.
- In 22 countries, unspecified duration contracts are more common than fixed duration contracts.
- In 14 countries, there are more peak/off-peak tariffs than unique price tariffs.

A main observation is that although at EU level there is a spread of tariff types across all the different categories, in several individual Member States the range of different tariffs on offer is quite limited. Some tariff types exist in almost every Member State (see Figure 3 and Table 2), namely tariffs with:

- unspecified duration, which were found in every country except Spain;
- a unique price, which were found in every country except Greece; and,
- peak and off-peak prices, which were found in every country except Denmark, Malta and Sweden.

However, in a number of countries certain types of tariff were not found at all. Specifically, tariffs with:

[10] The total number of tariffs available to low consumption and high consumption consumers was 871 and 858 respectively.

- variable prices were not found in 11 countries (Austria, Bulgaria, Czech Republic, Greece, Italy, Latvia, Lithuania, Poland, Portugal, Romania, Slovakia); and
- a fixed duration (of either 1 or 2 years) were not found in 11 countries (Bulgaria, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia, Slovenia).

Belgium has the largest total number of tariffs on offer in the market with 104 tariffs available to medium consumption consumers, followed by Germany, the Netherlands and Finland and with 97 or 98 tariffs available to medium consumption consumers.[11] The fewest alternative tariffs were found in Cyprus, Greece and Malta, with just two tariffs on offer to medium consumption consumers (Table 2).

For Belgium, these 104 alternative tariffs cover the whole range of possible types: variable and fixed rate; 1-year, 2-year and unspecified duration; and unique and peak/off-peak prices. Conversely, in Greece and Malta just one type of tariff was found. The average number of different tariff types is four.

Market liberalisation may be expected to lead to a greater number of tariffs on offer, since new market entrants will likely increase the choice available and since liberalisation is generally considered to encourage innovation (for example in terms of new tariff types). Overall there is some evidence of this pattern among the Member States (Figure 4).

The trend line in the first chart of Figure 4 indicates that, on average, an extra year of liberalisation leads to another 15 tariffs in total, although the relationship does not hold in some countries, especially Belgium where the household market was only fully liberalised in 2007.[12]

Market concentration may be expected to lead to a smaller number of tariffs on offer since there are fewer suppliers to offer alternative tariffs. Further, in a highly competitive market (i.e. a market which is not concentrated) diversifying the range of tariffs they offer may be a way for suppliers to gain market share. On the other hand, in a concentrated market suppliers may try to segment the market in order to price discriminate between consumers, which would lead to a larger number of tariffs on offer.

There is some evidence among the Member States that higher market concentration is linked to a smaller number of tariffs on offer. In countries where the combined market share of the main suppliers is higher, the number of tariffs on offer is typically lower (Figure 4).

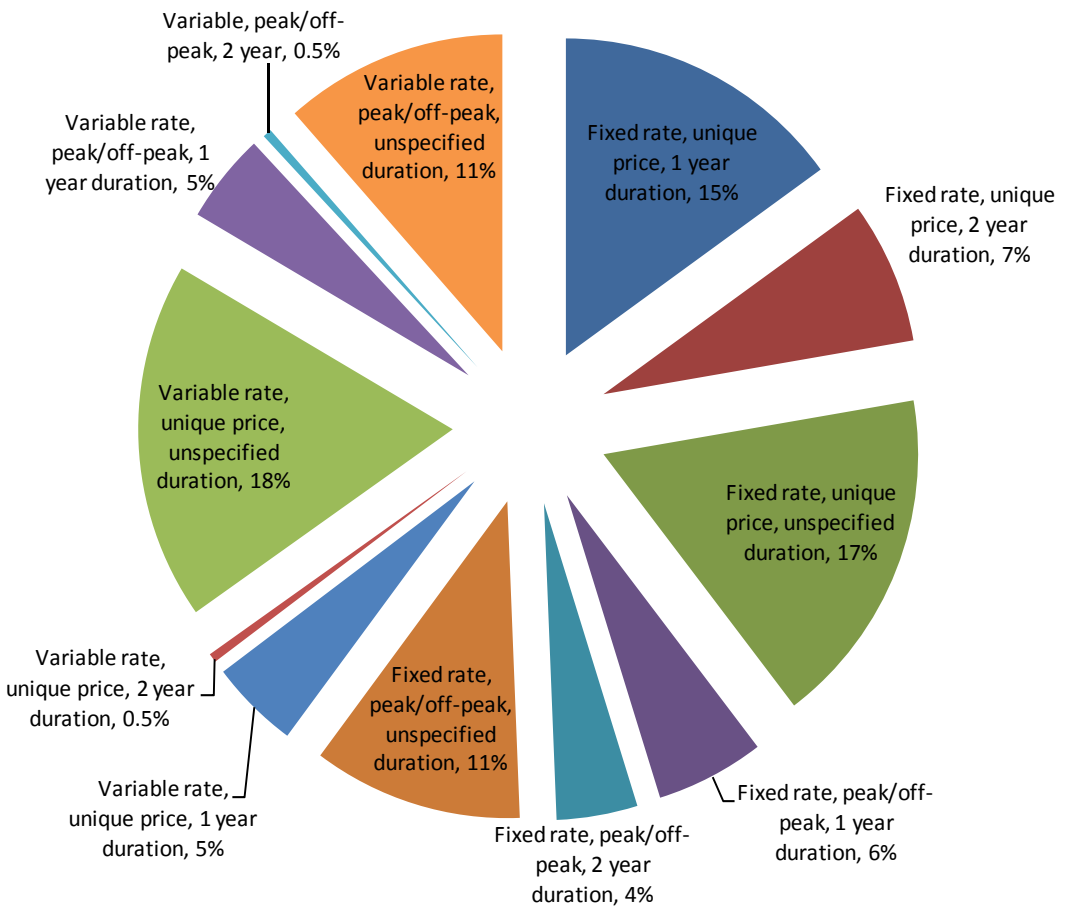
The trend line in the second chart of Figure 4 indicates that, on average, if the combined market shares of the main suppliers increase by 10 percentage points then the number of tariffs on offer decreases by 35. However, certain countries show a different pattern, especially Belgium and the Netherlands which both have high shares for the main suppliers and large numbers of tariffs available.

[11] The total is given by counting separately tariffs from different suppliers which differ in terms of: fixed or variable prices; 1-year, 2-year or unspecified duration; unique or peak/off-peak prices; and whether the electricity is produced from green or grey sources. A green tariff is defined as one for which at least 50% of electricity production is from green sources. If less than 50% of electricity production is from green sources then the tariff is classified as grey.

[12] The household market was liberalised in 2003 in Flanders and in 2007 in Brussels and Wallonia.

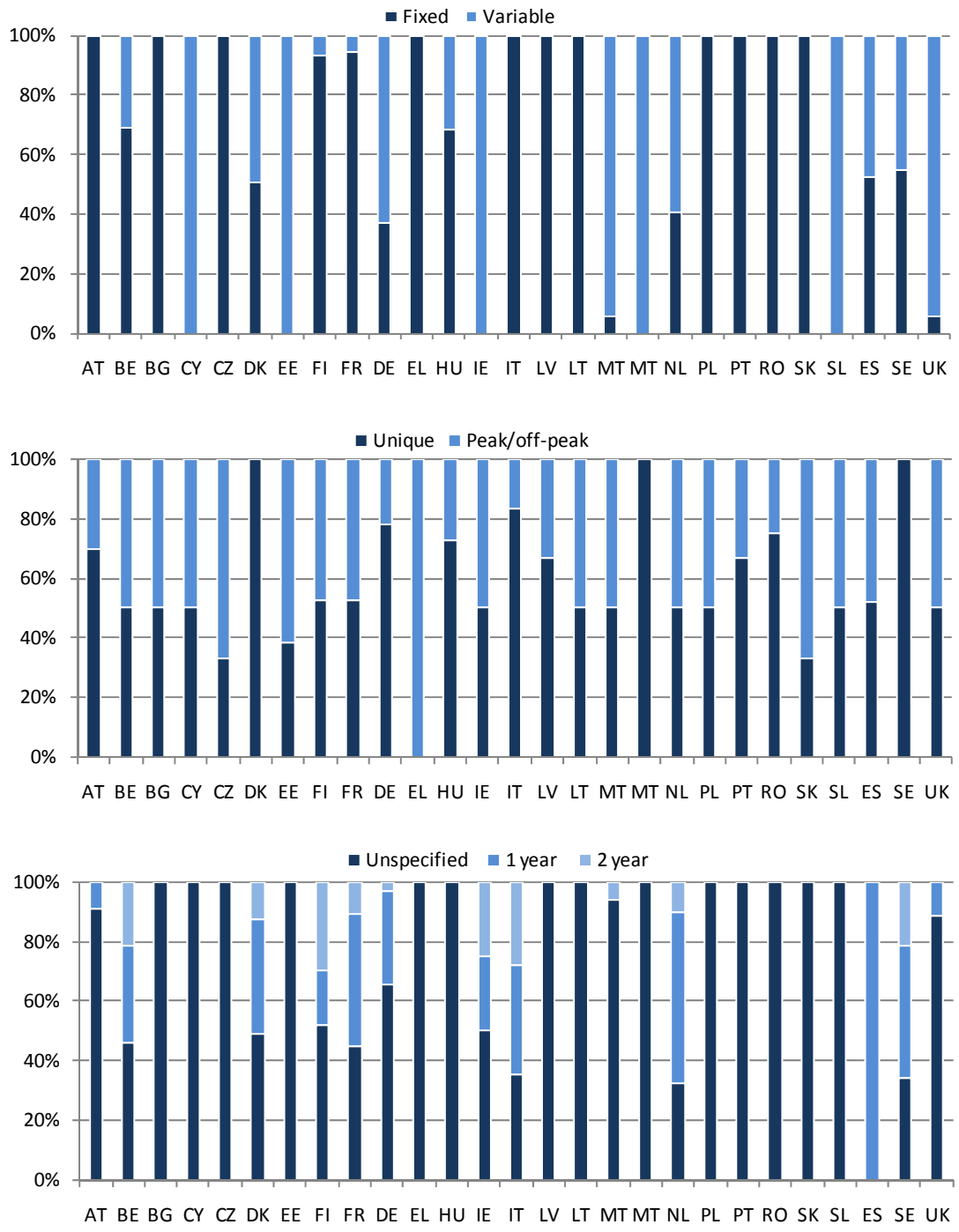
Finally, in countries where prices are regulated there are typically fewer different tariffs on offer. The average number of tariffs found per country for those with regulated prices was 53, compared with 169 calculated over countries without regulated prices.

Figure 2: Tariff types available across the EU



Note: Including green and grey tariffs and all consumption bands. A green tariff is defined as one for which at least 50% of electricity production is from green sources. If less than 50% of electricity production is from green sources then the tariff is classified as grey. Excluding social tariffs.
Total number of tariffs indentified per consumption band: low consumption = 871; medium consumption = 866; high consumption = 858.
ECME Consortium analysis of data from price collection exercise.

Figure 3: Breakdown of tariffs by type dimensions



Note: Tariffs by category as a percentage of the total number of tariffs for each country. Includes green and grey tariffs and all consumption bands. A green tariff is defined as one for which at least 50% of electricity production is from green sources. If less than 50% of electricity production is from green sources then the tariff is classified as grey. Excludes social tariffs.

Source: ECME Consortium analysis of data from price collection exercise.

Table 2: Number of tariffs by consumption band and shares of different tariff types

	Total number of tariffs[1]			Shares of different tariff types[2]											
				Fixed						Variable					
				Unique price			Peak/off-peak			Unique price			Peak/off-peak		
	Low consump.	Med. consump.	High. consump.	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified
AT	23	23	23	9%	-	61%	-	-	30%	-	-	-	-	-	-
BE	104	104	104	11%	8%	16%	11%	8%	16%	6%	3%	7%	6%	3%	7%
BG	6	6	6	-	-	50%	-	-	50%	-	-	-	-	-	-
CY	2	2	2	-	-	-	-	-	-	-	-	50%	-	-	50%
CZ	3	3	3	-	-	33%	-	-	67%	-	-	-	-	-	-
DK	45	44	45	38%	13%	-	-	-	-	-	-	49%	-	-	-
EE	24	27	17	-	-	-	-	-	-	-	-	38%	-	-	62%
FI	97	97	96	9%	15%	24%	9%	15%	21%	-	-	5%	-	-	2%
FR	38	38	38	24%	5%	21%	21%	5%	18%	-	-	3%	-	-	3%
DE	101	98	99	14%	3%	17%	2%	-	1%	12%	-	32%	4%	-	16%
EL	2	2	2	-	-	-	-	-	100%	-	-	-	-	-	-
HU	15	15	14	-	-	41%	-	-	27%	-	-	32%	-	-	-
IE	8	8	8	-	-	-	-	-	-	13%	13%	25%	13%	13%	25%
IT	68	66	65	32%	19%	33%	5%	9%	3%	-	-	-	-	-	-
LV	3	3	3	-	-	67%	-	-	33%	-	-	-	-	-	-
LT	4	4	4	-	-	50%	-	-	50%	-	-	-	-	-	-
LU	34	34	34	-	3%	-	-	3%	-	-	-	47%	-	-	47%
MT	2	2	1	-	-	-	-	-	-	-	-	100%	-	-	-
NL	98	98	98	15%	5%	-	15%	5%	-	13%	-	16%	13%	-	16%
PL	28	28	28	-	-	50%	-	-	50%	-	-	-	-	-	-
PT	18	18	18	-	-	67%	-	-	33%	-	-	-	-	-	-
RO	7	7	14	-	-	75%	-	-	25%	-	-	-	-	-	-
SK	3	3	3	-	-	33%	-	-	67%	-	-	-	-	-	-
SL	20	20	18	-	-	-	-	-	-	-	-	50%	-	-	50%
ES	30	29	29	52%	-	-	-	-	-	-	-	-	48%	-	-
SE	52	51	50	33%	22%	-	-[3]	-[3]	-	11%	-	34%	-	-	-
UK	36	36	36	-	-	3%	-	-	3%	6%	-	42%	6%	-	42%

Note: Excluding social tariffs.

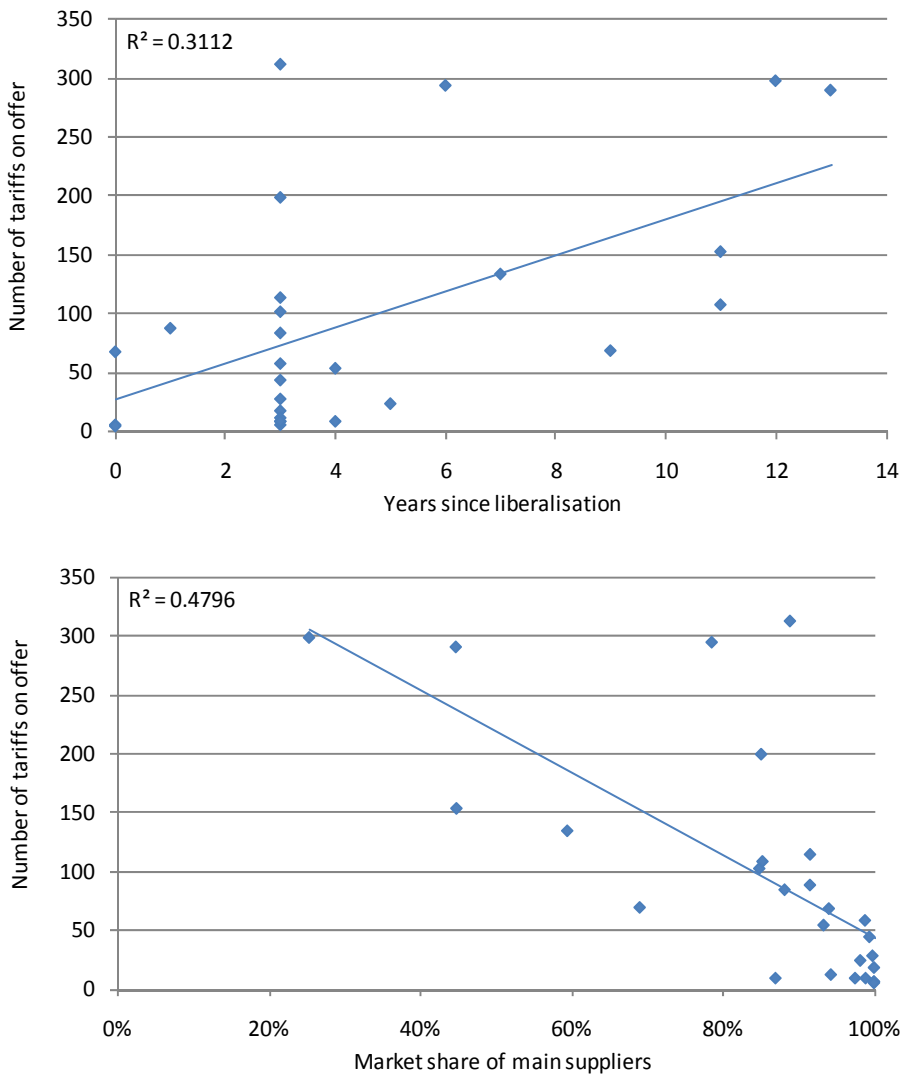
1. The total number of tariffs for each consumption band is given by counting separately tariffs from different suppliers which differ in terms of: fixed or variable prices; 1-year, 2-year or unspecified duration; unique or peak/off-peak prices; and whether the electricity is produced from green or grey sources.

2. The share of each type of tariff refers to the share of each type in the total for any consumption band, including green and grey tariffs. A green tariff is defined as one for which at least 50% of electricity production is from green sources. If less than 50% of electricity production is from green sources then the tariff is classified as grey.

3. Although the price collection exercise did not identify any peak/off-peak tariffs for Sweden, additional desk research found that one supplier does offer a peak/off-peak during the winter only (from November to March).

Source: ECME Consortium analysis of data from price collection exercise.

Figure 4: Number of tariffs on offer vs. years since liberalisation and market share of main supplier



Source: ECME Consortium analysis of data from price collection exercise.

Peak/off-peak tariffs

Peak/off-peak tariffs were found in every Member State except Denmark and Malta, and this is in line with the fact that in these Member States less than 12% of consumers in the consumer survey say that they are on a peak/off-peak tariff (Figure 5).[13]

[13] The price collection exercise did not identify any peak/off-peak tariffs for Sweden, but additional desk research found that one supplier does offer a peak/off-peak during the winter only (from November to March).

It should be mentioned that although the price collection exercise was comprehensive in terms of the number of suppliers and number of different contract types covered, it is possible that some peak/off-peak tariffs were not found, during the price collection. Furthermore, it is possible respondents to the survey have not fully understood what was meant by a peak/off-peak tariff, and this may also explain why some consumers indicate that they are on a peak/off-peak tariff although no such tariff was found.

Further desk research to clarify the situation for Denmark and Malta found that there are no peak/off-peak tariffs on offer to household consumers in these countries. For Malta, two tariffs for household consumers are shown on the website of the monopoly supplier (Enemalta), and neither tariff (the Residential Tariff and the Domestic tariff) is peak/off-peak.[14] However, in Malta there is a peak/off-peak Non-Residential Tariff available to commercial entities and NGO'S. Some consumers answering the survey who run small businesses may have been referring to this tariff when they stated that they have a peak/off-peak tariff. For Denmark, a report by the Danish energy industry association confirms there are no peak/off-peak tariffs available to household consumers.[15] Some consumers answering the survey may have misunderstood the question to be referring to the 'seasonal tariff' in Denmark which changes every 3 months.

In addition, it should be emphasised that the price collection represents a snapshot of different tariffs and prices available for consumers to choose from at the time the information was collected. However, the existence of long-duration contacts means that this snapshot may not be an accurate reflection of the tariffs that consumers actually have.

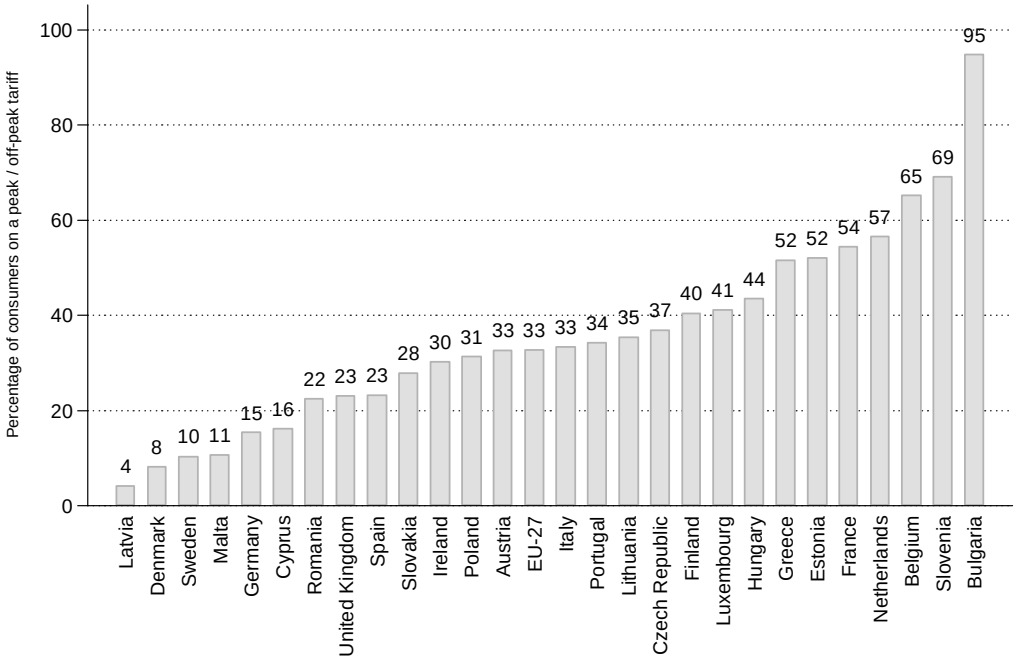
The lowest share of consumers indicating in the consumer survey that they are on a peak/off-peak tariff is observed in Latvia (4%). Although 33% of the tariffs collected for Latvia were peak/off-peak tariffs, an analysis of these tariffs reveals that there was no financial incentive for consumers with an annual consumption of 1,000kWh or 3,500 kWh to choose the peak/off-peak tariff as both the peak and the off-peak price was higher than the unique price for the same consumption level at the time the information was collected. However, for consumers with a consumption of 10,000kWh there may be a financial incentive to choose the peak/off-peak tariff as the off-peak tariff is lower than the unique price tariff while the peak price is higher. The limited financial incentives may explain why so few consumers are on a peak/off-peak tariff in Latvia.

In Bulgaria the opposite is the case and, at the time the information was collected, the price at peak time was the same as the unique price tariff while the off-peak price was lower. This implies that consumers had an incentive to choose the peak/off-peak tariff if they have the opportunity to do so. This might very well explain why 95% of Bulgarian consumers indicate that they are on a peak/off-peak tariff.

[14] See the electricity tariffs section of the Enemalta website: http://www.enemalta.com.mt/page.asp?p=995&l=1.

[15] See report: Dank Energi: 'Elforsyningens tariffer & elpriser: Pr. 1. januar 2010', Published March 2010

Figure 5: Percentage of consumers on peak/off-peak tariffs



Note: Based on Q14.8 of the consumer questionnaire. Calculated as percentage of consumers who said 'yes' to the following statement 'I am on a night/day tariff (adapt to country)'. EU-27 average is calculated as a weighted average using population as weights.
Source: ECME Consortium consumer survey

Volume contingent tariffs

The price collection exercise identified whether each tariff is available to customers with a low, medium or high consumption profile, defined as:

- Low consumption: 1,000kWh/year.
- Medium consumption: 3,500kWh/year.
- High consumption: 10,000kWh/year.

In many cases, a supplier offers the same type of tariff (in terms of fixed or variable prices, contract duration, and unique or peak/off-peak prices) to all customers irrespective of their consumption profile. Consequently, there are few differences in the range of tariff types available to consumers depending on their consumption profile. Such differences were found in just four countries (a full breakdown of availability of different tariff types by consumption profile is presented in Table 5):

- In the Czech Republic and Slovakia, all tariffs identified for low consumption consumers have a unique price, whereas all tariffs identified for medium and high consumption consumers have peak and off-peak prices.
- In Germany and Romania, fixed price tariffs of unspecified duration with peak and off-peak rates were only identified for high consumption consumers.

However, in most countries on average the overall price per kWh, including the per-unit rate and total standing charges divided by annual consumption, for like-for-like[16] tariffs from the same supplier are higher for low consumption consumers than for medium or high consumption consumers (Table 3).

Like-for-like tariffs from the same supplier are, on average, more expensive per kWh for low consumption consumers than for medium consumption consumers in 20 Member States, and in some cases the difference is more than 40% (column 1 of Table 3).[17] The five exceptions are Bulgaria and Lithuania where no differences were identified, and Hungary, Italy and Slovenia where prices per kWh are slightly lower for low consumption consumers compared to medium consumption consumers. [18]

On average across the EU as a whole, like-for-like tariffs from the same supplier are 19% higher for low consumption consumers than for medium consumption consumers, and 2% higher for medium consumption consumers than for high consumption consumers (columns 1 and 4 of Table 3).[19]

However, when the fixed and variable components of the total price are examined separately, it is clear that the differences between the total prices for low consumption consumers and medium consumption consumers are mostly because of higher fixed charges per kWh for low consumption consumers (columns 2 of Table 3). It is the same case for the differences between medium and high consumption consumers (columns 5 of Table 3).

Quite often there is little or no difference between the variable components of the total prices charged to low and medium consumption consumers, and in fact in several cases the rate per unit consumed is lower for low consumption consumers (columns 3 of Table 3).

[16] Here 'like-for-like' means tariffs which are the same in terms of fixed or variable prices, contract duration, and unique or peak/off-peak prices.

[17] We are aware that, in some cases, the difference between the per unit prices for low and medium consumption consumers found in the price collection exercise is not the same as that which is calculated based on Eurostat data. This may be explained by differences between the data collection methodologies used for the price collection exercise and used by Eurostat. For example the Eurostat data refer to the average price over the second semester of 2009 whereas the price collection exercise data provide a snap-shot of prices at a certain point in time during 2010.

[18] For the remaining two countries, the Czech Republic and Slovakia, no comparison can be made since there were no like-for-like contracts identified for both low consumption and medium consumption consumers.

[19] The EU figure is calculated as a weighted average using population as the weighting factor.

Table 3: Average difference between prices per kWh for low, medium and high consumers

	Low vs. Medium (+ve figure signifies low price > medium price)			Medium vs. High (+ve figure signifies medium price > high price)		
	Total price difference	Fixed component price difference	Variable component price difference	Total price difference	Fixed component price difference	Variable component price difference
	1	2	3	4	5	6
Austria	25.8%	67.5%	0.3%	9.0%	54.2%	0.1%
Belgium	23.1%	71.1%	0.5%	8.1%	67.0%	-0.4%
Bulgaria	0.0%	:	0.0%	0.0%	:	0.0%
Cyprus	4.3%	50.0%	-2.3%	1.3%	61.3%	-1.8%
Czech Republic	:	:	:	18.9%	3.2%	22.9%
Denmark	23.3%	33.4%	0.0%	8.0%	13.2%	0.0%
Estonia	2.6%	:	8.5%	17.0%	65.0%	8.8%
Finland	40.2%	71.4%	0.4%	20.1%	65.0%	1.6%
France	30.4%	69.0%	-0.2%	2.4%	19.9%	-1.6%
Germany	19.9%	67.8%	1.8%	7.1%	62.8%	0.2%
Greece	2.2%	37.6%	-2.5%	-34.3%	-178.6%[1]	-32.1%
Hungary	-0.8%	20.6%	-0.9%	-0.5%	16.9%	-0.6%
Ireland	34.1%	71.4%	0.0%	14.3%	67.5%	0.0%
Italy	-1.7%	68.4%	-50.7%[2]	-24.6%	62.2%	-59.8%
Latvia	18.8%	71.4%	0.0%	7.2%	65.0%	0.0%
Lithuania	0.0%	:	:	0.0%	:	:
Luxembourg	28.5%	67.6%	1.7%	10.6%	59.5%	0.5%
Malta	14.5%	70.8%	-4.6%	0.5%	65.0%	-5.0%
Netherlands	35.6%	71.4%	0.0%	14.4%	65.0%	0.0%
Poland	8.3%	53.5%	0.0%	4.9%	65.0%	0.0%
Portugal	43.9%	71.4%	0.0%	20.6%	65.0%	0.0%
Romania	10.5%	71.4%	0.0%	3.1%	65.0%	0.0%
Slovakia	:	:	:	-30.4%	63.6%	-59.5%
Slovenia	-0.1%	0.0%	-9.5%	-31.9%	-6.4%	-47.5%
Spain	31.3%	71.4%	0.0%	11.9%	65.0%	0.0%
Sweden	30.0%	70.3%	0.1%	11.3%	61.5%	0.5%
United Kingdom	18.0%	:	:	6.0%	:	:
EU-27	19%	65%	-7%[2]	2%	52%	-10%

Note: Note: ":" signifies that there are in sufficient data to make the calculation. Low vs. Medium calculated as: (low price – medium price)/low price. Medium vs. High calculated as: (medium price – high price)/ medium price. The EU figure is calculated as a weighted average using population as the weighting factor. Excludes social tariffs.

1. This figure is large because for one peak/off-peak tariff from one supplier the fixed component of the peak rate is zero for medium consumption consumers. As a result, the overall fixed component of this tariff is much lower for medium consumption consumers than for high consumption consumers, which pushes up the average difference.

2. The average difference in the variable component is influenced by one especially large observation (i.e. for one supplier, the variable component for a certain tariff is much greater for medium consumption consumers than for low consumption consumers). If this observation is omitted then the figure is -30.3%.

3. Italy is an exceptional case (see note 2 above). When Italy is excluded this figure is 0%.

Source: ECME Consortium analysis of data from price collection exercise.

Price discount for consumers with low power intensity

An additional feature of the range of tariffs on offer in a few countries is that tariffs vary according to power intensity. As noted above, this is the case in Italy, Portugal and Spain (see Table 1). The data from the price collection exercise indicates that, for these countries, if low consumption consumers choose low power intensity tariffs (as could be expected) then the price they pay per kWh is lower than the price paid by consumers with higher consumption who also choose higher intensity tariffs:

- In Italy, the price per unit of the average tariff available to consumers with low consumption and low power intensity (1.5kw) is 27% lower than the price per unit of the average tariff available to consumers with medium consumption and medium power intensity (3-4.5kw).
- In Portugal, the price per unit of the average tariff available to consumers with low consumption and low power intensity (1.15-3.45kva) is 5% higher than the price per unit of the average tariff available to consumers with medium consumption and medium power intensity (6.9-13.8kva). Note that this compares to a 44% difference if low consumption consumers also have medium power intensity (see column 1 of Table 3).
- In Spain, the price per unit of the average tariff available to consumers with low consumption and low power intensity (2.5kw) is 17% higher than the price per unit of the average tariff available to consumers with medium consumption and medium power intensity (4kw). This compares to a 31% difference if low consumption consumers also have medium power intensity (see column 1 of Table 3).

The average price discounts for consumers who choose a low power intensity tariff in Italy, Portugal and Spain are shown in Table 4. Overall, these findings suggest that if low consumption consumers choose low power intensity tariffs, then this can reduce difference in the total price per kWh they pay compared to the price paid by higher consumption consumers.

Table 4: Average price discount for consumers with low power intensity by consumption level (relative to consumers with medium power intensity)

	Low consumption (1000kWh)	Medium consumption (3500kWh)	High consumption (10000kWh)
Italy (discount for consumers with power intensity of 1.5kw)	32%	10%	0%
Portugal (discount for consumers with power intensity of 1.15-3.45kva)	41%	25%	15%
Spain (discount for consumers with power intensity of 2.5kw)	17%	7%	3%

Note: 1. The price discount for consumers with low power intensity is calculated relative to the price per kWh for medium power intensity consumers, where medium power intensity is defined as: 3-4.5kw for Italy, 6.9-13.8kva for Portugal, and 4kw for Spain.
2. The price discount is calculated as: (high power intensity price – low power intensity price)/low power intensity price.
3. The price discount is first calculated for each tariff type (fixed or variable rate, 1 or 2 year contract or unspecified duration, etc.). For each country, the average discount is then calculated by taking the weighted average across tariff types, weighted by the share of each tariff type in all tariffs in the country.
Source: ECME Consortium analysis of data from price collection exercise.

Table 5: Tariff availablility by consumption profile

	Low consumption (1000kWh)												Medium consumption (3500kWh)												High consumption (10000kWh)											
	Fixed rate						Variable rate						Fixed rate						Variable rate						Fixed rate						Variable rate					
	1 year		2 year		Unspec		1 year		2 year		Unspec		1 year		2 year		Unspec		1 year		2 year		Unspec		1 year		2 year		Unspec		1 year		2 year		Unspec	
	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak
AT	✓				✓	✓							✓				✓	✓							✓				✓	✓						
BE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BG					✓	✓											✓	✓											✓	✓						
CY											✓	✓											✓	✓											✓	✓
CZ					✓													✓												✓						
DK	✓		✓								✓		✓		✓								✓		✓		✓								✓	
EE											✓	✓											✓	✓											✓	✓
FI	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓					✓	✓
FR	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓					✓	✓
DE	✓	✓	✓		✓		✓	✓			✓	✓	✓	✓	✓		✓		✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓			✓	✓
EL						✓												✓												✓						
HU					✓	✓					✓						✓	✓					✓						✓	✓					✓	
IE							✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓	✓
IT	✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓	✓						
LV					✓	✓											✓	✓											✓	✓						
LT					✓	✓											✓	✓											✓	✓						
LU			✓	✓							✓	✓			✓	✓							✓	✓			✓	✓							✓	✓
MT											✓												✓												✓	
NL	✓	✓	✓	✓			✓	✓			✓	✓	✓	✓	✓	✓			✓	✓			✓	✓	✓	✓	✓	✓			✓	✓			✓	✓

Table 5: Tariff availablility by consumption profile

	Low consumption (1000kWh)												Medium consumption (3500kWh)												High consumption (10000kWh)											
	Fixed rate						Variable rate						Fixed rate						Variable rate						Fixed rate						Variable rate					
	1 year		2 year		Unspec		1 year		2 year		Unspec		1 year		2 year		Unspec		1 year		2 year		Unspec		1 year		2 year		Unspec		1 year		2 year		Unspec	
	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak	Unique	Peak/off-peak
PL					✓	✓											✓	✓											✓	✓						
PT					✓	✓											✓	✓											✓	✓						
RO					✓												✓												✓	✓						
SK					✓													✓												✓						
SL											✓	✓											✓	✓											✓	✓
ES	✓							✓					✓							✓					✓							✓				
SE	✓		✓				✓				✓		✓		✓				✓				✓		✓		✓				✓				✓	
UK					✓	✓	✓	✓			✓	✓					✓	✓	✓	✓			✓	✓					✓	✓	✓	✓			✓	✓

Source: ECME Consortium analysis of data from price collection exercise.

Social tariffs

In some countries, social tariffs are available for consumers with low income or who are having trouble paying their bills. Social tariffs were identified in every Member State except Bulgaria, Denmark, Estonia, Luxembourg and Sweden through scenario 4 of the mystery shopping exercise. In this scenario, mystery shoppers were instructed to tell their supplier that they are having financial difficulties and they need help reducing their bill, and then to record the assistance that they are offered. Social tariffs were also found in Belgium, Cyprus, Germany, Greece, Romania, Spain and the United Kingdom through the price collection exercise.

On average, among mystery shoppers in all Member States, 13% were offered social tariffs. They were offered to mystery shoppers in Romania significantly more often than in any other country (66% of cases). In two further countries, France and Hungary, more than a third of mystery shoppers were offered social tariffs (Table 6).

For countries where social tariffs were identified through the price collection exercise, the average discount of a social tariff compared to a standard tariff of the same type from the same supplier can be calculated. This discount varies from 6% to 39% for fixed price tariffs, and from 3% to 14% for variable price tariffs (Table 6).

Table 6: Availability of social tariffs

Country	Share of mystery shoppers who were proposed a social tariff	Average discount of a social tariff compared to a standard tariff of same type from the same supplier	
		Fixed price	Variable price
Austria	4%	:	:
Belgium	10%	39%	:
Bulgaria	0%	:	:
Cyprus	15%	:	11%
Czech Republic	24%	:	:
Denmark	0%	:	:
Estonia	0%	:	:
Finland	4%	:	:
France	36%	:	:
Germany	10%	:	9%[1]
Greece	4%	28%	:
Hungary	35%	:	:
Ireland	5%	:	:
Italy	23%	:	:
Latvia	16%	:	:
Lithuania	2%	:	:
Luxembourg	0%	:	:
Malta	20%	:	:
Netherlands	10%	:	:
Poland	12%	:	:
Portugal	4%	:	:
Romania	66%	34%	:
Slovakia	10%	:	:
Slovenia	6%	:	:
Spain	31%	6%	3%
Sweden	0%	:	:
United Kingdom	9%	:	14%
Total	13%	:	:

Note: 1. In Germany, one supplier was found to offer a social tariff, but no standard tariff of the same type is offered by this supplier, so comparison is made with the average of like-for-like standard tariffs offered by other suppliers.
Source: ECME Consortium analysis of data from price collection exercise.

2.1.2 Type of electricity available

Recent survey work from Eurobarometer shows that consumers in Europe are concerned about the environment and are willing to take decisions about their energy consumption for

environmental reasons. Four findings from a recent Eurobarometer survey of relevance for the present study are:[20]

- 47% had cut down their energy consumption during the past month for environmental reasons;[21]
- 47% said reducing home energy consumption (electricity, heating, household appliances) should be one of the top-three priorities for citizens of their country in their daily life to protect the environment;
- 75% totally agree or tend to agree that they are ready to buy environmentally friendly products even if they cost a little bit more.

Consumers' concerns about the environment and their willingness to take action may give suppliers incentive to provide green energy options. The price collection exercise examined the extent that this is happening in the Member States by categorising each tariff according to whether the electricity is produced from 'grey' energy sources or green energy sources.[22]

Information from the price collection exercise indicates that green tariffs are present in 15 countries and in several countries they make up large proportion of the entire range of tariffs on offer. In four countries, Austria, Belgium, Luxembourg and the Netherlands, green tariffs account for more than half of all tariffs on offer (Table 7).

Further, one can observe an interesting relationship between consumers' views on the environment and the share of green tariffs in the total number of tariffs on offer. In countries where green tariffs are available, there is a positive relationship between the share of green tariffs and the share of consumers who are willing to buy environmentally friendly products or cut down their energy consumption for environmental reasons (Figure 6).

Austria has a significantly higher share of green tariffs than any other country despite having fewer consumers who are willing to take decisions for environmental reasons compared to several other countries. However, this is explained by the extensive use of hydro-power in Austria.

On the other hand, in a number of countries, there are no green tariffs even though many consumers are willing to buy environmentally friendly products at a higher price and to cut down their energy consumption for environmental reasons. In these countries, the market may not be providing sufficient choice in terms of green energy alternatives.

Actions taken in different Member States to stimulate innovation in the retail electricity sector with regards to the provision of green electricity include the development of industry guidelines or requirements (for example in Denmark and the United Kingdom), and systems to guarantee the origin of renewable energy (for example in Germany and Greece). In the Netherlands, there are

[20] Special Eurobarometer 295/ Wave 68.2. Attitudes of European citizens towards the environment, March 2008. http://ec.europa.eu/public_opinion/archives/ebs/ebs_295_en.pdf.

[21] The general consumer survey for the present study also examined whether consumers have recently tried to reduce their electricity consumption, but the question in the general consumer survey did not ask if this was for environmental reasons. Therefore, the Eurobarometer figure is used in the present chapter.

[22] A green tariff is defined as one for which at least 50% of electricity production is from green sources. If less than 50% of electricity production is from green sources then the tariff is classified as grey.

green energy investment subsidy schemes. In France, the cost of green electricity production is supported by a tax paid by all consumers, although the national ombudsman reported that this system is not compatible with the practice of selling only green electricity to some customers.[23]

Table 7: Number of green tariffs and average price premiums for green tariffs

	Green tariffs		Average price premium for green tariffs[1]	
	Number	Share	Like-for-like tariffs from the same supplier	Average of green tariffs vs. average of grey tariffs
Austria	57	83%	:	2.3%
Belgium	204	65%	7.3%	-5.0%
Bulgaria	0	-	-	-
Cyprus	0	-	-	-
Czech Republic	0	-	-	-
Denmark	56	42%	2.5%	2.0%
Estonia	5	7%	11.0%	17.3%
Finland	125	43%	0.0%	1.1%
France	57	50%	7.3%	6.0%
Germany	132	44%	4.0%	4.6%
Greece	0	-	-	-
Hungary	0	-	-	-
Ireland	0	-	-	-
Italy	43	22%	15.6%	9.5%
Latvia	0	-	-	-
Lithuania	0	-	-	-
Luxembourg	60	59%	-1.8%	-4.7%
Malta	0	-	-	-
Netherlands	168	57%	0.5%	0.0%
Poland	0	-	-	-
Portugal	18	33%	:	-1.4%
Romania	0	-	-	-
Slovakia	0	-	-	-
Slovenia	22	38%	1.4%	3.1%
Spain	3	3%	-3.5%	10.0%
Sweden	74	48%	1.2%	0.5%
United Kingdom	48	44%	-2.5%	-3.0%

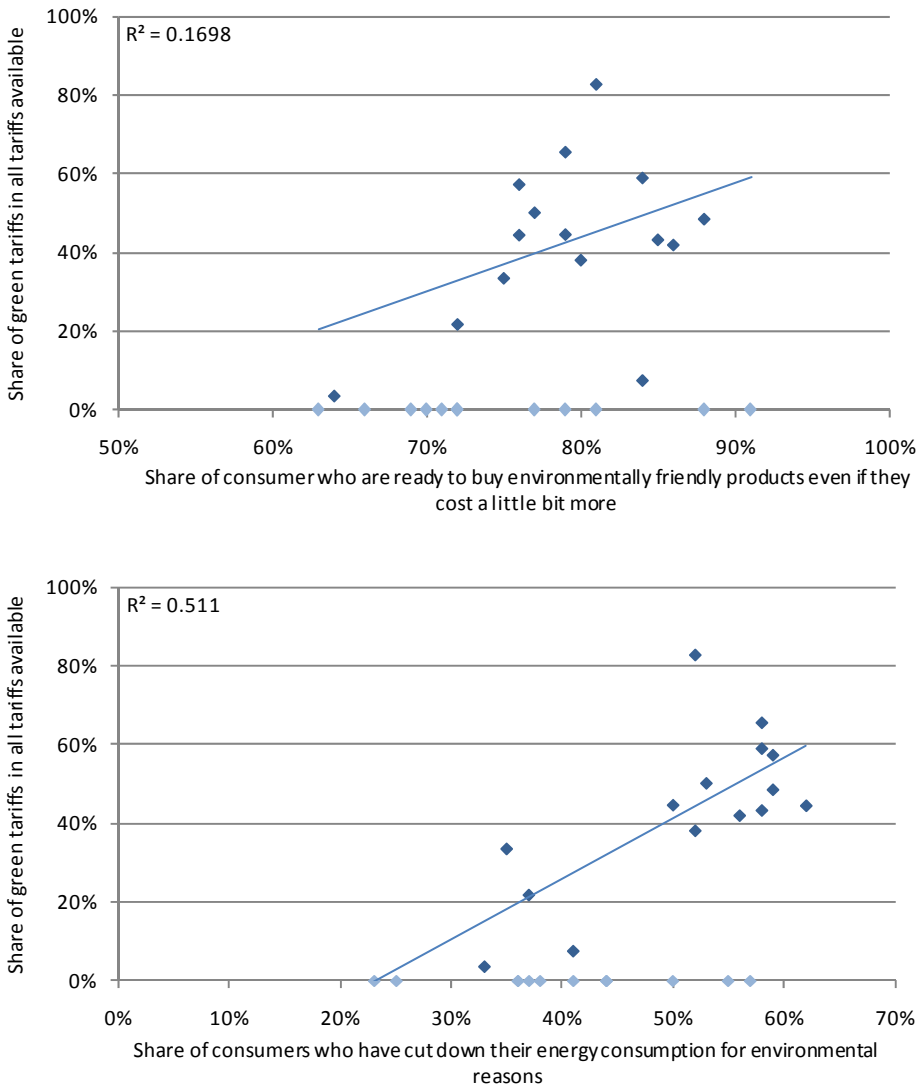
Note: "-" means not applicable. ":" means no data is available because no supplier which is offering a green tariff also offers a like-for-like grey energy tariff. Like-for-like tariffs are the same in terms of whether they are fixed or variable price, whether or not they are peak/off-peak, and duration.

[1] A positive number indicates that, on average, green tariffs are more expensive; the price premium is calculated as (green tariff - grey tariff)/grey tariff.

Source: ECME Consortium analysis of data from price collection exercise.

[23] Information in this paragraph is taken from stakeholder survey responses.

Figure 6: Consumer environmental opinions and share of green tariffs



Note: Trend lines are plotted only on data points with positive values for the share of green tariffs in all tariffs.

Source: ECME Consortium analysis of data from price collection exercise and Special Eurobarometer 295/ Wave 68.2. Attitudes of European citizens towards the environment

Green energy price premium

Consumers might want to use green energy but this may be expected to carry a price premium since generating electricity from green energy is often more expensive. The price collection exercise provides evidence on whether there is a green energy price premium, and, if so, how large it is. From the price collection data the premium for a green tariff can be calculated in two ways:

- by comparing green and grey tariffs which are otherwise the same (in terms of fixed or variable price, duration, etc.) and offered by the same supplier (where this is possible); or,

- by comparing the average of all green tariffs and the average of all grey tariffs in a country.

The advantage of the first measure is that it compares prices for identical tariffs except for the electricity source. However, the number of tariffs over which the average price premium can be calculated is limited (and in some cases it is not possible to calculate the measure) since suppliers offering green tariffs may not also offer equivalent grey tariffs. Therefore, both measures are presented and both show that, in most countries, green tariffs do carry a price premium (Table 7).

The price premiums calculated in this way are susceptible to influence from outlying observations and the following observations should be noted:

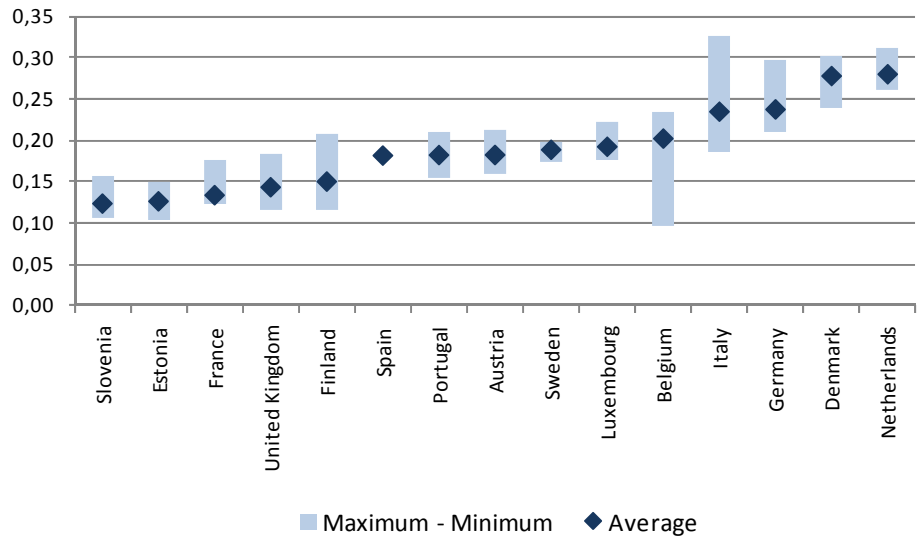
- For Finland, the average premium for a green tariff is affected by the tariffs of a single supplier which has significantly lower prices for its green tariffs than for its grey tariffs. When this supplier is omitted, the average like-for-like premium for green tariffs from the same supplier increases to 2%.
- For Luxembourg, the average premium for a green tariff is affected by the tariffs of two suppliers which have significantly lower prices for their green tariffs than for their grey tariffs. When these suppliers are omitted, the average like-for-like premium for green tariffs from the same supplier is 2%.
- For the United Kingdom, the average premium for a green tariff is affected by the tariffs of a single supplier which has significantly lower prices for its green tariffs than for its grey tariffs. When this supplier is omitted, the average like-for-like premium for green tariffs from the same supplier increases to 0.5%.
- For Spain, the price premium for green tariffs is calculated based on the tariffs of just one supplier (the only one found to offer green tariffs).

Range of green tariffs

The difference in average prices for green and grey tariffs provides an indication of the overall premium attached to green tariffs. However, examining only average prices does not reveal the variety of green tariffs which are available. Even though green tariffs may be more expensive on average, there are still green options available in some countries which are cheaper than most grey tariffs in that country (Figure 7).

However, care needs to taken when interpreting this information since some green tariffs identified may not be available to all consumers. For practical reasons, such as limitations to generation capacity from green sources, it may not be possible for a large share of consumers to switch to a particular green tariff.

Figure 7: Range of prices for green tariffs (€/kWh)



Note: Prices including taxes.
Source: ECME Consortium analysis of data from price collection exercise.

2.1.3 Price dispersion

It is interesting to analyse price dispersion within countries because it allows the study to assess the savings that could be achieved by consumers if they were to switch to the lowest tariff from the average tariff or some other tariff in the market.

Information on the dispersion of prices within countries is available from the price collection exercise. The dispersion of prices within a country is measured as the coefficient of variation of the different tariffs found in that Member State, across all different types of tariffs on offer (excluding social tariffs as the availability of these tariffs is subject to certain eligibility criteria). This is calculated separately for consumers with different consumption levels (Table 8):

- For consumers in the medium consumption band, price dispersion varies from zero in Romania where all suppliers have the same price to 0.22 in Hungary (Figure 8).[24]
- For consumers with low consumption, there is no price variation in Cyprus and Romania and the highest variation is in Latvia (0.35).
- For high consumption consumers, the lowest price dispersion is the Czech Republic and Latvia (0.02), whereas the highest variation is in Slovakia (0.43).

[24] It should be noted that new types of tariffs have recently been introduced in Hungary in 2010 to encourage use of environmentally friendly energy sources. These tariffs are generally cheaper than most other tariffs on offer in Hungary, and so increase the price dispersion observed from the price collection exercise data. One of these two tariffs is only available during part of the year (15th October to 15th April). Importantly, consumers must install geo-heating systems before they can obtain one of these new tariffs, which may mean that at present they are not accessible to the majority if consumers.

It should be noted that some tariffs identified in the price collection exercise may not be available to all consumers, since they may only be on offer at a regional level rather than national level. Therefore the wide dispersion of prices observed within some countries may not be relevant for individual consumers.

Although the level of price dispersion varies across countries, these differences do not seem to be linked to any market liberalisation or market structure characteristics in the Member States (for example years since liberalisation, existence of price regulation, numbers of suppliers, or market concentration).

Table 8: Tariff dispersion within countries by consumption band

	Low consumption					Medium consumption					High consumption				
	Count[1]	Average[2]	Coeff. of variation	Maximum	Minimum	Count[1]	Average[2]	Coeff. of variation	Maximum	Minimum	Count[1]	Average[2]	Coeff. of variation	Maximum	Minimum
AT	23	0.24	0.08	0.30	0.22	23	0.18	0.09	0.21	0.16	23	0.17	0.10	0.20	0.14
BE	104	0.27	0.12	0.32	0.16	104	0.21	0.10	0.24	0.10	104	0.19	0.11	0.22	0.08
BG	6	0.08	0.11	0.09	0.07	6	0.08	0.11	0.09	0.07	6	0.08	0.11	0.09	0.07
CY	2	0.18	0.00	0.18	0.18	2	0.17	0.09	0.19	0.16	2	0.17	0.12	0.19	0.16
CZ	3	0.22	0.03	0.22	0.21	3	0.14	0.02	0.15	0.14	3	0.12	0.02	0.12	0.12
DK	45	0.36	0.08	0.43	0.29	44	0.28	0.06	0.30	0.24	45	0.25	0.06	0.28	0.22
EE	24	0.10	0.07	0.11	0.08	27	0.11	0.19	0.15	0.08	17	0.09	0.11	0.11	0.07
FI	97	0.26	0.31	0.45	0.08	97	0.15	0.17	0.21	0.09	96	0.12	0.12	0.16	0.09
FR	38	0.19	0.09	0.24	0.15	38	0.13	0.09	0.18	0.10	38	0.13	0.09	0.17	0.10
DE	101	0.29	0.10	0.37	0.21	98	0.23	0.07	0.30	0.18	99	0.21	0.08	0.28	0.17
EL	2	0.11	0.07	0.11	0.10	2	0.10	0.09	0.11	0.10	2	0.14	0.06	0.14	0.13
HU	15	0.13	0.21	0.17	0.10	15	0.13	0.22	0.17	0.10	14	0.14	0.22	0.17	0.10
IE	8	0.26	0.03	0.27	0.25	8	0.17	0.07	0.19	0.16	8	0.15	0.11	0.17	0.13
IT	68	0.23	0.31	0.34	0.14	66	0.22	0.14	0.33	0.17	65	0.26	0.10	0.41	0.20
LV	3	0.08	0.35	0.10	0.05	3	0.06	0.11	0.07	0.05	3	0.05	0.02	0.06	0.05
LT	4	0.13	0.03	0.13	0.12	4	0.13	0.03	0.13	0.12	4	0.13	0.03	0.13	0.12
LU	34	0.28	0.08	0.32	0.23	34	0.20	0.08	0.24	0.18	34	0.18	0.11	0.24	0.16
MT	2	0.25	0.13	0.27	0.23	2	0.22	0.12	0.23	0.20	1	0.23	-	0.23	0.23
NL	98	0.44	0.03	0.50	0.42	98	0.28	0.03	0.31	0.26	98	0.24	0.04	0.27	0.21
PL	28	0.14	0.07	0.16	0.12	28	0.13	0.09	0.15	0.11	28	0.12	0.09	0.14	0.10
PT	18	0.33	0.15	0.40	0.26	18	0.18	0.10	0.21	0.15	18	0.15	0.08	0.16	0.13
RO	7	0.11	0.00	0.11	0.11	7	0.10	0.00	0.10	0.10	14	0.10	0.03	0.10	0.09
SK	3	0.21	0.16	0.25	0.19	3	0.17	0.06	0.18	0.16	3	0.23	0.43	0.30	0.12
SL	20	0.12	0.12	0.16	0.10	20	0.12	0.14	0.16	0.10	18	0.16	0.18	0.20	0.11
ES	30	0.24	0.06	0.27	0.22	29	0.16	0.08	0.19	0.15	29	0.14	0.09	0.17	0.13
SE	52	0.27	0.07	0.30	0.18	51	0.19	0.03	0.20	0.17	50	0.17	0.03	0.18	0.16
UK	36	0.18	0.23	0.29	0.12	36	0.14	0.14	0.18	0.12	36	0.14	0.14	0.18	0.11

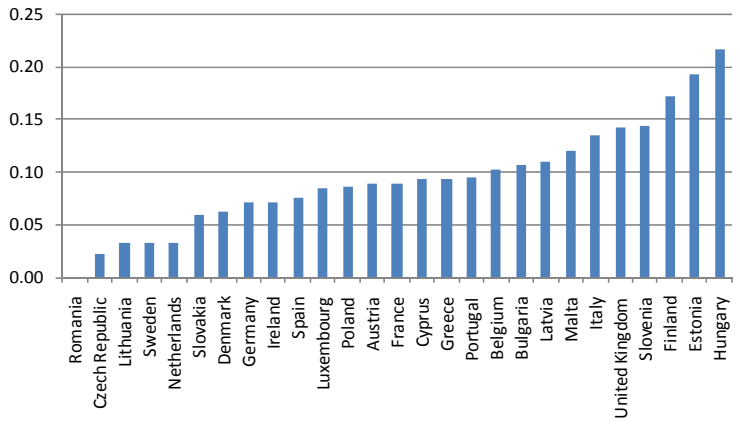
Note: Averages, maximums and minimums are in Euro/kWh. Coefficient of variation is given by the standard deviation over the mean. Low consumption profile consumers use 1000kWh/year, medium consumption profile consumers use 3500kWh/year, high consumption profile consumers use 10000kWh/year. Prices including taxes.

1. Count refers to the total number of tariffs found on offer to consumers with the relevant consumption profile. This is given by counting separately tariffs from different suppliers which differ in terms of: fixed or variable prices; 1-year, 2-year or unspecified duration; unique or peak/off-peak prices; and whether the electricity is produced from green or grey sources.

2. Average is the mean price in Euro/kWh of all tariffs found on offer to consumers with the relevant consumption profile.

Source: ECME Consortium analysis of data from price collection exercise.

Figure 8: Coefficient of variation of tariffs for medium consumption consumers



Note: Coefficient of variation is given by the standard deviation over the mean. Medium consumption profile consumers use 3500kWh/year. Prices including taxes.
Source: ECME Consortium analysis of data from price collection exercise.

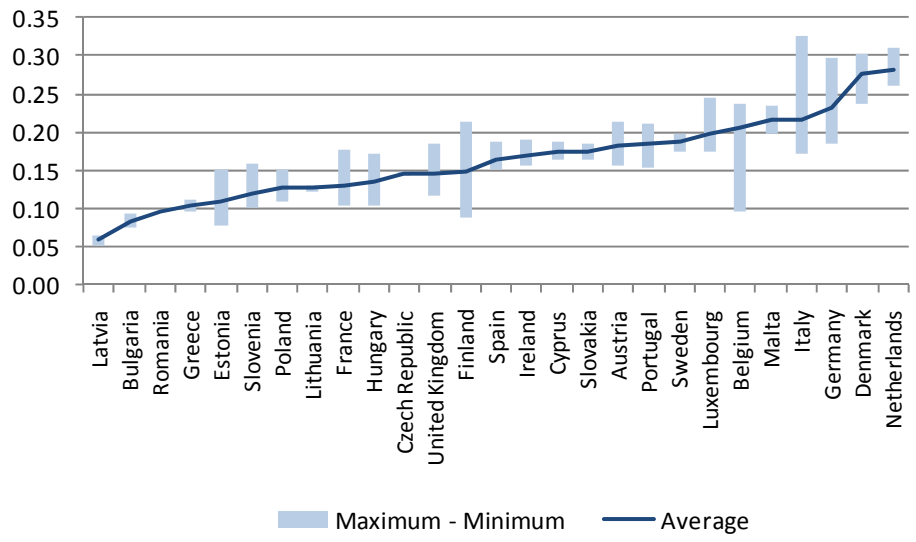
Price ranges within countries

The range of prices available to consumers in different consumption bands provides an indication of the level of choice and diversity in the market and the possible savings that could be achieved if consumers switched to the lowest tariff.

The range of prices available is especially high across all consumption bands in Finland, Belgium and Italy. Other countries have particularly large price ranges for certain consumption bands, namely Latvia and the United Kingdom for low consumption, Estonia for the mid-level consumption, and Slovakia for high consumption. Conversely, the range of prices is very narrow in other countries, especially the Czech Republic, Lithuania and Romania.

The price collection exercise did not record information on whether tariffs are special offers, which, for example, may be limited to a certain number of customers or to customers in certain regions. Therefore, it is not possible to determine whether some especially low rates offered with certain contracts in some countries are accessible to most (or all) consumers, or whether these are special offers which are only available to a limited number of consumers.

Figure 9: Range of tariffs available for medium consumption consumers (€/kWh)



Note: Medium consumption profile consumers use 3500kWh/year. Prices including taxes.
Source: ECME Consortium analysis of data from price collection exercise.

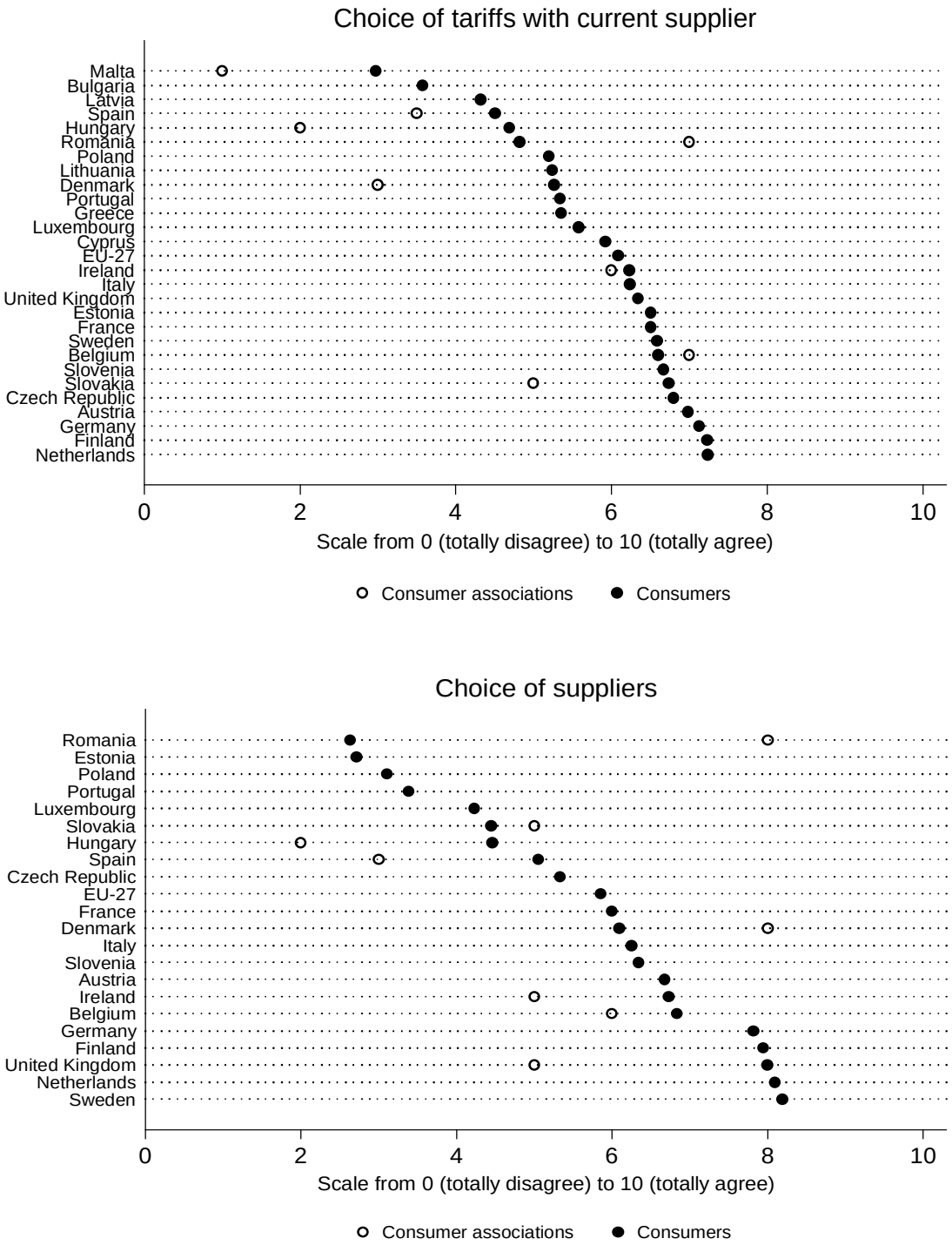
2.2 Consumer views on choice in the market

There are large differences between Member States in regard to how satisfied consumers are with the choice available to them; both in terms of the choice of tariffs with their current supplier and the choice of different suppliers (Figure 10 overleaf).

Consumers in Malta, Bulgaria, Latvia, Spain, Hungary and Romania are among those consumers who are least satisfied with the choice of different tariffs at their current supplier, and, on average, their rating of agreement with the statement 'My supplier offers a sufficient choice of tariffs (such as green electricity, night/day electricity etc.)' is less than 5 on a scale from 0 (totally disagree) to 10 (totally agree). The lowest average rating of 3.0 was given by consumers in Malta. In comparison, consumers in Austria, Germany, Finland and the Netherlands are most satisfied with the choice of tariffs that their current providers offer with average ratings of 7.0 or more. However, even for these countries there is scope for improvement in the choice of tariffs available as the average ratings provided by consumers on the 10-point scale are less than 7.5 in all Member States.

When asked whether they think that there is a sufficient choice of electricity suppliers, there are even larger differences between Member States with average ratings on the 10-point scale ranging from 2.6 in Romania to 8.2 in Sweden. There is a clear divide between Member States with different levels of satisfaction with the choice of suppliers. Consumers in Romania, Estonia, Poland, and Portugal are the least satisfied with average ratings below 4. Consumers in Luxembourg, Slovakia and Hungary generally do not think that there is enough choice of electricity suppliers (average ratings are below 5.0). In contrast, consumers in Germany, Finland, the United Kingdom, the Netherlands and Sweden are on average the most satisfied consumers when it comes to the range of different electricity suppliers.

Figure 10: Choice of taiffs with current supplier and choice of suppliers



Note: Based on Q11.1 and Q11.3 in consumer questionnaire: Agreement with statements: 'I can choose from a sufficient number of electricity providers' and '(name of supplier) offers a sufficient choice of tariffs (such as green electricity, night/day electricity etc.)'. EU-27 average calculated based on weighted average using population as weights.

Source: ECME Consortium consumer and stakeholder questionnaire

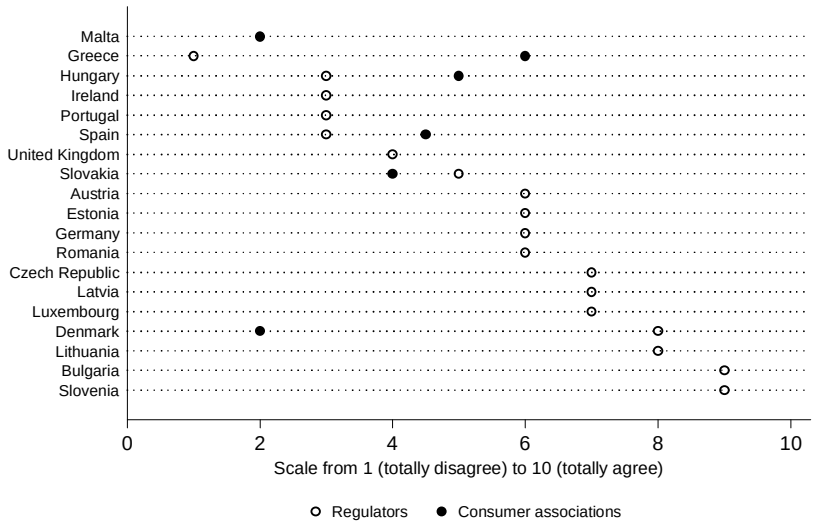
Consumer associations where also asked to assess the choice of tariffs and suppliers, and in most cases they were less impressed with the choice available than consumers themselves or these associations shared the views of consumers. However, the Romanian consumer association was of the opinion that there was a relatively good choice of suppliers and tariffs, but Romanian consumers were less impressed with the choice available to them. Similarly, the Danish consumer association rated the choice of alternative *suppliers* significantly higher than consumers did.

Consumer associations as well as electricity regulators were also asked to what extent they feel that 'Electricity suppliers continuously offer a wide enough choice of technologically advanced products that meet the consumers' needs' (Figure 11). There is no clear association between the responses provided by different stakeholder types; e.g. it is not generally the case that consumer associations provide higher or lower ratings than regulators; nor is it the case that consumer associations and regulators provide high ratings in the same countries.

Interestingly regulators in Bulgaria and Slovenia provide the highest rating on this dimension. However, as noted earlier, consumers in Bulgaria do not seem particularly satisfied with the choice of different tariffs. It is also worth mentioning that the Danish consumer association and regulator differ significantly in their views on this issue. The consumer association provides a much lower rating, as compared to the regulator, as to whether suppliers offer enough choice of technologically advanced products. This low rating for choice of products by the Danish consumer association is in line with the low rating provided by the same association on the choice of tariffs.

Similarly, the views of the consumer association and the regulator in Greece differ widely with consumer associations being more satisfied with the choice of electricity products provided by suppliers than the regulator. In fact, the Greek regulator provides the lowest rating for choice of electricity products. The Maltese and Danish consumer associations also provide low ratings.

Figure 11: Stakeholder perception of choice

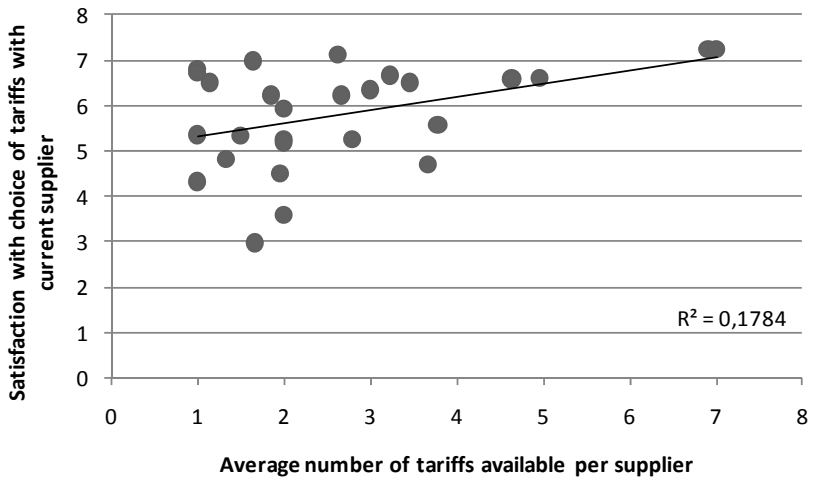


Note: Agreement with the statement: 'Electricity suppliers continuously offer a wide enough choice of technologically advanced products that meet the consumers' needs'. The regulators in Finland, France and the Netherlands and the consumer association in Belgium, Ireland, Romania and the United Kingdom responded 'Don't know'.
Source: ECME Consortium stakeholder survey

Consumer views on choice and actual choice

The data suggest a positive link between choice and consumer satisfaction with actual choice. In particular, it seems to be the case, that consumers who are relatively dissatisfied with the choice of tariffs with their current supplier, live in Member States where suppliers on average offer relatively few different tariffs (per consumption band and power intensity) (Figure 12). It should be mentioned that the number of tariffs are counted based on the price collection exercise and therefore may not include all available tariffs that suppliers have on offer if suppliers offer tariffs other than those considered for the price collection exercise. It should also be emphasised that a high level of satisfaction with the choice of electricity tariffs is not necessarily associated with a large number of tariffs.

Figure 12: Relationship between satiscation with choice of tariffs from current provider and average number of tariffs available per supplier



Note: Satisfaction with the choice of tariffs is measured on a scale from 0 to 10 where 10 represents full satisfaction that there is a sufficient choice of tariffs. The average number of tariffs available is calculated based on the tariffs collected in the price collection exercise as the average number of tariffs of those included in the price-collection grid available per supplier per consumption level and (if applicable) per power intensity.

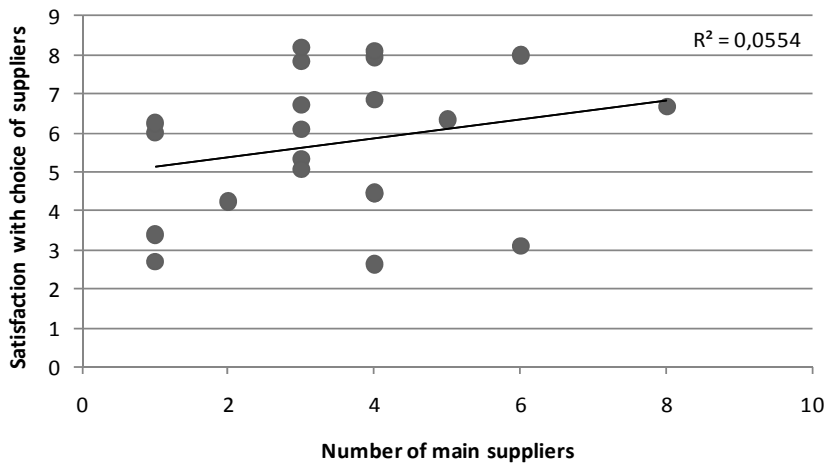
Source: ECME Consortium based on ECME consumer questionnaire and ECME price collection

There is also a weak positive link between satisfaction with the number of alternative suppliers and the number of main suppliers (Figure 13). We use the number of main suppliers rather than the total number of suppliers, in order to take into account that some suppliers (particularly small suppliers) may be only regional suppliers.

The main outliers in the graph are Poland and Romania, where there are 6 and 4 main suppliers, respectively, but consumers are relatively dissatisfied with the choice of suppliers. The reason is that consumers are limited in their ability to choose between the suppliers. In particular, in Romania, the market is geographically split between the 4 main suppliers and in practice consumers can only switch suppliers if they move. This implies that each consumer in practice has no choice of supplier among the main suppliers. Desk research reviewed by the Polish regulator

(and summarised in the country fiches)[25] found that the choice of alternative suppliers in Poland is also limited by regional availability of suppliers. This may explain why Polish consumers are not particularly satisfied with their choice of suppliers even though there are a relatively large number of main suppliers.

Figure 13: Relationship between satiscation with choice of suppliers and number of main suppliers



Note: Satisfaction with the choice of suppliers is measured on a scale from 0 to 10 where 10 represents full satisfaction that there is a sufficient choice of suppliers. The number of main suppliers is calculated based on the consumer survey. Main suppliers are defined as suppliers with a market share of at least 5% of consumers.
Source: ECME Consortium based on ECME consumer questionnaire

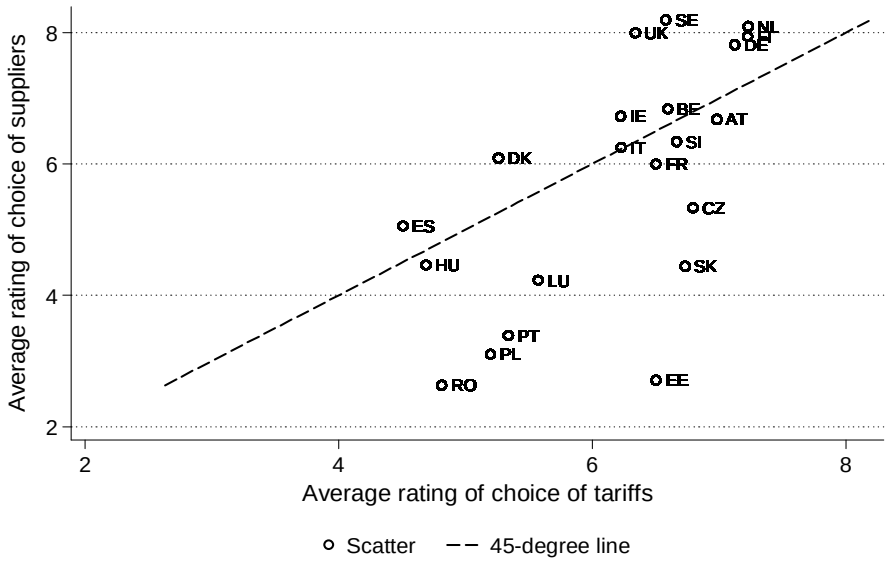
Relationship between satisfaction with choice of tariffs and choice of suppliers

It clearly seems to be the case that consumers are more likely to be satisfied with the choice of suppliers in Member States where consumers are also satisfied with the choice of tariffs (Figure 14).

Furthermore, consumers in countries such as Romania, Estonia, Poland, Portugal Luxembourg, Slovakia and the Czech Republic are much more satisfied with the choice of tariffs than with the choice of suppliers (this is illustrated by the fact that these countries are situated well below the 45-degree line in Figure 14). This is particularly the case in Romania, Estonia and Poland where the choice of suppliers appears to be limited either because the market has not been liberalised yet or because suppliers are not national suppliers that all consumers can choose between.

[25] Provided in Annex A.

Figure 14: Reationship between satisfaction with choice of tariffs and choice of suppliers



Note: Satisfaction with the choice of is measured on a scale from 0 to 10 where 10 represents full satisfaction that there is a sufficient choice of suppliers/tariffs.

Source: ECME Consortium based on ECME consumer questionnaire

2.3 Comparability

Consumers may in theory have a choice between a large number of tariffs and/or suppliers but this does not necessarily imply that consumers can easily find information about the alternative prices available to them, let alone that it is easy for consumers to compare the alternatives. In fact, consumers may find it more difficult to compare offers if there is a wide choice of suppliers and tariffs, particularly if the tariffs available are very different in terms of contact types and price dispersion. This section considers transparency and comparability from the point of view of the consumer. In particular this section addresses three questions:

1) How easy is it for consumers to find information about prices?
2) How easy is it for consumers to compare providers and tariffs?
3) How transparent and easy to compare do consumers find prices?

The analysis relies partly on results from the mystery shopping exercises undertaken for this study and partly on results of the consumer survey.

2.3.1 Ease of finding alternative suppliers

Mystery shoppers were asked to search for alternative suppliers online and in the phonebook and to record how easy it was for them to find alternative suppliers. Overall 88% of mystery shoppers found a price comparison tool on the internet. In fact, comparison websites were found by all mystery shoppers in Denmark, Germany, Slovenia and Sweden and by most in all other countries except Hungary, where only 27% found one (Table 9).

There was a large variation in the number of alternative suppliers found on the internet, with approximately 2 found on average in Ireland compared to an average of 38 in Germany. It should also be noted that there is a large variation in the number of alternative suppliers found by mystery shoppers in the same country. For example in Belgium, Italy and Poland the standard deviation of the number of alternative suppliers found on the internet is larger than the average, indicating that one or more mystery shoppers found a very large number of alternative suppliers. In the majority of cases, more suppliers were found on the internet than when searching in the phone book. Notable exceptions to this rule are France, Hungary, Luxembourg and Portugal. Further, mystery shoppers in Ireland found almost double the number of alternative suppliers in the phone book (4.10) compared to the internet (2.06).

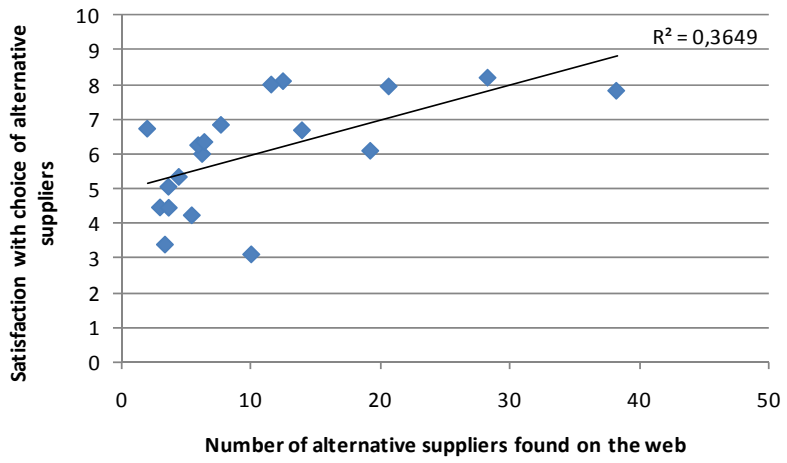
Table 9: Availability of alternatives

Country	Found price comparison tool on the web	Number of alternative suppliers found on the web		Found alternative suppliers in the phonebook	Number of alternative suppliers found in phonebook	
		Average	Standard Deviation		Average	Standard Deviation
Austria	92%	14	13.33	66%	10.94	13.65
Belgium	75%	7.75	10.11	51%	5.31	5.51
Czech Republic	90%	4.50	2.22	69%	2.76	2.26
Denmark	100%	19.27	1.68	72%	13.18	7.69
Finland	100%	20.69	16.37	65%	5.69	8.59
France	94%	6.30	3.78	82%	6.39	6.88
Germany	100%	38.25	23.5	54%	4.35	5.66
Hungary	27%	3.05	0.58	58%	3.17	1.36
Ireland	88%	2.06	0.35	61%	4.1	9.16
Italy	91%	6	10.09	74%	4.14	2.94
Luxembourg	64%	5.50	2.59	96%	6.23	2.78
Netherlands	96%	12.54	7.50	82%	6.27	5.18
Poland	64%	10.09	10.86	94%	6.89	6.73
Portugal	83%	3.43	1.73	76%	4.03	7.83
Slovakia	78%	3.72	2.42	60%	3.50	4.53
Slovenia	100%	6.47	3.70	94%	6.20	3.04
Spain	65%	3.70	1.18	42%	1.95	1.03
Sweden	100%	28.32	19.75	48%	10.13	13.16
United Kingdom	98%	11.63	8.09	35%	8.11	6.46
EU-27	88%	13.76	9.82	63%	5.48	5.42

Note: Mystery shopping exercise 1 was not undertaken for Bulgaria, Cyprus, Estonia, Greece, Latvia, Lithuania, Malta and Romania because switching is limited in these countries. EU-27 average is a weighted average using population as weights.
Source: ECME mystery shopping exercise 1

There is also a clear positive association between satisfaction with the choice of alternative suppliers available to consumers and the average number of alternative suppliers found by mystery shoppers (Figure 15).

Figure 15: Relationship between satisfaction with choice of suppliers and number of alternative suppliers found by mystery shoppers



Note: Mystery shopping exercise 1 was not undertaken for Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Malta and Romania because switching is limited in these countries.
Source: ECME mystery shopping exercise and ECME general consumer survey

2.3.2 Ease of finding and comparing alternative offers from different suppliers

Mystery shoppers were instructed to search not only for alternative suppliers but also for alternative and cheaper tariffs. On average, 62% of all mystery shoppers succeeded in finding a cheaper offer in 10 days (Table 10). However, no mystery shoppers in Hungary were successful in finding a cheaper offer in 10 days,[26] whereas at the other extreme 86% were successful in Denmark.

The number of cheaper offers found in the United Kingdom averaged 8.43, which is high compared to all other countries except Sweden (average of 6.64). Consumers in Slovakia, on average, found the lowest number of cheaper offers (1.27).

There is not only large variation in the number of offers found by mystery shoppers across different Member States, for some countries there is also considerable variation in the number of offers found by different mystery shoppers in the same country. The most notable cases are Denmark, Finland, France, Ireland, Sweden and the United Kingdom, where the standard deviation of the number of offers found is more than 3.

The high variation in the number of offers found by mystery shoppers in these countries suggests that some consumers who search for a cheaper tariff will find/receive many more offers than other consumers who undertake a similar search. Hence, the benefit from searching for a cheaper tariff may be more variable and more uncertain in these countries.

[26] It should be noted that new types of tariffs have recently been introduced in Hungary in 2010 to encourage use of environmentally friendly energy sources. These tariffs are generally cheaper than most other tariffs on offer in Hungary, and so increase the price dispersion observed from the price collection exercise data. However, since they were only very recently introduced these new tariffs may not have been identified in the mystery shopping exercise, which could explain why no mystery shoppers in Hungary were successful in finding a cheaper offer.

It was generally possible for consumers to compare offers based on annual consumption (overall, 81% of mystery shoppers said that this was possible). However, this was only the case for 43% of Spanish mystery shoppers.

Table 10: Finding and comparing cheaper offers

Country	Received/ found a cheaper offer (within 10 days)	Number of offers found/received		Average time to get cheaper offers (in days)[2]	Possible to compare offers based on annual consumption	Estimated average savings made on an annual base if switching (in €)[3]	
		Average	Standard deviation[1]			Lower bound	Upper bound
Austria	68%	1.77	0.86	1.5	88%	32.00	32.00
Belgium	55%	2.07	1.05	1.11	70%	188.21	188.21
Czech Republic	77%	1.73	1.52	1.08	86%	45.26	45.26
Denmark	86%	3.35	3.77	0.59	91%	44.03	44.03
Finland	55%	4.13	3.92	0.99	87%	59.98	59.98
France	65%	2.94	3.32	0.44	93%	66.52	66.52
Germany	62%	2.94	1.73	2.05	90%	200.09	273.68
Hungary	0%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	76%	2.28	3.23	0.24	78%	119.83	119.83
Italy	78%	3.08	1.51	1.15	74%	114.05	114.05
Luxembourg	26%	1.31	0.63	2.24	100%	53.91	53.91
Netherlands	69%	1.8	1.21	1.2	73%	156.20	193.52
Poland	36%	2.39	1.24	0.62	83%	20.29	20.29
Portugal	64%	1.38	0.49	:	84%	29.94	29.94
Slovakia	64%	1.27	0.52	1.72	60%	57.02	57.02
Slovenia	79%	1.95	1.01	1.05	64%	26.45	26.45
Spain	29%	1.57	0.51	:	43%	5.00	5.00
Sweden	66%	6.64	7.73	0.29	100%	88.80	88.80
United Kingdom	85%	8.43	6.32	0.13	87%	171.02	171.02
EU-27	62%	3.45	2.49	0.98	81%	106.58	121.58

Note: Mystery shopping exercise 1 was not undertaken for Bulgaria, Cyprus, Estonia, Greece, Latvia, Lithuania, Malta and Romania because switching is limited in these countries. EU-27 average is a weighted average using population as weights.
The number of offers found/received (average and standard deviation), average time to get cheaper offers, the share for whom it was possible to compare offers based on annual consumption, and potential estimated savings are calculated based only on responses from mystery shoppers who found a cheaper offer.
1. It is possible for the standard deviation to be larger than the average, since for some countries most mystery shoppers found only a very small number of offers making the average low, whilst a few mystery shoppers found a very large number of offers making the standard deviation high.
2. Average time to get a cheaper offer refers to the time it took for suppliers to get back to mystery shoppers with a cheaper offer after the mystery shoppers had contacted them (not the time mystery shoppers had to spend actively searching for cheaper offers).
3. The lower bound of the estimated savings from switching are estimated excluding savings of €1,000 or more. The upper bound is the average across all savings reported by mystery shoppers.
Source: ECME mystery shopping exercise 1.

2.3.3 Availability of cheaper offers

Cheaper offers from alternative suppliers

The mystery shopping exercises show that there are generally cheaper offers available from alternative suppliers. On average across the EU-27, 62% of mystery shoppers where able to find a cheaper offer from an alternative supplier (as opposed to their current supplier), with estimated average savings of €107 per annum for those consumers who would be able to benefit from a cheaper offer (Table 10 and Figure 16).

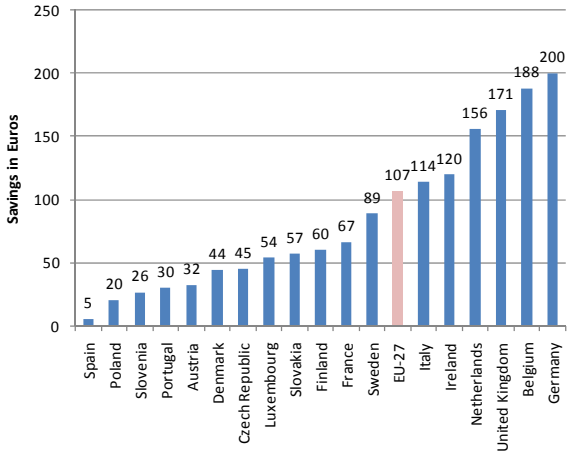
In most countries, on average, mystery shoppers who found/received cheaper offers did so in less than 2 days. This refers to the time that it took for suppliers to get back to mystery shoppers with a cheaper offer after mystery shoppers had contacted them (not the time mystery shoppers had to spend actively searching for cheaper offers). The two exceptions are Germany and Luxembourg where, on average, mystery shoppers who found cheaper offers only did so after more than 2 days. Mystery shoppers who found cheaper offers in the United Kingdom did so more quickly than consumers in any other country requiring only 0.13 days on average (equivalent to approximately 3 hours).

There was large variation in the potential savings from switching, with average potential savings estimated to be less than €30 per year in Spain, Poland and Slovenia, whilst average potential savings are estimated to be more than €150 per year in Belgium, Germany, the Netherlands and the United Kingdom (Figure 16). The average savings for German mystery shoppers is very large and is driven by a few mystery shoppers who would be able to save more than €1,000 annually if they switched to any of the offers they found. However, it is not possible to determine if any of these savings are due to introductory offers etc. It should be noted that some mystery shoppers in other countries also indicated very large annual savings.

It should also be noted that several mystery shoppers reported that it was difficult to judge the savings that they could achieve from switching, which in itself is an interesting finding since this makes it more difficult for consumers to assess the benefits related to the choice of tariffs on offer.[27]

[27] Unfortunately there is no figure for the share of mystery shoppers who reported that it was difficult to judge the savings that they could achieve from switching

Figure 16: Lower bound of estimated potential annual savings from mystery shopping exercise

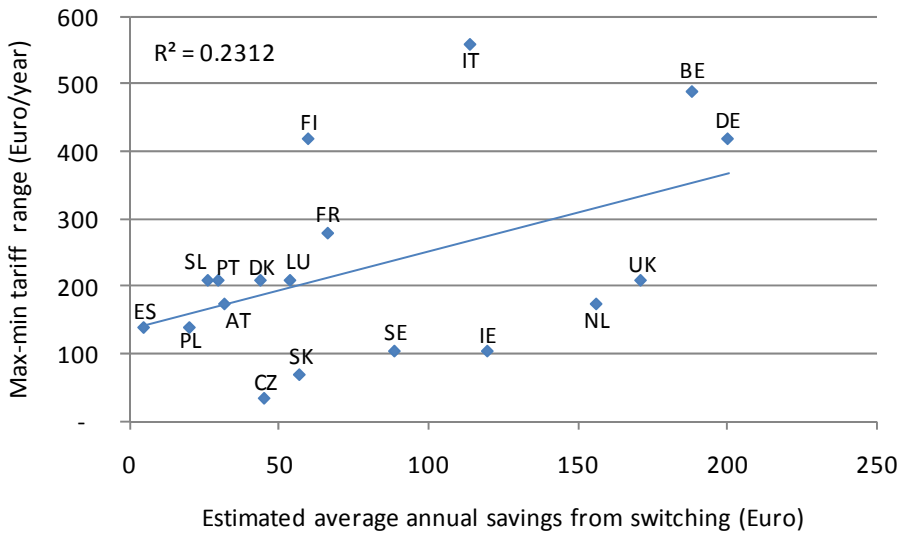


Note: The annual savings are estimated by the lower bound presented in Table 10 . The mystery shopping exercise was not undertaken in Estonia, Latvia, Lithuania, Bulgaria, Cyprus, Greece, and Romania.
Source: Source: ECME Consortium analysis of data from mystery shopping.

There also appears to be a positive relationship between the estimated average annual savings from switching and the range between the maximum and minimum tariffs identified by the price collection exercise (Figure 17).[28] However, for some countries, given the small ranges between the maximum and minimum tariffs, mystery shoppers in these countries would not be expected to have found such large savings. These countries are below the trend line in Figure 17 (Czech Republic, Ireland, the Netherlands, Slovakia, Sweden, and the United Kingdom). A possible explanation for this is that in these countries a larger proportion of consumers are close to the top end of the possible price range.

[28] Is should be noted that we do not expect these data points to form a perfect line, since the average savings that can be achieved depend consumers actual current tariffs rather than the maximum to minimum range.

Figure 17: Estimated average annual savings from



Note: Mystery shopping exercise 1 was not undertaken for Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Malta and Romania because switching is limited in these countries. Max-min range refers to prices including taxes.
Source: ECME mystery shopping exercise 1 and ECME price collection exercise.

Cheaper offers from current supplier

In addition, it should be mentioned that mystery shoppers who were instructed to contact their supplier to enquire about termination policies were often offered a cheaper deal by their current supplier.

Table 11 below shows that across the EU 22% of mystery shoppers were spontaneously offered a cheaper deal by their current supplier without asking for it when enquiring about the termination policy. Furthermore, 13% were offered a cheaper deal by their current supplier after asking or calling/emailing back to ask for a cheaper tariff.

Mystery shoppers in the United Kingdom and the Netherlands were most likely to be spontaneously offered a better deal by their current supplier (44% and 36% respectively), while those in Slovenia and Spain were most likely to receive a cheaper deal from their current supplier if they asked for it or called/emailed back asking for it (31% each respectively). On the other hand, no German mystery shoppers were offered a cheaper deal after they called/emailed back asking for it.

The fact that around one in three mystery shoppers across the EU who contacted their current supplier was offered a better deal shows that considerable unexploited opportunities for consumers exist (final column of Table 11).

Table 11: Offered a cheaper deal by supplier in response to questions about termination policy

Country	Spontaneously offered a cheaper deal by current provider	Offered a cheaper deal by the current provider after asking or calling/emailing back	Offered a cheaper deal either spontaneously or after asking or calling/emailing back
Austria	24%	16%	36%
Belgium	20%	12%	30%
Czech Republic	28%	14%	38%
Denmark	4%	13%	16%
Finland	12%	4%	16%
France	8%	9%	16%
Germany	24%	0%	24%
Hungary	6%	2%	8%
Ireland	8%	2%	10%
Italy	22%	13%	32%
Luxembourg	8%	4%	12%
Netherlands	36%	9%	42%
Poland	22%	21%	38%
Portugal	4%	4%	8%
Slovakia	8%	4%	12%
Slovenia	13%	31%	39%
Spain	22%	31%	46%
Sweden	12%	14%	24%
United Kingdom	44%	23%	57%
EU-27	22%	13%	32%

Note: Approximately 50 mystery shopping exercises were undertaken per Member State. EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights. This mystery shopping exercise was not undertaken in Estonia, Latvia, Lithuania, Bulgaria, Cyprus, Greece, and Romania. Some mystery shoppers may have been offered a cheaper deal both spontaneously and after asking for a cheaper offer. Therefore the first two columns do not necessarily sum to the third column.

Source: ECME Consortium analysis of data from mystery shopping exercises.

2.3.4 Experience comparing offers and suppliers

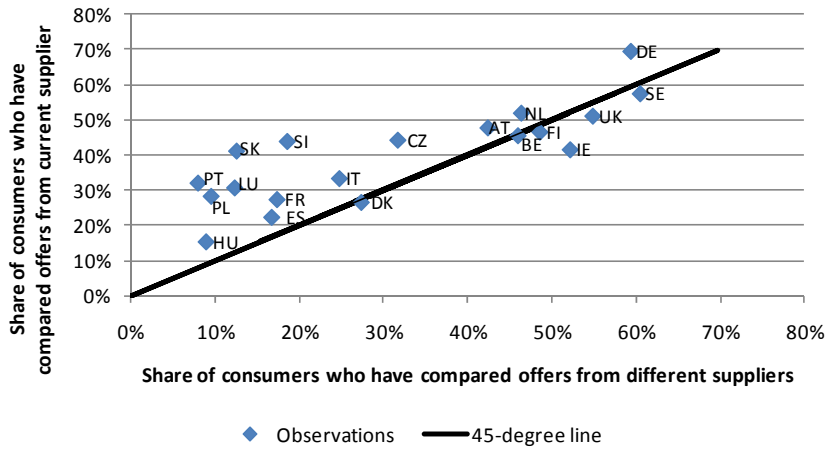
According to the consumer survey, 10% or less of consumers in Romania, Portugal, Estonia, Hungary and Poland have tried to compare offers from different suppliers (Figure 19). In comparison, more than 50% of consumers in Ireland, the United Kingdom, Germany and Sweden have tried to do so. It is not surprising that consumers in Romania and Estonia are among those consumers who have least experience comparing offers from alternative suppliers, because the ability of these consumers to switch supplier is limited by the specific market structure. In Romania, the market is geographically split between suppliers and consumers have no real option to switch (except when moving to another region) and the Estonian retail electricity market is

closed meaning that consumers are unable to switch.[29] In Poland and Portugal some consumers have no local alternative suppliers.

It is also worth noting that a large share of mystery shoppers found an online price comparison tool in the United Kingdom, Germany and Sweden countries, where a large share of consumers have compared offers. This suggests that online price-comparison tools may facilitate the comparison of offers from different suppliers. However, this may not always be the case. For example, in Denmark 100% of mystery shoppers found a price comparison tool but only 27% of consumers have tried to compare offers from different suppliers.

Overall, it would seem that consumers have more experience comparing different offers from their current supplier than from different suppliers. This is illustrated by observations being above the 45-degree line in Figure 18. For example in Germany, 70% of consumers have compared offers from their current supplier while only 59% of consumers have compared offers from different suppliers. Similarly, 48% of consumers in Austria have compared offers from their current supplier and only 42% have compared offers from different suppliers. However, in some cases (for example in Sweden, Ireland and the United Kingdom) slightly more consumers have compared offers from different suppliers than compared offers from their current supplier.

Figure 18: Relationship between experience with comparing offers from different supplier and from current supplier



Note: Based on Q14. Percentage who said 'yes' to the following questions: 'I have compared offers from different providers', 'I have compared tariffs from my provider'.
Source: ECME Consortium general consumer survey

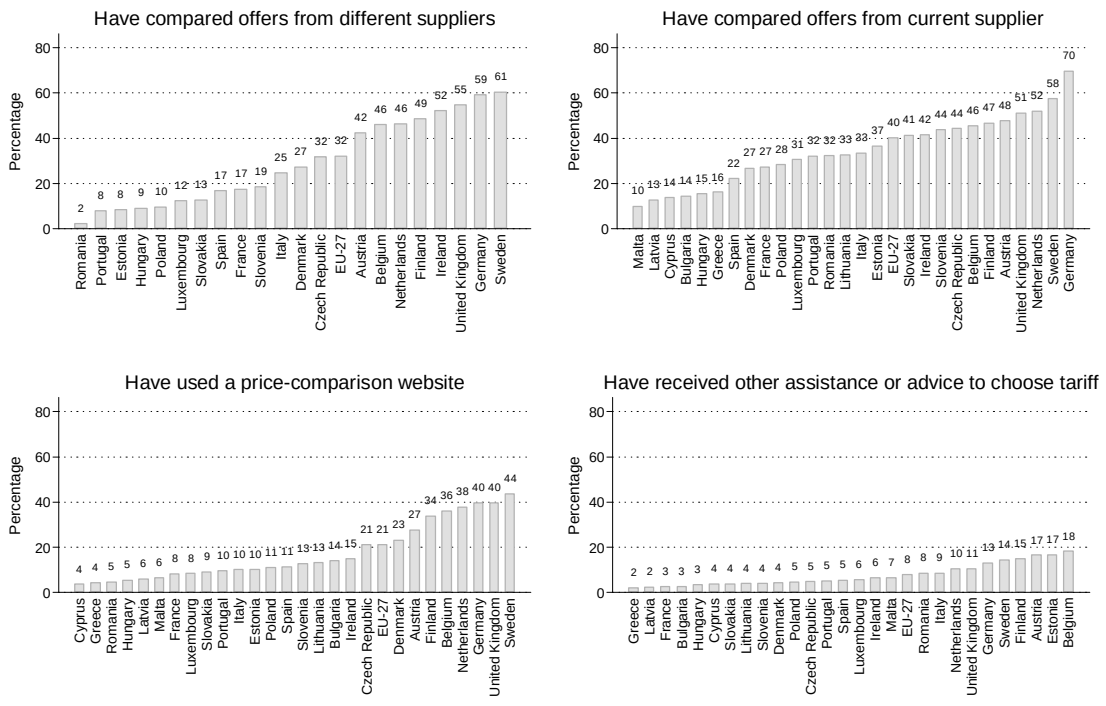
Less than 20% of consumers in Malta, Latvia, Cyprus, Bulgaria, Hungary and Greece have compared offers from their current supplier (Figure 19). Interestingly, these are also (with the exception of Hungary) countries with a limited number of suppliers.

[29] Officially the Estonian market will be fully liberalised in2013. Until then household consumers cannot switch. However, besides the dominant supplier there are also a number of other small suppliers which were identified in the consumer survey. It is not clear if consumers in general, or in some areas only, can switch to these alternative suppliers.

Furthermore, less than 50% of consumers in all Member States have used a price comparison website. The fewest consumers have done so in Cyprus, Greece and Romania which is perhaps also not surprising given the limited choice. It is also worth noting that only 5% of consumers in Hungary have used a price comparison website. This is in line with the finding that only 27% of mystery shoppers were able to find a price comparison tool on the internet.

The consumer survey also indicates that very few consumers (less than 19%) in all Member States have received other assistance or advice in order to choose the tariff they are on (Figure 19).

Figure 19: Experience with comparison of offers and suppliers



Note: Based on Q14. Percentage who said 'yes' to the following questions: 'I have compared offers from different providers', 'I have compared tariffs from my provider', 'I have used a price comparison website to compare providers and/or tariffs' and 'I have received any other assistance or advice to choose my tariff (regulator, public advisory bureau, consumers organisation, private advice, etc.)'
Source: ECME Consortium general consumer survey

There is evidence that use of price comparison tools may make it easier for consumers to compare alternative offers from different suppliers. In particular two relationships are observed:

- There is a clear positive link between the share of consumers who have used a price comparison tool and the share of consumers who have compared offers from different suppliers (Figure 20). The main outlier in the graph is Ireland where only 15% of consumers have used a price comparison tool but 52% have compared offers from different suppliers. This could be because suppliers in Ireland generally advertise their prices as the percentage discount compared to the incumbent supplier.

- There is also a positive link between the share of consumers who have used a price comparison tool and the average rating of the ease of comparing offers from alternative

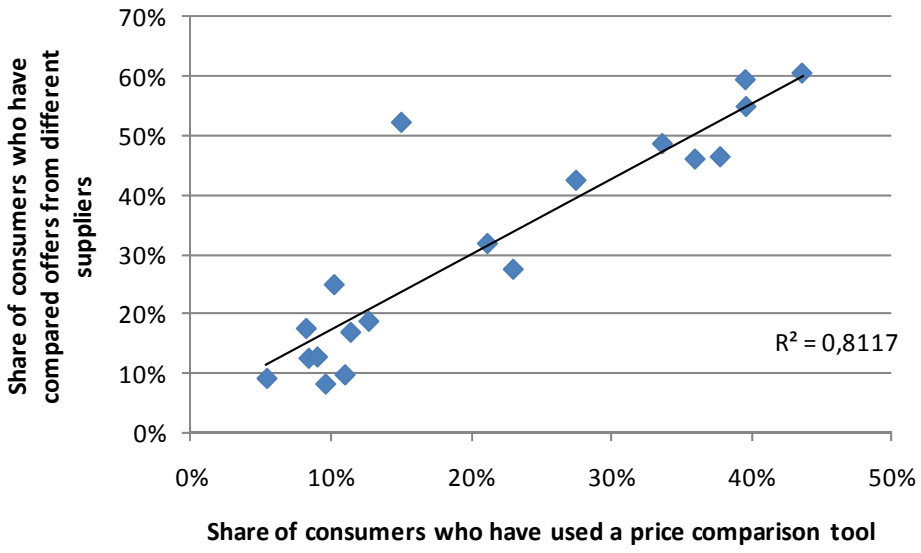
suppliers (Figure 21). It should be noted, however, that consumers may find it easy to compare offers from alternative suppliers even if relatively few consumers have used a price comparison tool. This is most notably the case in Ireland, the Czech Republic and Slovenia.

These findings are well in line with the conclusions of a recent study published by the Swedish Consumer Agency[30] which concludes that price comparison tools in the retail electricity sector are viewed as useful by consumers and that consumers would like to see similar tools in other sectors.

Furthermore, the success of the price comparison website in Sweden is one of the reasons why the study concludes that the retail electricity sector in Sweden is now relatively well-functioning in an international perspective.

Unsurprisingly, if a relatively low share of mystery shoppers were able to find a price comparison website, only very few consumers in that country have generally used a price comparison tool (Figure 22). However, consumers do not necessarily use a price comparison tool even if it exists and is easy to find (i.e. if a large share of mystery shoppers has found one). The reason may be that consumers are not aware of the possibility to compare offers using a price comparison tool.

Figure 20: Relationship between use of price comparison tool and share of consumers who have compared offers from different suppliers

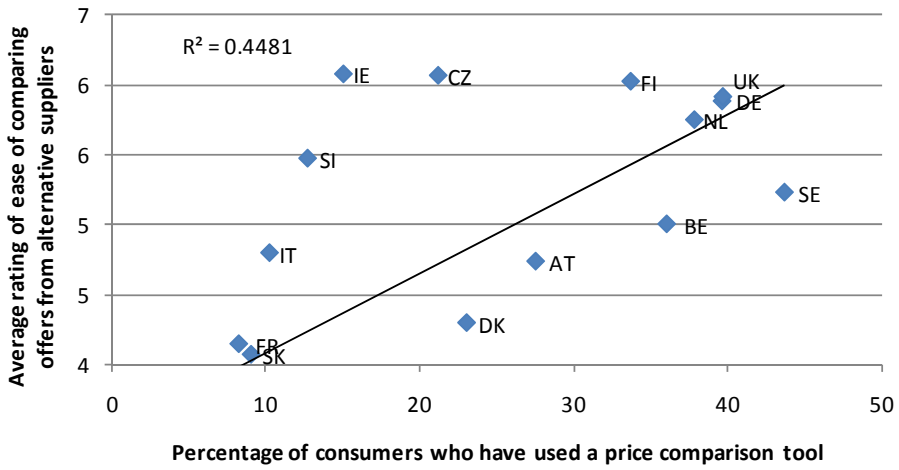


Note: Based on Q14. Percentage who said 'yes' to the following questions: 'I have compared offers from different providers', and 'I have used a price comparison website to compare providers and/or tariffs'.
Source: ECME Consortium general consumer survey

[30] Swedish Consumer Agency (2010), Fördjupad analys av elmarknaden för konsumenter'.

http://www.konsumentverket.se/Global/Konsumentverket.se/Best%c3%a4lla%20och%20ladda%20ner/rapporter/2010/2010_15_Fordjupad_analys_elmarknaden.pdf

Figure 21: Use of price comparison tools vs. ease of comparing offers from alternative suppliers



Note: Ease of comparing alternative offers from different suppliers is measured on a scale from 0 to 10 where 10 indicates that it is very easy to compare alternative offers.
Source: ECME Consortium analysis of data from general consumer survey.

Figure 22: Relationship beteween availability and use of price comparioson tools

Note: Mystery shopping exercise 1 was not undertaken for Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Malta and Romania because switching is limited in these countries.
Source: ECME mystery shopping exercise 1 and ECME general consumer survey

2.3.5 Ease of comparing suppliers and tariffs

Respondents to the consumer survey were asked how easy they find:

1) comparing different tariffs from their current supplier; and
2) comparing offers from different suppliers.

Consumers in Germany, Finland and the Netherlands generally are most confident when comparing alternative tariffs from their current supplier, while consumers in Malta, Spain and Bulgaria are least confident (Figure 21). In particular, on a scale from 0 to 10 where 10 indicates that it is easy to compare different tariffs offered by their current supplier, consumers in Germany on average rate the comparability of tariffs from suppliers at 7.2. At the other extreme consumers in Malta on average rate comparability of tariffs with the current supplier at 2.8 on the 10-point scale

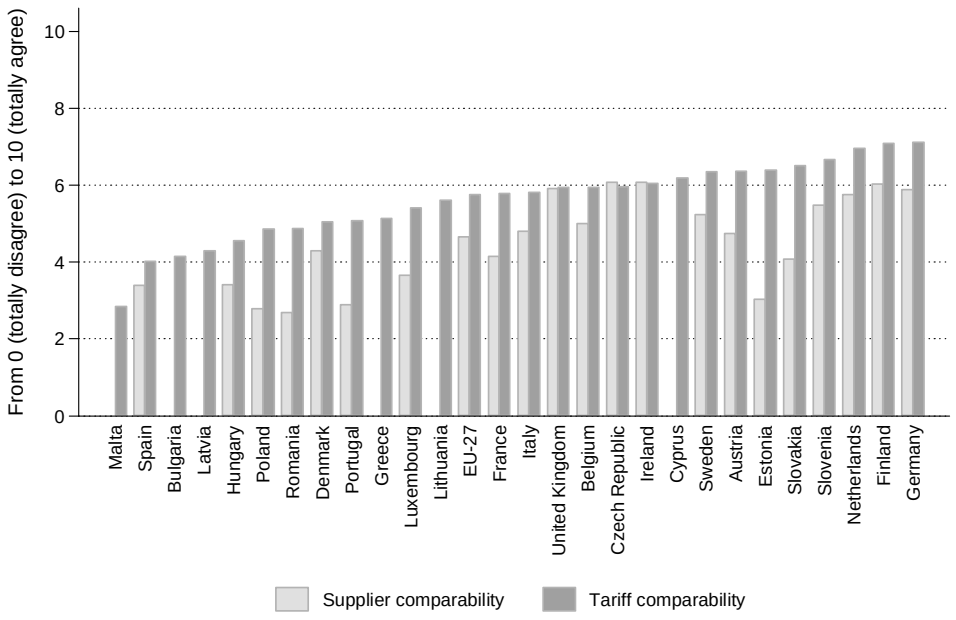
In terms of comparing offers from different suppliers average ratings on the 10-point scale range from 2.7 in Romania to 6.1 in the Czech Republic and Ireland. There is thus clear indication that consumers find it relatively difficult to compare offers from different suppliers as well as different tariffs from their current supplier. This may work as a significant barrier for consumers wishing to switch to another tariff or supplier.

Consumers generally find it easier to compare tariffs offered by their current supplier than to compare offers from different suppliers. This may be because there is added complexity when comparing offers from different suppliers. For example, consumers may have to search through a number of different websites, which are likely to have different layouts, if they are trying to compare across multiple suppliers (although this may be made easier if a good price comparison site is available).

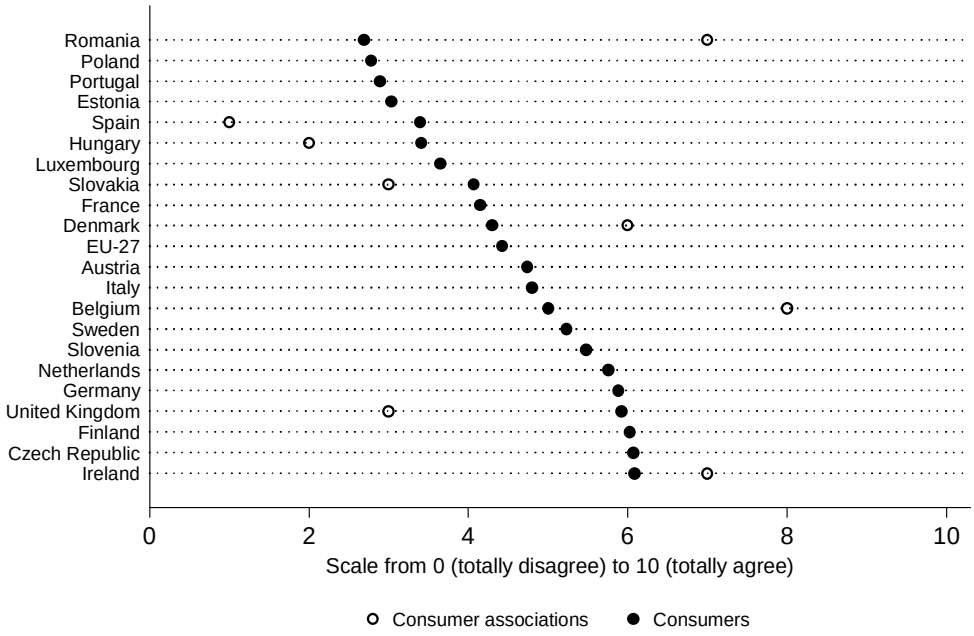
Furthermore, consumers may have less experience comparing offers from different suppliers than comparing different tariffs offered by their current supplier. For example, the largest differences between the comparability of tariffs with the current supplier and comparability of offers from different suppliers are observed in countries such as Poland, Portugal, Romania, Estonia and Slovakia. As mentioned earlier supplier switching is limited in Romania and Estonia and as a result consumers are unlikely to have much experience comparing suppliers and this might explain why consumers find it more difficult to compare offers from different suppliers than offers from their current supplier. Similarly, as discussed in the chapter on consumer mobility, supplier switching is also rare in Poland, Portugal and Slovakia, and, hence, lack of experience might again explain why consumers find it more difficult to compare offers from different suppliers than offers from their current supplier.

Figure 23: Comparability of suppliers and tariffs

Comparability of different tariffs with current supplier and comparability of offers from different suppliers



Comparability of offers from different suppliers



Note: Based on Q11.2 and Q11.4: Agreement with statements: 'It is easy to compare offers from different electricity suppliers' and 'it is easy to compare different tariffs offered by (name of supplier)'. Consumers in Malta, Bulgaria, Latvia, Greece, Lithuania and Cyprus were not asked questions about supplier comparability because switching is not possible. EU-27 average calculated based on weighted average using population as weights.

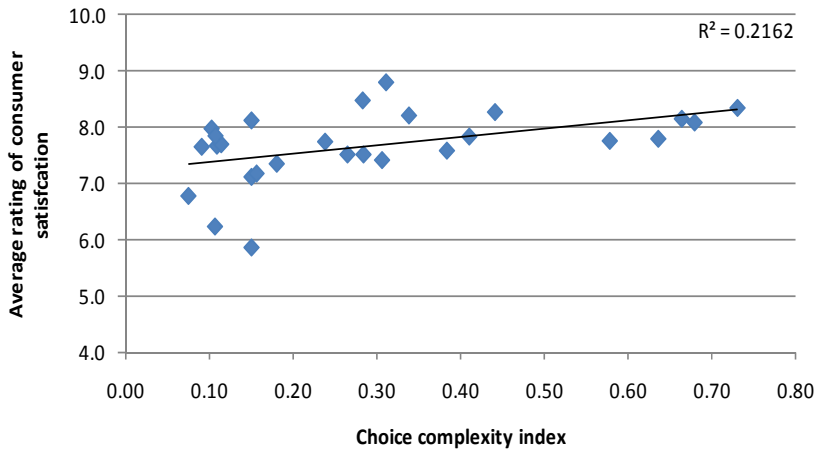
Source: ECME Consortium general consumer survey.

2.4 Choice complexity

The final section of this chapter considers whether the complexity of the choices available to consumers is beneficial for them, or whether there is in fact too much choice complexity and that this is actually harmful. As discussed above, economic theory generally assumes that consumers make rational decisions based on all the information available to them, and it follows that increased choice and product variety should in principal increase consumer welfare because they can choose products which best match their preferences. However, some empirical studies have shown that consumers do not always make use of all available information and too much information can degrade the quality of decisions made by consumers.

The results of the consumer survey indicate that consumers like to have choice of tariffs and suppliers. For example, a positive link appears to exist between the extent to which consumers believe that their supplier offers a sufficient choice of tariffs and the extent to which consumers are satisfied with services and tariffs provided by their supplier (see Figure 72 in Chapter 4). In addition, consumers tend to be more satisfied if there is a large variety of tariffs, suppliers and contract types (variety of contract types is measured by an index of choice complexity, see Figure 24).

Figure 24: Customer satisfaction vs. choice complexity



Note: The choice complexity index is a relative index which is based on 1) the average number of alternative suppliers found by mystery shoppers; 2) the average number of tariffs found per consumption level, power intensity and supplier in the price collection exercise; and 3) the number of different contract types found during the price collection exercise. Each of the three variables was rescaled by the maximum in any country for that variable. Finally, to construct the index an average of the rescaled values were taken. The rating of satisfaction is based on ratings on a scale from 0 to 10 where 10 represents the highest level of satisfaction with services offered by the current supplier (Q2).

Source: ECME Consortium analysis of data from mystery shopping exercises, price collection and consumer survey.

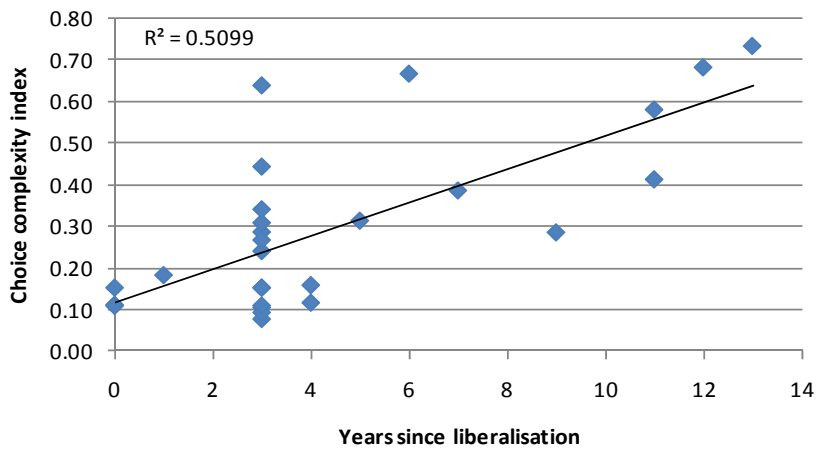
Furthermore, there is evidence that there may be too little choice of suppliers and tariffs in some countries, most notably in Greece, Cyprus and Malta where a large share of consumers indicate that they would like to change electricity supplier in the future but they are currently unable to do so because the markets are characterised by national monopolies.

There is evidence that the variety and complexity of choice (i.e. number of alternative suppliers, contract types and number of tariffs offered by each supplier) increases with the maturity of the

liberalised market (Figure 25). Hence, consumers in markets which have been liberalised longer generally tend to have more choice in terms of suppliers, contract types and tariffs.

However, if the choice becomes too complex, it may become difficult for consumers to choose the best alternative. Evidence suggests that the average possible savings associated with switching supplier increases with the complexity of the market (Figure 26)[31]. This suggests that, despite having a large variety of choice, consumers in mature, liberalised markets are not on average on the cheapest tariff. Hence there are large potential benefits associated with choice which are not currently being realised.

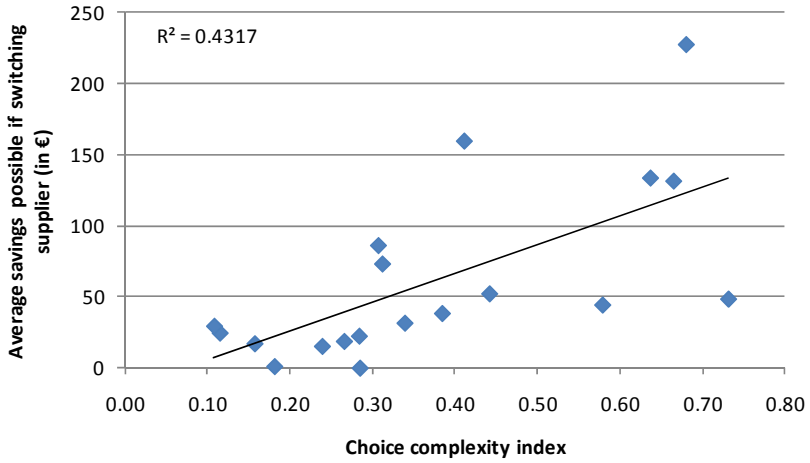
Figure 25: Maturity of liberalised market vs. complexity of choice index



Note: The choice complexity index is a relative index which is based on 1) the average number of alternative suppliers found by mystery shoppers; 2) the average number of tariffs found per consumption level, power intensity and supplier in the price collection exercise; and 3) the number of different contract types found during the price collection exercise. Each of the three variables was rescaled by the maximum in any country for that variable. Finally, to construct the index an average of the rescaled values were taken.
Source: ECME Consortium analysis of data from mystery shopping exercises and the price collection exercise.

[31] There is also a positive link between the complexity of the market (measured by the choice complexity index) and price dispersion measured by the range of prices collected in the price collection exercise.

Figure 26: Choice complexity index vs. average possible savings if switching supplier



Note: The choice complexity index is a relative index which is based on 1) the average number of alternative suppliers found by mystery shoppers; 2) the average number of tariffs found per consumption level, power intensity and supplier in the price collection exercise; and 3) the number of different contract types found during the price collection exercise. Each of the three variables was rescaled by the maximum in any country for that variable. Finally, to construct the index an average of the rescaled values were taken. The estimate of average possible savings if switching supplier are based on the mystery shopping exercise.
Source: ECME Consortium analysis of data from mystery shopping exercises and price collection.

Although the positive relationship between average potential savings from switching and market complexity suggests that consumers find it difficult to compare offers, the survey results also suggest that, on average, consumers find it easier to compare tariffs from their current supplier in countries where there is a high complexity of tariffs (Figure 27).[32] This may be because these are also countries where consumers have access to good price comparison tools and countries where consumers have experience comparing different offers.

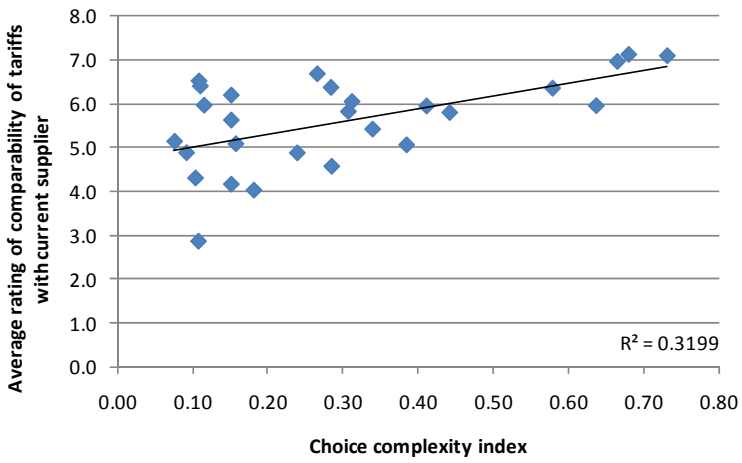
This finding, however, provides no answer to the question of why consumers in mature and highly complex markets on average could benefit from large potential savings by switching and hence do not appear to take advantage of the full benefits associated with added choice.

One explanation might be that consumers are reassured by the high perceived level of competition in mature, liberalised markets and so expect that prices are low in general regardless of the supplier selected. Consumers in these markets may assume that there is thus no need to search for alternative offers and switch tariff or supplier.

The fact that there is a positive correlation between the average possible savings from switching and the extent to which consumers, on average, believe that their prices are competitive, may offer some support to this explanation. It is a paradox that we encounter higher average savings from switching in countries where consumers think that prices offered by their supplier are competitive.

[32] A similar relationship is found between choice complexity and supplier comparability.

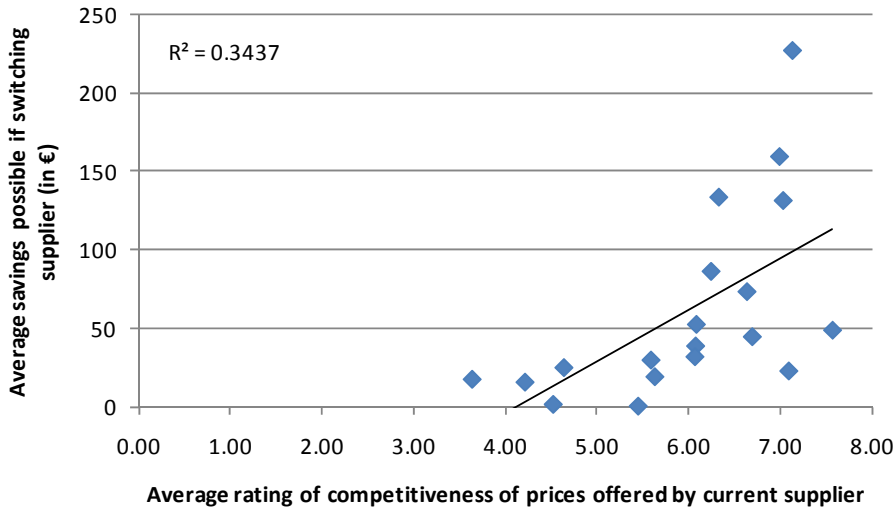
Figure 27: Choice complexity index vs. comparability of tariffs with current suppliers



Note: The choice complexity index is a relative index which is based on 1) the average number of alternative suppliers found by mystery shoppers; 2) the average number of tariffs found per consumption level, power intensity and supplier in the price collection exercise; and 3) the number of different contract types found during the price collection exercise. Each of the three variables was rescaled by the maximum in any country for that variable. Finally, to construct the index an average of the rescaled values were taken. The rating of comparability of tariff from current supplier is based on ratings on a scale from 0 to 10 where 10 represents the highest level of comparability (Q11.4).

Source: ECME Consortium analysis of data from mystery shopping exercises, price collection and consumer survey.

Figure 28: Average rating of competitiveness vs. average possible savings from switching



Note: The choice complexity index is a relative index which is based on 1) the average number of alternative suppliers found by mystery shoppers; 2) the average number of tariffs found per consumption level, power intensity and supplier in the price collection exercise; and 3) the number of different contract types found during the price collection exercise. Each of the three variables was rescaled by the maximum in any country for that variable. Finally, to construct the index an average of the rescaled values were taken. The rating of comparability of tariff from current supplier is based on ratings on a scale from 0 to 10 where 10 represents the highest level of comparability (Q11.4).

Source: ECME Consortium analysis of data from mystery shopping exercises, price collection and consumer survey.

3 Customer mobility

Switching is an important consumer activity which enables consumers to benefit from better deals on offer from alternative suppliers or to obtain a better deal from the same supplier and promote competition in the market place. Since liberalisation of the retail market, the number and range of alternative offers available to consumers has expanded, with a larger number of different tariffs now on offer (fixed/variable rate, day-night, online etc). In order to obtain the offer which is most suitable for them personally, consumers may have to switch supplier and/or tariff.

When consumers are aware that they can switch, and they are not discouraged from switching by difficulties with the switching process itself, this awareness may further encourage suppliers to offer better deals in order to prevent their current customers from moving to another supplier and to attract new clients.

However, a low switching rate is not necessarily an indicator of a poorly functioning market as it is important to assess the reasons explaining the low switching rate. If consumers are generally well-informed about alternative offers in the market and are happy with the price that they pay and the service they receive, then clearly this situation is good for consumers. On the other hand, if switching is low because of difficulties with the switching process or because consumers are unaware of alternatives this is likely to lead to significant consumer detriment. Therefore, this chapter looks beyond the switching figures and examines the reasons for switching or not switching.

More precisely, the chapter:

- Reviews the regulatory environment for switching tariff at the same supplier and switching supplier.
- Presents the extent of actual switching.
- Presents consumers' overall assessment of the ease of switching.
- Analyses consumer loyalty and the reasons for switching.
- Assess whether switching makes consumers better off.
- Reviews barriers to switching.
- Analyses statistically the determinants of switching.

3.1 Regulation relating to customer mobility

Different areas of consumer protection legislation and retail electricity legislation and regulation may impact consumer mobility by defining the consumer's right to switch tariff and/or supplier, by limiting the possibilities to switch or facilitating switching, or by regulating the commercial practices that suppliers can use when trying to attract new customers. In this section we briefly discuss the regulation of contract terms and switching processes as well as market structural barriers to switching.

3.1.1 Contract terms

The conditions under which consumers may switch tariff and/or supplier are governed by the terms and conditions of the contract they have with their supplier. The Unfair Contract Terms

Directive[33] sets out a common minimum level of protection in the area and specifies that a "contractual term, which has not been individually negotiated, shall be regarded as unfair if, contrary to the requirement of good faith, it causes a significant imbalance in the parties' rights and obligations arising under the contract, to the detriment of the consumer."

In addition, to the national transposition of the Unfair Contract Terms Directive contractual terms and conditions are regulated above and beyond the Directive in all of the countries for which information is available. However, the details of the information available vary. There are examples of Member States (Austria, Demark, Estonia, Luxembourg, and Belgium) where the regulation specifies that the contract must include details of contract duration, renegotiation policies, and termination and cancellation rights.

In addition, the right to switch, and specific parts of the switching process, such as the maximum duration of the switching process and the fees that may be applied, are regulated in some countries. Available details of the regulation in relation to the switching process are provided in Table 92. In cases where no or limited information about the regulation is available, it is not possible to determine if this is because no regulation is in place.

In most countries (except Bulgaria, Cyprus, Malta and Estonia) consumers formally have the right to switch supplier, and in Italy and Sweden, consumers may do so with 1 month notice whereas consumers in Slovakia and Greece[34] must give 40 business days and 3 months notice respectively. A longer notice period will typically make switching more cumbersome.

However, despite the legal right to switch, consumers will still have to adhere to the terms and conditions in their contract and this may imply that there, are in practice, some limitation in supplier and tariff switching.

For example, in Germany there are no legal barriers to switching but consumers on a contract with a fixed minimum duration are only able to switch at the end of the contract or if the supplier breaches the contract (for example by raising prices). Such contacts may limit both supplier and tariff switching.

However, provided that consumers have chosen to agree to the contract terms, this may not necessarily be negative for consumers because although they are contractually bound to their supplier the characteristics and price of the contract may be well suited for their preferences.

Besides the right to switch suppliers, the process for doing so is also regulated in a number of countries. In Luxembourg, the new supplier is responsible for the switching process and in Slovenia consumers may authorise the new supplier to undertake the switching on their behalf.

In Slovakia, the Czech Republic, Luxembourg, Romania and Slovenia the duration of the supplier switching process is regulated. In the Czech Republic the whole process may not exceed 17 days and in Luxembourg the switch must be completed by the 1st day in the second month after the switch was requested.

[33] Council Directive 93/13/EEC of 5 April 1993. The full text of the Directive is available from the following link: http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31993L0013&model=guichett

[34] Greek regulation in the area is under revision and the new regulation should have been in place in late 2009.

The fees which may be charged by suppliers and network companies in the case of supplier switching are limited in Austria, the Czech Republic, Finland, Lithuania, the Netherlands, Hungary, Luxembourg, Romania and Slovakia. In most countries suppliers are not allowed to charge fees for supplier switching, and in the Netherlands, regulation puts a limit on the cancellation fee that suppliers may charge if consumers cancel the contract prematurely.

Table 12: Regulation of switching process

Country	Do consumers have a right to switch supplier	Switching process is regulated	Duration of switching process is regulated	Cost of switching is regulated
Austria	Yes	Yes	:	Yes, no fees allowed
Belgium	Yes	:	:	:
Bulgaria	No	:	:	:
Cyprus	No	:	:	:
Czech Republic	Yes	Yes	Yes, less than 17 business days	Yes, no fees allowed
Denmark	Yes	:	:	:
Estonia	No	:	:	:
Finland	Yes	Yes		Yes[1]
France	Yes	:	:	:
Germany	Yes	:	:	:
Greece	Yes, 3 months notice[2]			
Hungary	Yes	Yes	:	Yes, no fees allowed
Ireland	Yes	:	:	:
Italy	Yes, 1 month notice	:	:	:
Latvia	:	:	:	:
Lithuania	Yes	Yes	:	Yes, no fees allowed
Luxembourg	Yes	Yes[6]	Yes, effective at the latest on the 1st day of the second month.	Yes, no fees allowed
Malta	No	:	:	:
Netherlands	Yes	Yes		Regulation puts a limit on the fee if consumers cancel the contract prematurely
Poland	Yes	:	:	:
Portugal	Yes	:	:	:
Romania	Yes	Yes	Yes	Yes, no fees allowed
Slovakia	Yes, 40 business days notice	Yes	Yes[3]	Yes, no fees allowed
Slovenia	Yes	Yes[4]	Yes[5]	:
Spain	Yes	:	:	:
Sweden	Yes, consumers can switch supplier at the 1st of each month with 1 month notice	:	:	:
United Kingdom	Yes	Yes	:	:

Note: 1) the network operator may not charge a customer unless the time elapsed from the previous change of supplier is less than 12 months. In that case the network operator may charge only for the cost of extra meter reading if the customer will not read the meter by himself/herself. The network operator may also estimate the meter values during the change of supplier. 2) The regulation is under revision. 3) A system operator shall provide the accounting subject with the data on electricity consumption up to the switching date no later than 15 business days from the switching date.4) Consumers can authorise the new supplier to carry out the switching procedure. 5) If the switch is registered with the system operator by the 10th of the month, the new supplier will start supplying energy on the first day of the following month. 6) The new supplier is responsible for switching process.

Source: Country fiches in Annex A

3.1.2 Market structural barriers to supplier switching

Consumers wishing to switch supplier may be limited in their ability to do so by the market structure.

- In Cyprus and Malta markets are closed there is only one supplier so consumers do not have the possibility to switch supplier.
- The Estonian market is also closed but there are also a few smaller suppliers and some supplier switching does occur.
- In Latvia and Greece there is, in practice, a monopoly for household consumers and consumers in these countries are therefore not able to switch supplier.
- Similarly in Bulgaria, Romania and Lithuania there are, in practice, regional monopolies meaning that the market is geographically divided between the suppliers, and consumers are only able to (and have to) switch supplier if they move to another geographical area which is supplied by another supplier.

In all other countries, consumers are able to switch but they may not be able to choose from all suppliers in the country if some suppliers are only regional suppliers. Information provided in the country fiches[35] indicates that this is a significant limitation in Poland.

3.2 Switching levels

This section presents current switching rates both in the context of supplier switching and tariff switching with the same supplier. In addition, the section assesses the relationship between supplier switching and market structure characteristics such as market liberalisation, price regulation and market concentration.

3.2.1 Level of supplier switching

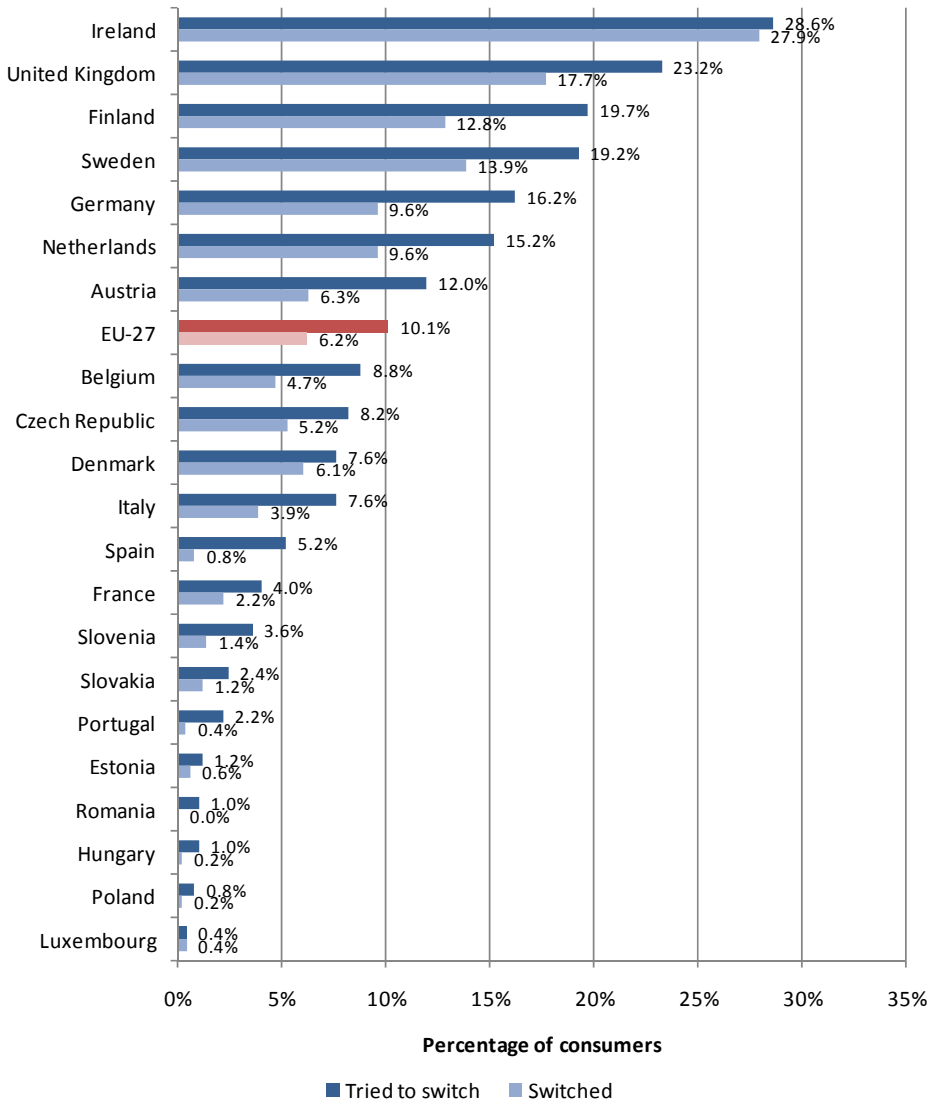
Respondents to the consumer survey were asked whether they had switched supplier at some point in the two years prior to the time of data collection.

Across the EU Member States 10.1% of consumers tried to switch supplier in the 2 years prior to 2009 and 6.2% actually switched supplier (Figure 29).

The largest share of consumers has tried to switch supplier in Ireland (28.6%) and most of them completed the switch. There are relatively large differences between the share of consumers who tried to switch and the share of consumers who completed the switch in the United Kingdom, Finland, Sweden, Germany, Austria and Spain.

[35] Country fiches are provided in Annex A

Figure 29: Percentage of consumers who tried to switch and switched supplier in 2 years prior to mid 2010 (including those who switched because they moved house)



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2010 but excluding those who switched because they moved house. No responses are available for Cyprus, Malta, Latvia, Lithuania, Romania, Bulgaria and Greece as switching is limited by the existence of monopolies or regional monopolies. Therefore supplier switching in these countries is set to 0%. The EU average is calculated as the weighted average across all Member States using 2010 Eurostat population figures as weights

Source: ECME Consortium analysis of data from consumer survey

It should be mentioned that consumers in Bulgaria, Cyprus, Greece, Latvia, Lithuania, Malta and Romania were not asked about their switching behaviour; either because supplier switching is not possible or because switching is only possible in cases where consumers move to a different region serviced by a different regional monopolist.

In other countries, consumers may also be required to switch supplier if they move to another region. This is a feature of the market structure and may be seen to artificially inflate switching rates. Furthermore, consumers who are not required to, but still choose to switch supplier when

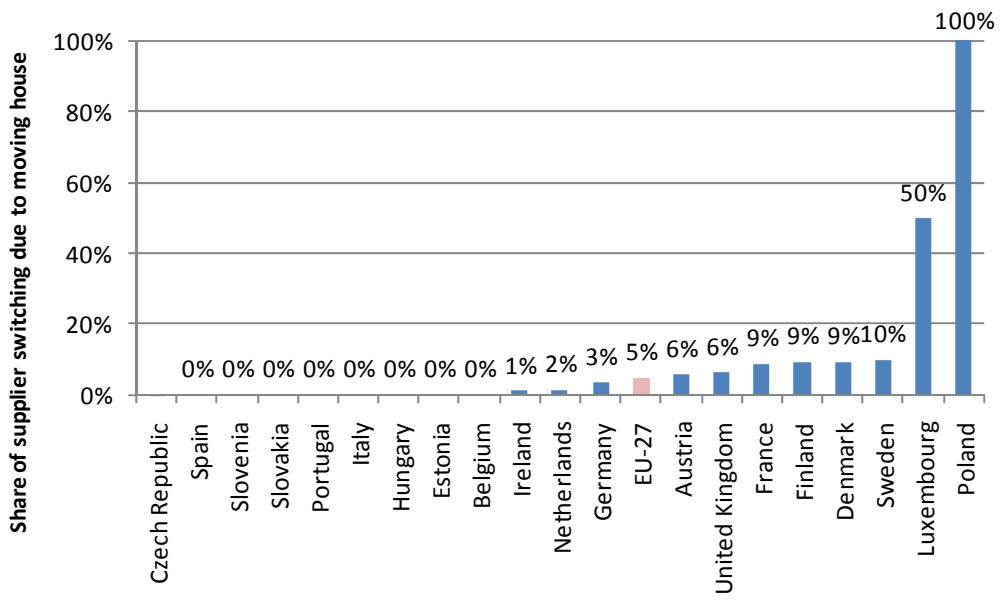
they move house, may be motivated by quite different considerations than consumers who switch supplier for other reasons.

For example, consumers who switch when they move to another house may believe that they have to choose a local supplier or choose the supplier selected by the previous occupant of the property.

As a result, it may therefore be more appropriate to compare switching rates which exclude consumers who switch because they move house. Therefore, we do so in the remainder of this report when using information of supplier switching rates from the general consumer survey.

Figure 30 illustrates that 100% of switching in Poland and 50% of switching in Luxembourg is linked to consumers moving house. In all other countries less than 10% of supplier switching is undertaken by consumers who move house.

Figure 30: Share of swtiching due to consumers moving house



Note: Percentage of consumers who switched supplier. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who switched supplier is provided in Table 123. EU-27 calculated as a weighted average using 2010 Eurostat population figures as weights.
Source: ECME Consortium analysis of data from consumer survey

Excluding respondents who switched supplier because they moved house the consumer survey thus suggests that:

- Across the EU the supplier switching rate is 5.7%.
- The supplier switching rates are above 10% in Finland, Sweden, United Kingdom and Ireland only.

- Supplier switching rates in Czech Republic, Denmark, Austria, Germany, and the Netherlands are between 5% and 10%.
- In all other countries switching rates were below 5%.[36]

The highest rate of supplier switching in EU-27 was found in Ireland with 28% of consumers having switched in the 2 years from the time of data collection in mid 2010.

This is higher than the switching rate of for Ireland reported in Flash Eurobarometer[37] which suggests that 16% of consumers in Ireland switched in the two years prior to July 2009. The evidence thus suggests that supplier switching in Ireland has increased significantly over the last year; a conclusion supported by information provided by the Irish regulator of an unprecedented high switching rate of over 23% between early 2009 and the end of February 2010.[38] Supplier switching in Ireland may be so high because competitors are able to price lower than the regulated price of the incumbent.

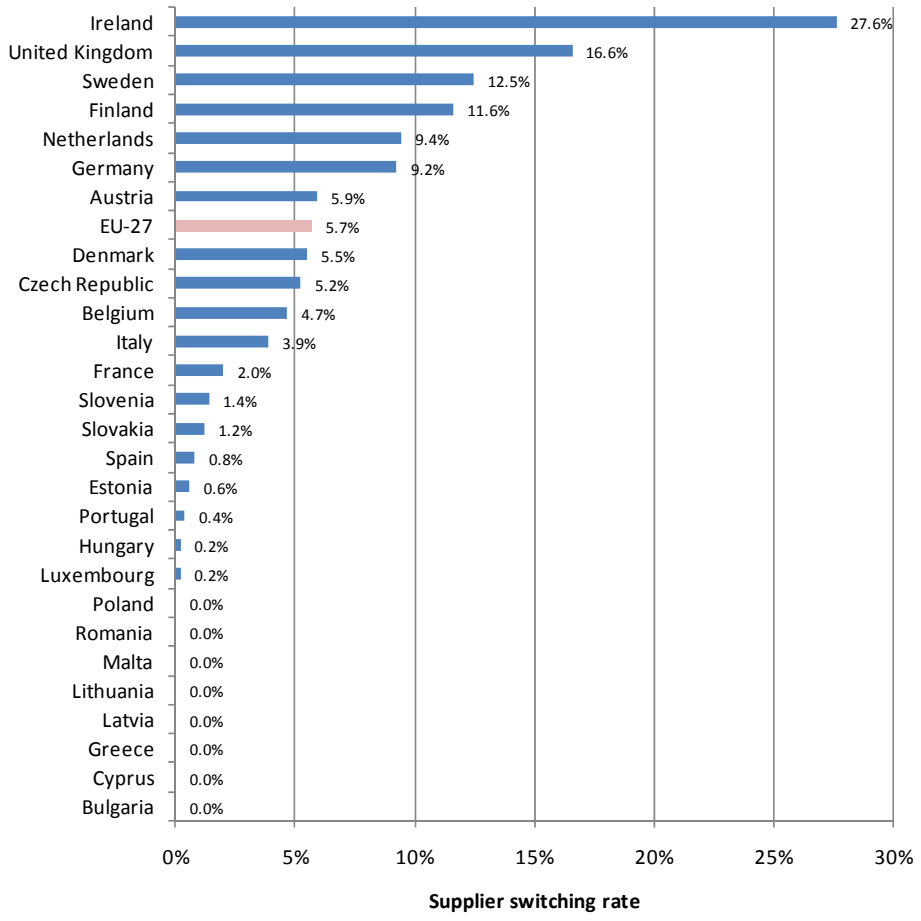
[36] It should be noted that in some cases the results differ from the results of Flash Eurobarometer 282 covering supplier switching in the two years prior to July 2009. The differences may be partly due to changes in switching behaviour between the two periods. When compared with information collected as part of the desk research, the estimates of supplier switching for Denmark and Finland from the survey undertaken for this study seem more in line with the desk research. However, in Italy, Sweden and the United Kingdom, the switching rates from the consumer survey also seem low compared to the information collected during desk research Information from the desk research is summarised in the country fiches in Annex A.

In addition we note that estimates of supplier switching rates are also published by EC DG ENER based on data from the European Regulators' Group for Electricity and Gas (ERGEG) in their 'Report on progress in creating the internal gas and electricity market', http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2010:0251:FIN:EN:PDF. However, these estimates differ from our estimates in several ways: it includes both 'small industry and households', it covers only one year and the latest year for which data is available is 2008.

[37] Flash Eurobarometer survey 282

[38] CER – Factsheet: Competition in Electricity Supply, 21st Apr 2010

Figure 31: Supplier switching rates in 2 years prior to mid 2010 (exluding those who switched because they moved house)



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2010 but excluding those who switched because they moved house. No responses are available for Cyprus, Malta, Latvia, Lithuania, Romania, Bulgaria and Greece as switching is limited by the existence of monopolies or regional monopolies. Therefore supplier switching in these countries is set to 0%. The EU average is calculated as the weighted average across all Member States using 2010 Eurostat population figures as weights

Source: ECME Consortium analysis of data from consumer survey

Switching rate and time since market liberalisation

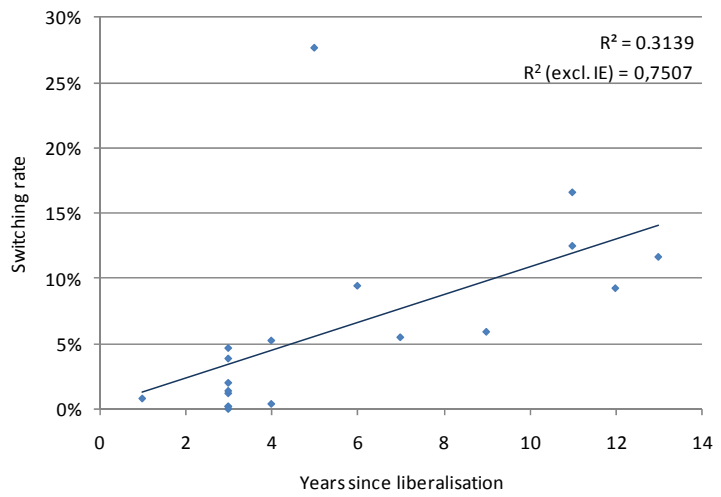
Observed switching rates may reflect the number of years since liberalisation of the household retail market because it may take time for consumers and suppliers to adjust to a liberalised market situation where consumers have the possibility to switch suppliers. Furthermore, factors that make it easier for consumers to switch supplier may not have had time to develop in recently opened markets, such as bodies that promote awareness of the benefits of switching and provide information on how to switch.

The rates are highest in a number of Member States where the market has been liberalised for longer (Figure 32). The outlier in the figure is Ireland with a very high switching rate given the number of years the market has been liberalised.

The average supplier switching rate is 1% for countries where the household market was liberalised in 2007 or later, compared to 10% for countries where the market was opened before 2007.[39] However, when considering these averages it is important to note that there are variations within the groups, and many other factors are also important.

It is not surprising that, usually, switching rates are higher where the market has been liberalised for longer because, as discussed above, there is likely be a lag between market opening and consumers taking up/being able to take up the opportunity to switch supplier.

Figure 32: Household switching rate vs. years since market liberalisation (2010)



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2010 but excluding those who switched because they moved house. Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of monopolies or regional monopolies. The data point with switching rate at 28% is Ireland.
Source: ECME Consortium analysis of data from consumer survey

3.2.2 Level of tariff switching with current supplier

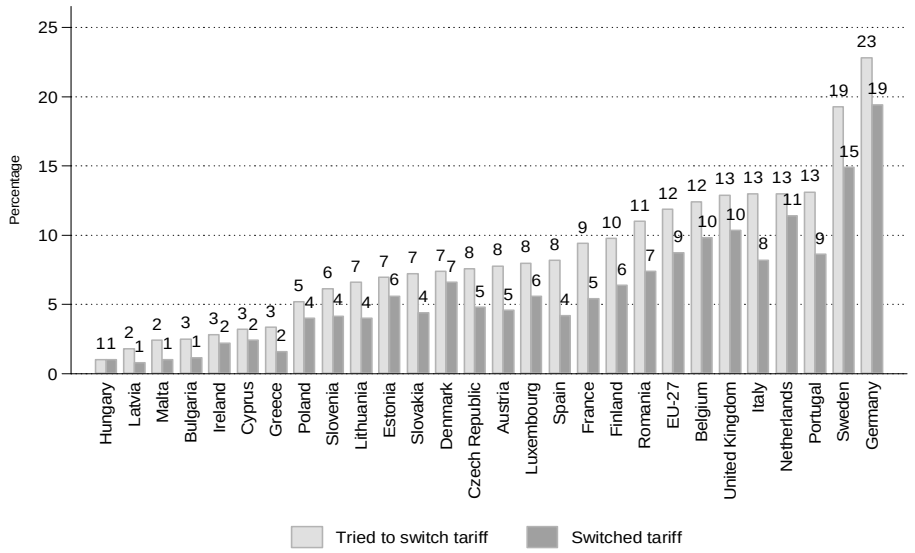
The consumer survey also provides information on the share of consumers that have switched tariffs whilst remaining with the same supplier within the last 2 years prior to the time of the interview.[40] The share of consumers who have tried to switch tariff with their current supplier ranges from 1% in Hungary to 23% in Germany and 19% in Sweden.[41] For the most part, the majority of consumers that tried to switch tariff with their current supplier did in fact switch tariff (Figure 33). However, in Spain, 8% of consumers tried to switch while only 4% actually switched.

[39] Averages exclude Belgium, as the market was opened in the Brussels and Walloon regions only in 2007, while in the Flanders region the opening date is 2003. Cyprus, Estonia and Malta are also excluded as the household markets are closed. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies.

[40] The survey was carried out between 25th of May and 29th of July 2010.

[41] Where information was found as part of the desk research, tariff switching rates were approximately in the same order of magnitude as found here. These rates were 38% for Germany (in 2008), 16% for Sweden (in 2008) and 2.5% for France (in 2009).

Figure 33: Percentage who tried to switch and switched tariff in the last 2 years to mid 2010



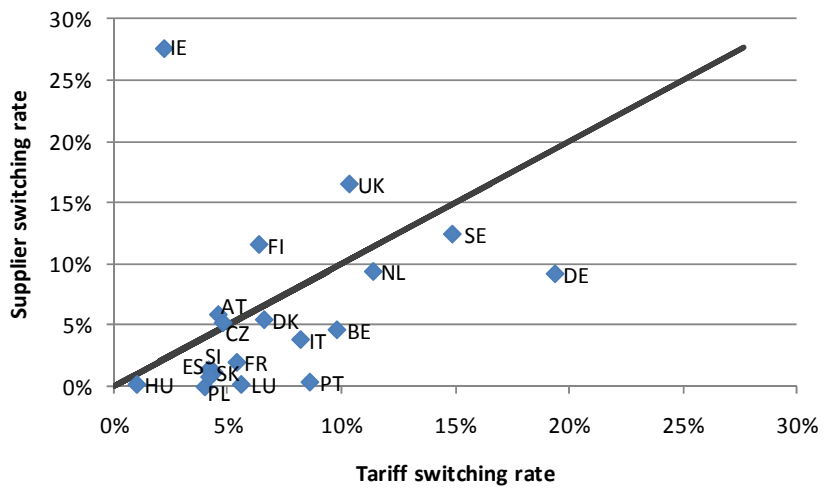
Note: Based on questions Q26 and Q27a of the consumer survey. The percentages refer to share of households who have tried to switch and have switched tariff (whether easy or difficult) over the 2 years prior to mid 2010. EU-27 calculated as a weighted average using 2010 Eurostat population figures as weights.

Source: ECME Consortium analysis of general consumer survey

In most Member States, more consumers have switched tariff with the same supplier than switched supplier within the 2 years prior to data collection (Figure 34). The most significant exception is Ireland with very high supplier switching rates but low tariff switching rates. Supplier switching rates are also significantly higher than tariff switching rates in Finland and the United Kingdom and slightly higher in Austria.

It is worth noting that supplier switching rates in a cross-country comparison are high in Finland, Ireland and the United Kingdom, and this high level of supplier switching may limit the scope for tariff switching with the same supplier because active consumers in these countries choose to switch supplier rather than tariff. However, at the same time it seems to be the case that markets where consumers are relatively active in terms of switching tariff with the same supplier are also markets where consumers are active in terms of switching suppliers.

Figure 34: Tariff switching vs. supplier switching



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2010 but excluding those who switched because they moved house. Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of monopolies or regional monopolies. The data point with switching rate at 28% is Ireland.

Source: ECME Consortium analysis of general consumer survey

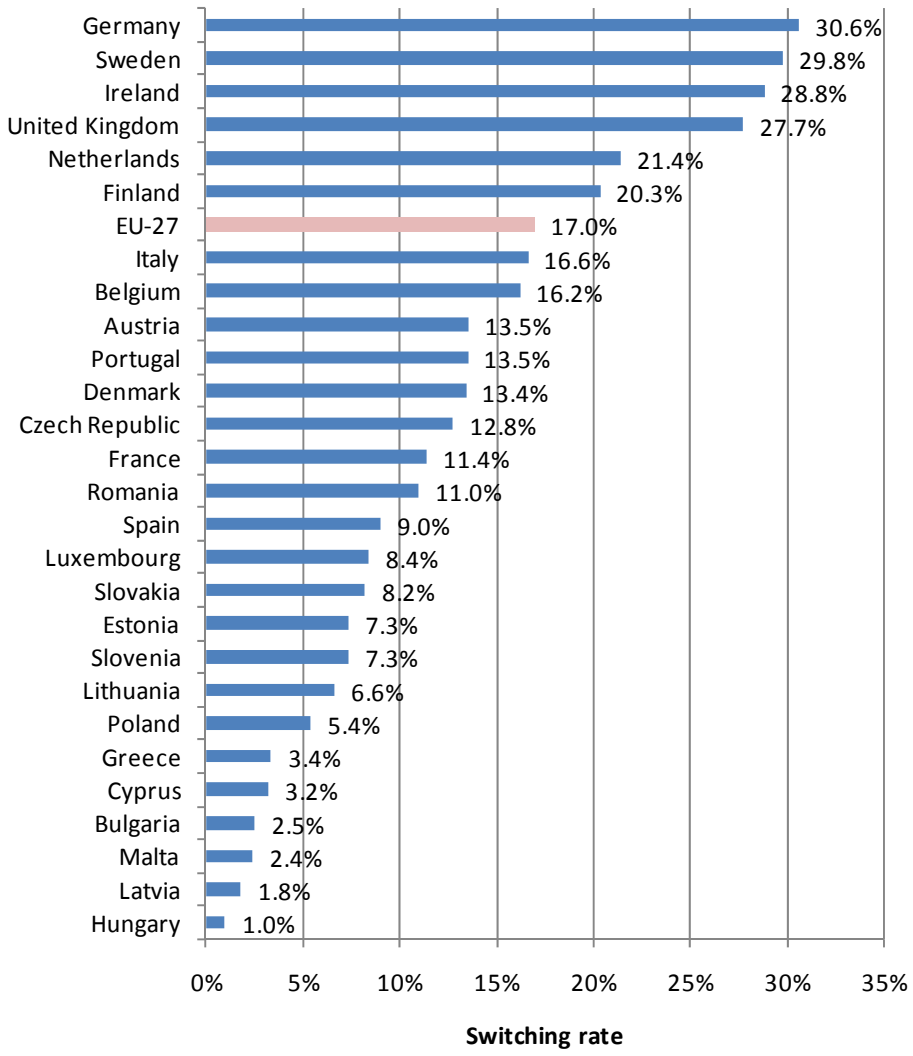
3.2.3 Level of supplier and tariff switching

An overall measure of consumer mobility in the European electricity markets can be constructed from the supplier and tariff switching rates. Figure 35 shows the percentage of consumers who have switched *either* supplier *or* tariff with the current supplier in the last 2 years.

The results show that:

- Overall 17% of consumers in the EU have switched supplier or tariff with their current supplier within the last 2 years.
- More than 25% of consumers have switched supplier or tariff with their current supplier in Germany, Sweden Ireland and the United Kingdom. Consumer mobility is higher in Germany (30%) than in any other country.
- Consumer mobility in lowest and less than 5% in Hungary, Latvia, Malta, Bulgaria, Cyprus and Greece.

Figure 35: Overall level of switching in 2 years prior to mid 2010



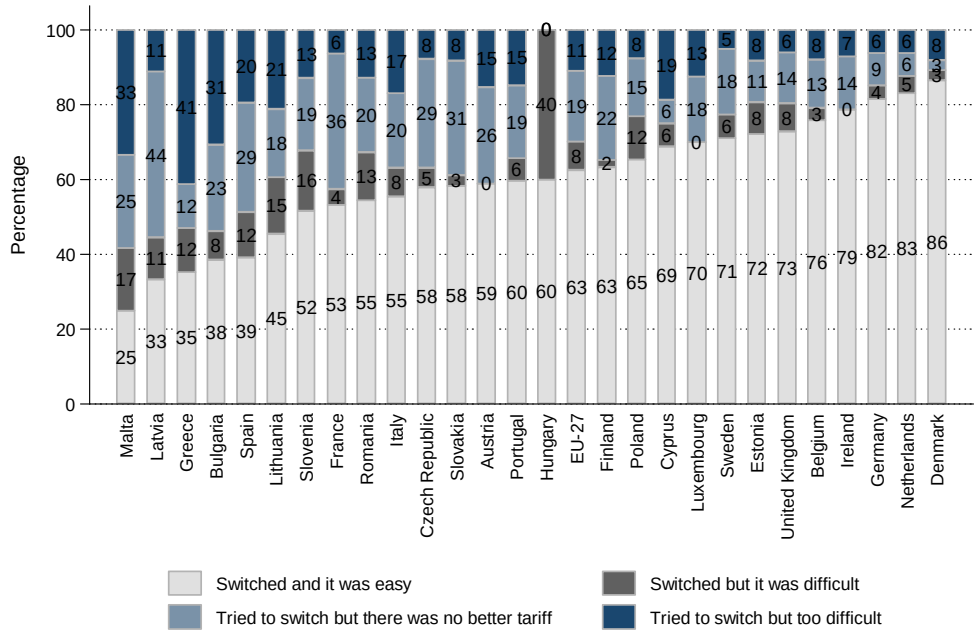
Note: The switching rate is the percentage of consumers who have switched either tariff with the current supplier or supplier in the 2 years prior to the time of data collection.

Source: ECME Consortium analysis of general consumer survey

3.3 Ease of switching

For the majority of consumers in 20 countries, switching tariff with their current supplier was easy (Figure 36). Furthermore, all those consumers that switched in Austria, Ireland and Luxembourg found it easy to do so. However, in Hungary, 40% of consumers that tried to switch tariff found it difficult and 44% of those trying to switch in Latvia could not find a better tariff to switch to.

Figure 36: Ease of switching (percentage of respondents who tried to switch tariff)

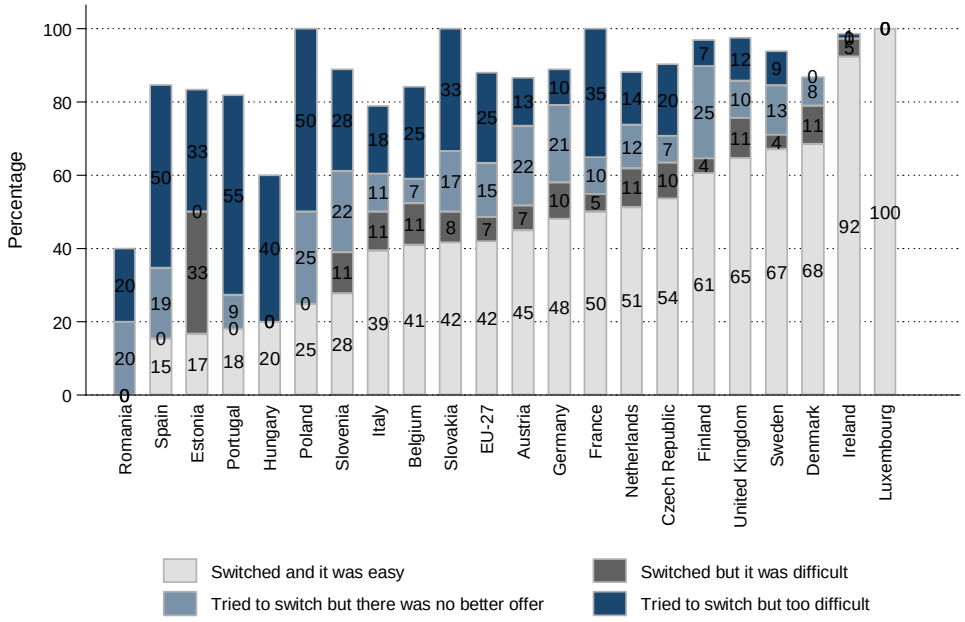


Note: Based on Q27a: 'Which of the following best reflects your experience of switching tariff?'.
Percentages as a share of those who tried to switch tariff within the last 2 years. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who switched tariff is provided in Table 123. We note that the relevant sample is particularly small in Hungary and Latvia where it consists of less than 10 respondents.
EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium analysis of data from general consumer survey

In general, switching supplier appeared slightly more difficult than switching tariff with the same supplier.

- In only 9 out of 21 countries, switching to another supplier was easy for 50% or more of their consumers (Figure 37).
- In Luxembourg, 100% of consumers who tried to switch, did switch and said it was easy, whilst 92% in Ireland said the same.
- Nevertheless, in Poland, Portugal and Spain, 50-55% of consumers attempting a switch to another supplier, tried to switch, but found it too difficult.

Figure 37: Ease of switching (percentage of respondents who tried to switch supplier)



Note: Based on Q23: 'Which of the following best reflects your experience of switching?'.
Percentages as a share of those who tried to switch supplier within the last 2 years; including those who switched because they moved house. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who switched tariff is provided in Table 123. We note that the relevant sample is particularly small in Estonia, Hungary, Luxembourg, Poland and Romania and consists of less than 10 respondents in these cases. Consumers were also given the option to respond 'don't know' or 'other'. These responses are not shown in the graph.
EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium analysis of data from general consumer survey

3.4 Consumer loyalty and reasons for switching

Supplier switching is closely linked to consumers' commitment to their supplier. This section analyses customer loyalty in the retail electricity market including reasons why consumers switch and do not switch suppliers.

3.4.1 Consumer loyalty

Generally consumers are committed to their supplier. Findings from the consumer survey show that consumers in the majority of Member States would still use their current supplier rather than change to another supplier (Figure 38). Most notably in Italy and France, 84% of consumers indicate that they will stay with their current supplier in the future. This suggests that consumers are fairly committed to their current supplier.

Similar conclusions have been found during the desk research. For example, a recent consumer survey undertaken by the French regulator showed that in France just 6% of residential customers

were planning to switch supplier over the next few months. The main reason for not planning to switch suppler was satisfaction with the existing supplier (50% of respondents).[42]

Furthermore, according to the 2009 annual report to ERGEG from the Dutch regulator, the perceived "switching threshold" in the Netherlands is fairly high and this is identified as one of the most pressing issues in the Dutch retail electricity market. The high perceived switching threshold exists because consumers feel unsure about the information available, are afraid of administrative problems, or are simply not interested in the energy product. That being said, the switching rate in the Netherlands is relatively high compared to most other countries.

Desk research summarised in the country fiches also indicates that consumers in Poland and Slovenia are unwilling and hesitant to switch. While Poland and Slovenia are not countries with very high levels of consumer loyalty in a European context, the survey shows that the majority of consumers in these countries also have no particular desire to switch supplier. Only 29% and 28% of respondents, in these two countries respectively, indicate that they would like to switch supplier in the future.

It is quite remarkable that consumer loyalty appears to be lower in countries where there is a national or regional monopoly. Although consumers are generally very loyal to their supplier, consumers in Greece, Cyprus and Malta are less loyal, and between 48% and 58% of consumers in these countries would prefer to change suppliers rather than stay with their current supplier in the future. However, in practice, these consumers cannot switch at the present time.

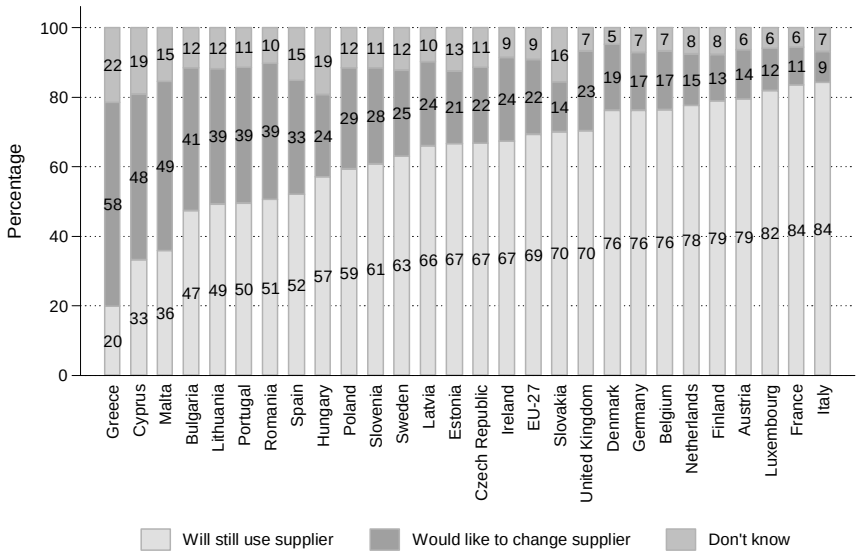
Less than half of the respondents in Bulgaria and Lithuania indicate that they will use their current supplier in the future.

The results of the consumer survey also show that consumers who have switched supplier within the last 2 years are generally less likely to want to stay with their current supplier in the future than consumers who have not switched in the last 2 years (Figure 39). This conclusion holds in all countries except Portugal, Slovenia, Slovakia and France.

Overall, the last results suggest that there exists a group of consumers who are keen on switching to obtain the tariff the best suits their needs

[42] Source: énergie-info, L'ouverture des marchés de l'électricité et du gaz naturel pour les clients résidentiels, Baromètre annuel – vague 3, Septembre 2009

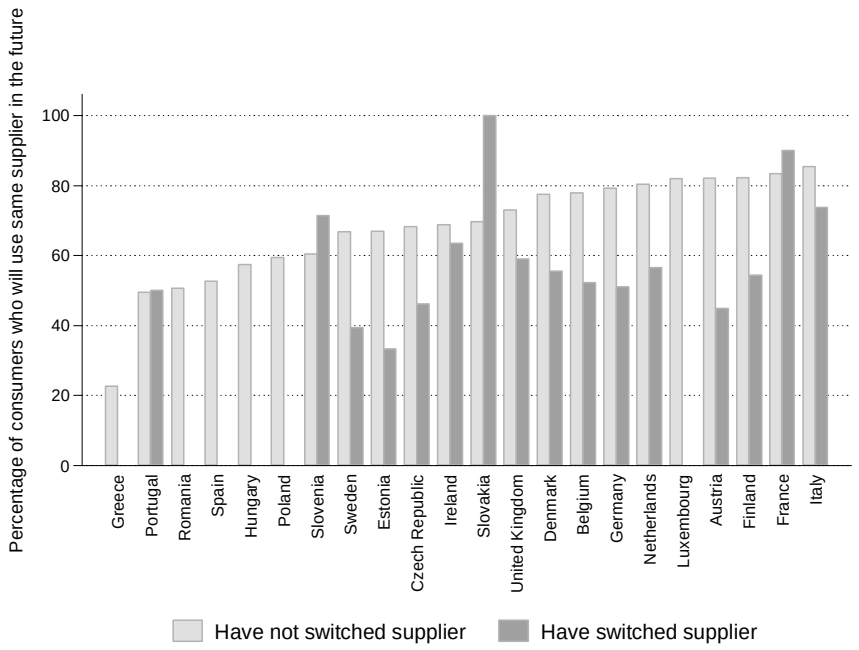
Figure 38: Consumer loyalty



Note: Based on Q28: 'Which statement best reflects your attitude? In the future….' EU-27 calculated as a weighted average using 2010 Eurostat population figures as weights.

Source: ECME Consortium analysis of data from the general consumer survey

Figure 39: Consumer loyalty for those who have switched supplier in the last 2 years and those who have not



Note: Based on Q28: 'Which statement best reflects your attitude? In the future….'. Percentages as a share of those who switched supplier within the last 2 years; including those who switched because they moved house. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who switched supplier is provided in Table 123. We note that the relevant sample is particularly small in Estonia, Hungary, Luxembourg, Poland and Romania and consists of less than 10 respondents in these cases.

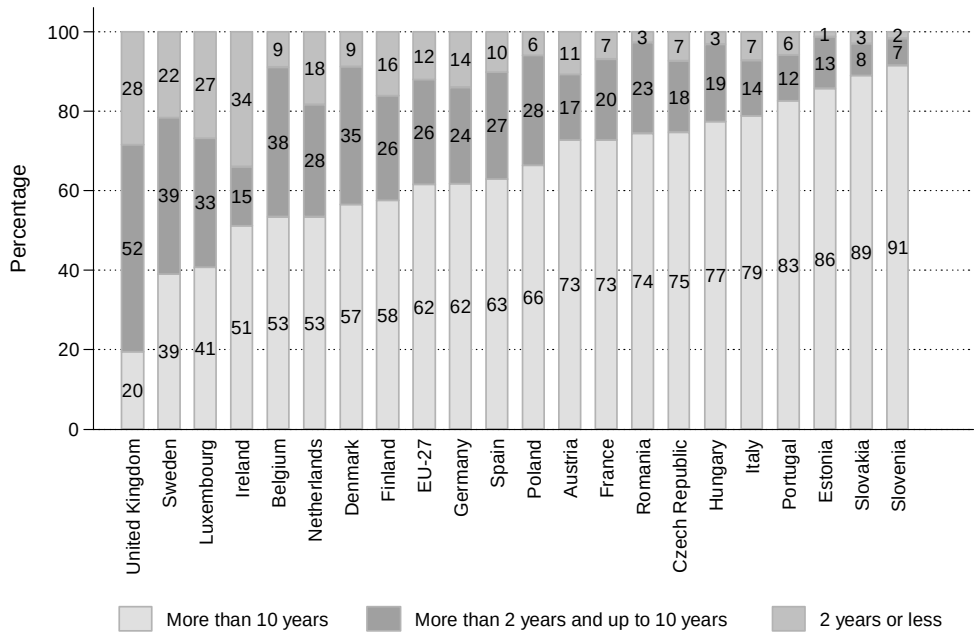
Source: ECME Consortium analysis of data from the general consumer survey

The electricity market in the United Kingdom has been liberalised for a relatively long time and switching rates have long been among the highest in Europe. It is therefore not surprising that consumers in the United Kingdom typically have had their current supplier for a shorter period of time than consumers in other countries (Figure 40). In particular, only 20% of consumers in the United Kingdom have been with their current supplier for more than 10 years and the majority of consumers in the United Kingdom have been with their suppliers for longer than 2 years, but less than 10 years (52%) suggesting a reasonably large willingness to switch and relatively low customer loyalty.

It is also worth noting that over a third (34%) of consumers in Ireland have been with their current supplier for less than 2 years. The Irish regulator also reports a high willingness to switch supplier and the results from the consumer survey support this view. The main drivers of this willingness to switch are the prices offered by new entrants to the market since liberalisation. In Ireland, entrants to the supply market offer discounts to the incumbent's prices, making switching more attractive to consumers.

However, generally consumers in EU-27 are very loyal to their current supplier and in most countries where switching is possible (except the United Kingdom, Sweden and Luxembourg) the majority of consumers have been with their current supplier for more than 10 years.

Figure 40: Time with current supplier



Note: Based on Q22a: 'How long have you been with (name of supplier)'.
Respondents in Latvia, Lithuania, Greece, Cyprus, and Bulgaria were not asked this question as switching is limited in these countries.
Includes all respondents to the survey, including those who have switched because they have moved house.
EU-27 calculated as a weighted average using 2010 Eurostat population figures as weights.
Source: ECME Consortium analysis of data from the general consumer survey

3.4.2 Reasons why consumers try to switch supplier

There are numerous reasons why consumers try to switch suppliers. In the majority of countries, many consumers who attempted a switch tried because they thought they could get a better deal elsewhere (Table 13).

However, there are a handful of exceptions. In Romania, the main reason for trying to switch was poor customer service (60%) whereas in Estonia, the most prominent reason for switching was the environmental friendliness of the provider (50%). Moreover, 50% of Luxembourg's consumers that attempted a switch did so simply because they were moving house. It should be noted that very few (less than 10) consumers have tried to switch supplier in these Member States within the last 2 years.

Interestingly, approximately a quarter of those trying to switch supplier in Denmark, Poland and Slovakia did so because they were advised to switch. On the whole, respondents relatively often stated that they had tried to switch because they had been advised to do so, and consumers rarely tried to switch because of interruptions in supply (except in Romania and Estonia) or billing problems.

The fact that consumers in some countries are responsive to advice from others regarding whether or not they should switch could make consumers vulnerable to aggressive commercial practices. The survey undertaken for this study does not provide any details as to who advised consumers to switch. However, in the United Kingdom, research commission by the regulator (undertaken by Ipsos-MORI) found that:[43]

- 39% of survey respondents reported that the last time they switched supplier they did so because of a visit to their home by a sales person;
- 8% did so because they were contacted by a sales person over the phone; and,
- 5% did so because they were approached by a sales person in a public place.

In Ireland, 47% identified direct contact from a supplier as one of their top three sources of information when switching supplier.

[43] 2,024 quota-controlled face-to-face interviews conducted by Ipsos-MORI across Great Britain between 20 June and 27 July 2008.

Table 13: Reasons for trying to switch supplier (percentage of respondents who tried to switch)

Country	Better deal	Moved house	Environ-mentally friendly provider	Poor customer service	Billing problems	Interruptions in supply	Advised to switch	Other
Austria	55%	5%	10%	0%	2%	0%	15%	13%
Belgium	52%	2%	14%	5%	7%	0%	5%	16%
Czech Republic	61%	2%	0%	10%	0%	0%	17%	10%
Denmark	32%	11%	16%	0%	0%	0%	**26%**	16%
Estonia	0%	0%	**50%**	17%	0%	17%	17%	0%
Germany	59%	5%	9%	2%	1%	0%	5%	19%
Finland	59%	9%	4%	0%	3%	1%	6%	18%
France	50%	5%	10%	5%	0%	0%	20%	10%
Hungary	80%	0%	0%	0%	0%	0%	0%	20%
Ireland	80%	1%	4%	0%	1%	0%	7%	6%
Italy	71%	0%	5%	5%	5%	0%	5%	8%
Luxembourg	0%	**50%**	0%	0%	0%	0%	0%	50%
Netherlands	47%	4%	5%	5%	4%	1%	14%	18%
Poland	25%	25%	0%	25%	0%	0%	25%	0%
Portugal	55%	0%	0%	0%	9%	9%	9%	18%
Romania	0%	0%	0%	**60%**	0%	20%	0%	20%
Slovakia	50%	0%	0%	0%	17%	0%	**25%**	8%
Slovenia	61%	0%	0%	0%	6%	0%	0%	33%
Spain	42%	0%	4%	4%	19%	4%	4%	23%
Sweden	69%	9%	4%	1%	2%	0%	3%	11%
United Kingdom	61%	8%	1%	3%	5%	0%	9%	12%
EU-27	52%	5%	5%	8%	4%	2%	10%	14%

Note: Dark red shading illustrates the most frequently stated reasons for trying to switch and light red shading indicates the second most frequently stated reason for trying to switch.
Percentages as a share of those who tried to switch within the last 2 years (including those who switched because they moved house) are based on Q24: 'What was the main reason for trying to switch you electricity provider?'. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who tried to switch supplier is provided in Table 123. We note that the relevant sample is particularly small in Estonia, Hungary, Luxembourg, Poland and Romania and consists of less than 10 respondents in these cases. Respondents in Latvia, Lithuania, Greece, Cyprus and Bulgaria were not asked this question as switching is limited in these countries.
EU-27 calculated as a weighted average using 2010 Eurostat population figures as weights.
Source: ECME Consortium analysis of data from general consumer survey

3.4.3 Reasons why consumers do not try to switch supplier

As previously discussed, whether a low switching rate is detrimental to consumers depends on the reasons why consumers are not switching. Consumer detriment is likely to arise if consumers are prevented from switching because of difficulties with the switching process. Hence it is important to identify when this is the case. Consumers may not be interested in switching for three main reasons:

- they may be satisfied with their current supplier;

- they may not be aware of the opportunity to switch, alternative suppliers or the potential benefits of switching; or
- they may consider it too difficult or not worthwhile.

The general consumer survey undertaken for this study asked consumers who had not switched supplier, why they did not try to do so.

Satisfaction with the current supplier

The results show that the low supplier switching rates were partly due to the first reason mentioned above (Figure 41). Across the EU, 38% of consumers who had not switched supplier indicated that they had not done so because of they were satisfied with their current provider.

Furthermore, in approximately half of the countries (12 out of 21) consumers most frequently said that they had not tried to switch because they were satisfied with their current provider. This suggests that low switching rates to some extent reflects satisfaction with suppliers and consumers are therefore not interested in other suppliers.

This is well in line with the findings of a recent Flash Eurobarometer survey analysing switching behaviour over the two years to July 2009 also analysed reasons why consumers do not switch.[44] The survey found that in the majority of countries (17 out of 24 with open markets), most consumers who did not switch reported that this was because they were not interested in switching (Figure 42).

Lack of awareness and opportunities

The results of the survey undertaken for this study also show that 16% of consumers across the EU did not try to switch supplier because they had never thought about it, suggesting they may not be aware of the opportunity to switch supplier or the potential benefits of switching supplier. In Slovakia, Slovenia, France, Estonia Hungary and Luxembourg more than 25% of consumers did not try to switch supplier because they had never thought about it.

Low switching rates may also be due to low awareness of the possibility to switch supplier. The consumer survey shows that generally across the EU this is not the main reason why supplier switching rates are so low. In particular 5% of EU consumers indicate that they have not switched supplier because they were unaware of the possibility.

However, in Estonia, Hungary, Poland, Portugal and Slovakia more than 10% of consumers indicate that they have not tried to switch because they were unaware of the possibility to switch. In some countries this may reflect real market structural barriers to supplier switching.

It should also be noticed that across the EU, 12% of consumers did not try to switch because there was no alternative local supplier and this response option was particularly frequent in Estonia, Romania, Hungary, Portugal and Poland This again illustrates that in some countries the market structure and the existence of national or regional monopolies may create barriers to switching.

[44] Flash Eurobarometer survey number 282

Too difficult and not worthwhile

The survey undertaken for this study also shows that across the EU 12% of consumers who did not attempt to switch, did not try because they thought that there would be too little to save. In particular, more than 10% of consumers in Austria, Belgium, the Czech Republic, Denmark, Ireland, Germany, the United Kingdom, the Netherlands, Finland, Spain and Sweden said that they had not tried to switch because there was too little to save, and in Finland, 24% of consumers stated this as the main reason why they had not tried to switch.

This result may reflect that consumers are not aware how much they can potentially save if they switch supplier.

However, even if consumers are aware how much they can save, it may be perfectly rational for consumers not to try to switch if the savings are too small given the time and efforts associated with switching. If the switching process is very complicated and time consuming consumers would typically require higher savings in order to be willing to go through the switching process.

The survey results suggest that 10% of consumers in the EU did not attempt to switch supplier because they thought it will be too difficult to compare offers from alternative providers. In Belgium, Spain Austria, Belgium, Denmark, France, Italy, Spain and Ireland more than 10% of respondents indicate that this was the reason why they had not tried switching.

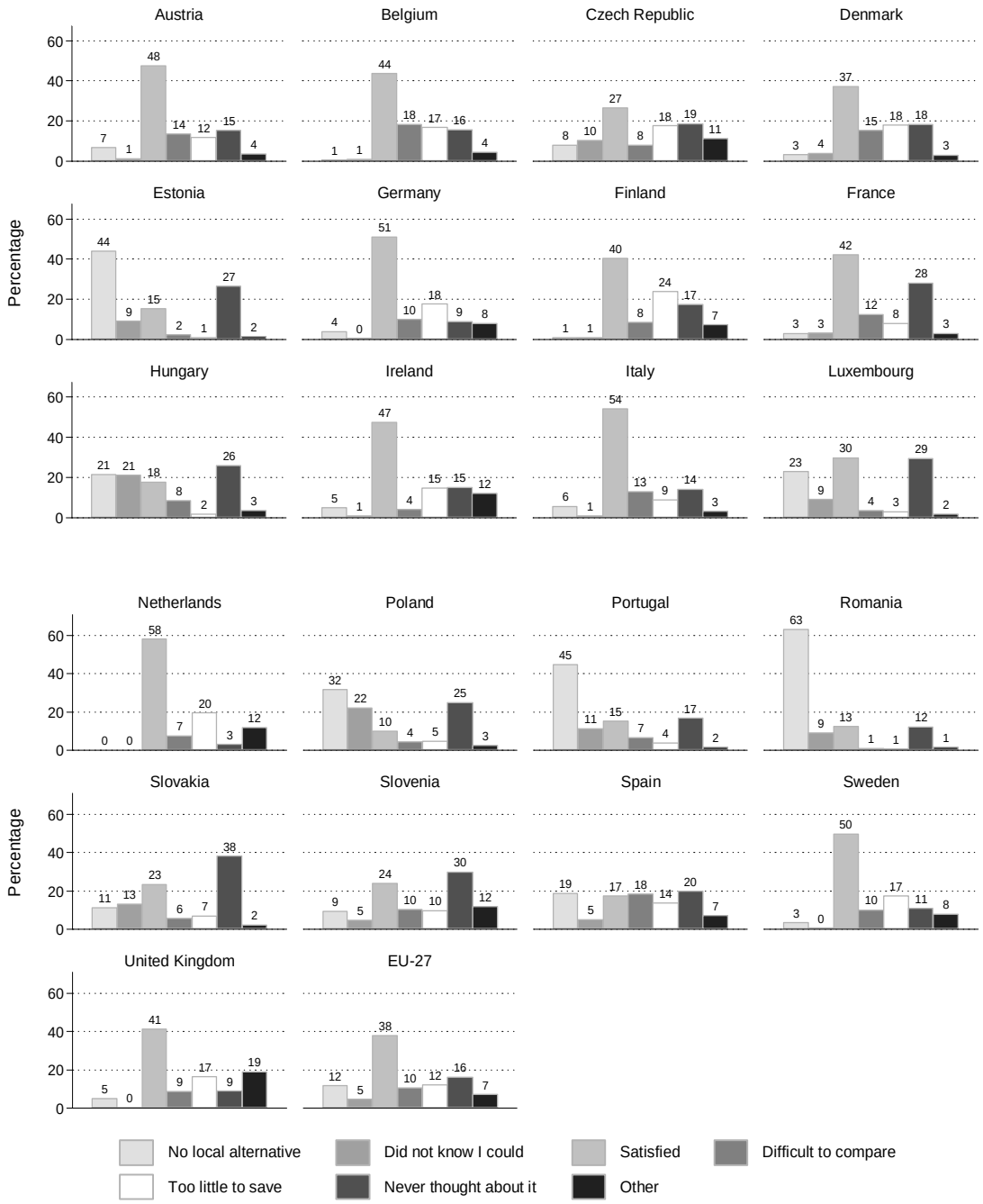
Overall this analysis suggests that although consumers mostly do not switch because they are satisfied with their supplier there are also a significant share of consumers who do not switch suppliers because they find it too cumbersome or difficult given the potential savings that could be obtained.

This is well in line with the findings of the Flash Eurobarometer survey which suggested that a non-negligible share of consumers did not try to switch because they thought it might be too difficult. Further, in several countries, some of those who did not switch said that they tried to but gave up (Figure 42).[45]

These reasons for not switching have more important implications for the state of the switching process, and suggest that perhaps attention should be given to reasons why the process is not as easy for consumers as it could be.

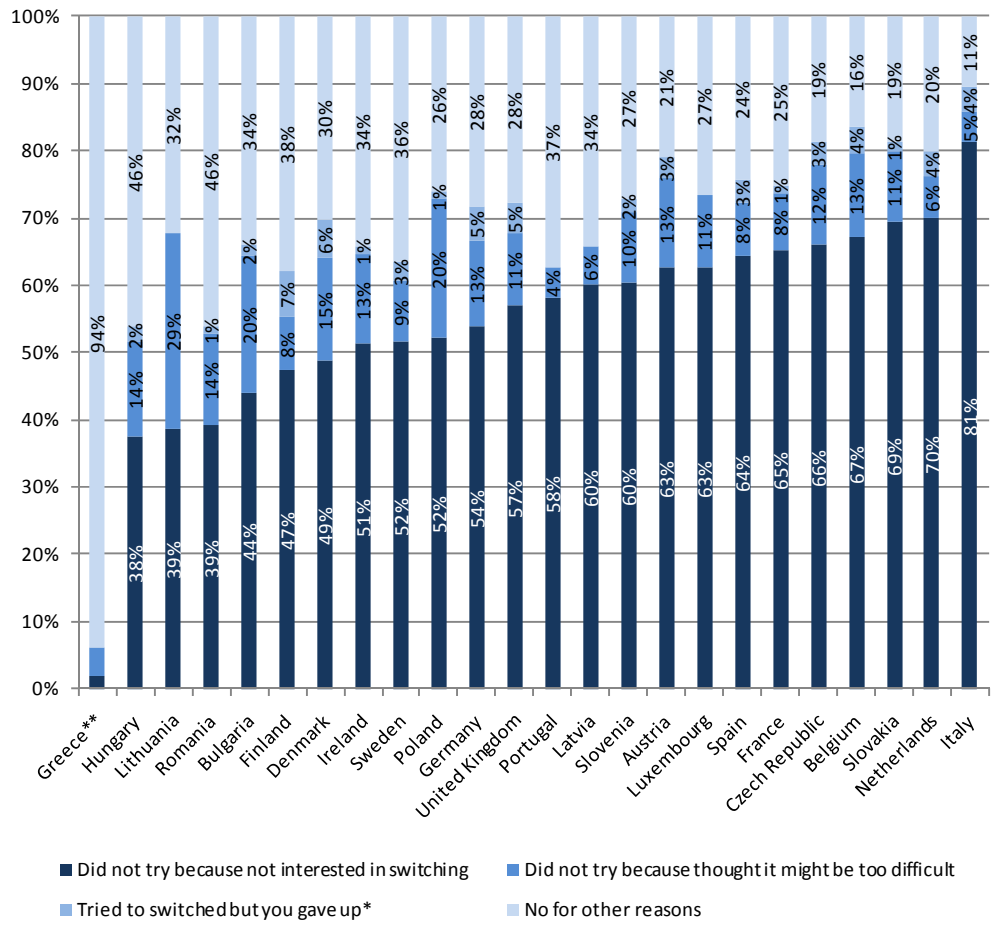
[45] The highest shares giving this reason for not switching were found in Denmark, Germany and the United Kingdom: 6%, 5% and 5% respectively.

Figure 41: Reasons for not switching (percentage of respondents who did not try to switch)



Note: Based on Q25: 'What was the main reason for not trying to switch your electricity provider?'.
Percentages as a share of those who did not try to switch within the last 2 years. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size is more than 350 respondents.
EU-27 calculated as a weighted average using 2010 Eurostat population figures as weights.
Source: ECME Consortium analysis of data from general consumer survey

Figure 42: Reasons for not switching electricity provider (share of those who did not switch)



Note: The base is the population who did not switch electricity supplier over the two years to July 2009 (this excludes those that answered "State monopoly/not applicable"). Cyprus, Estonia and Malta excluded as the household market is closed in these countries.
* Tried to switched but you gave up: Greece: 0%, Latvia 0%, Lithuania: 0%, Luxembourg: 0%, Portugal: 0%
** Greece: Did not try because not interested in switching: 2% did not try because thought it might be too difficult: 4%
Source: Flash Eurobarometer 282.

3.5 Have consumers selected the best offer?

Having discussed switching levels, ease of switching and reasons for switching (or not) this section discusses the impacts of switching and whether consumers have selected the best offer for them. To do this we analyse:

- the savings achieved by switching tariff with the current supplier;
- potential savings achieved by switching supplier;
- conditions for obtaining cheaper offers;
- the role of unfair selling practices; and

- consumers' assessment of whether they are on the cheapest tariff given their consumption.

3.5.1 Savings from switching tariff with the current provider

One way to assess whether consumers are better off as a result of switching is to look at the savings achieved from switching tariff within a supplier.

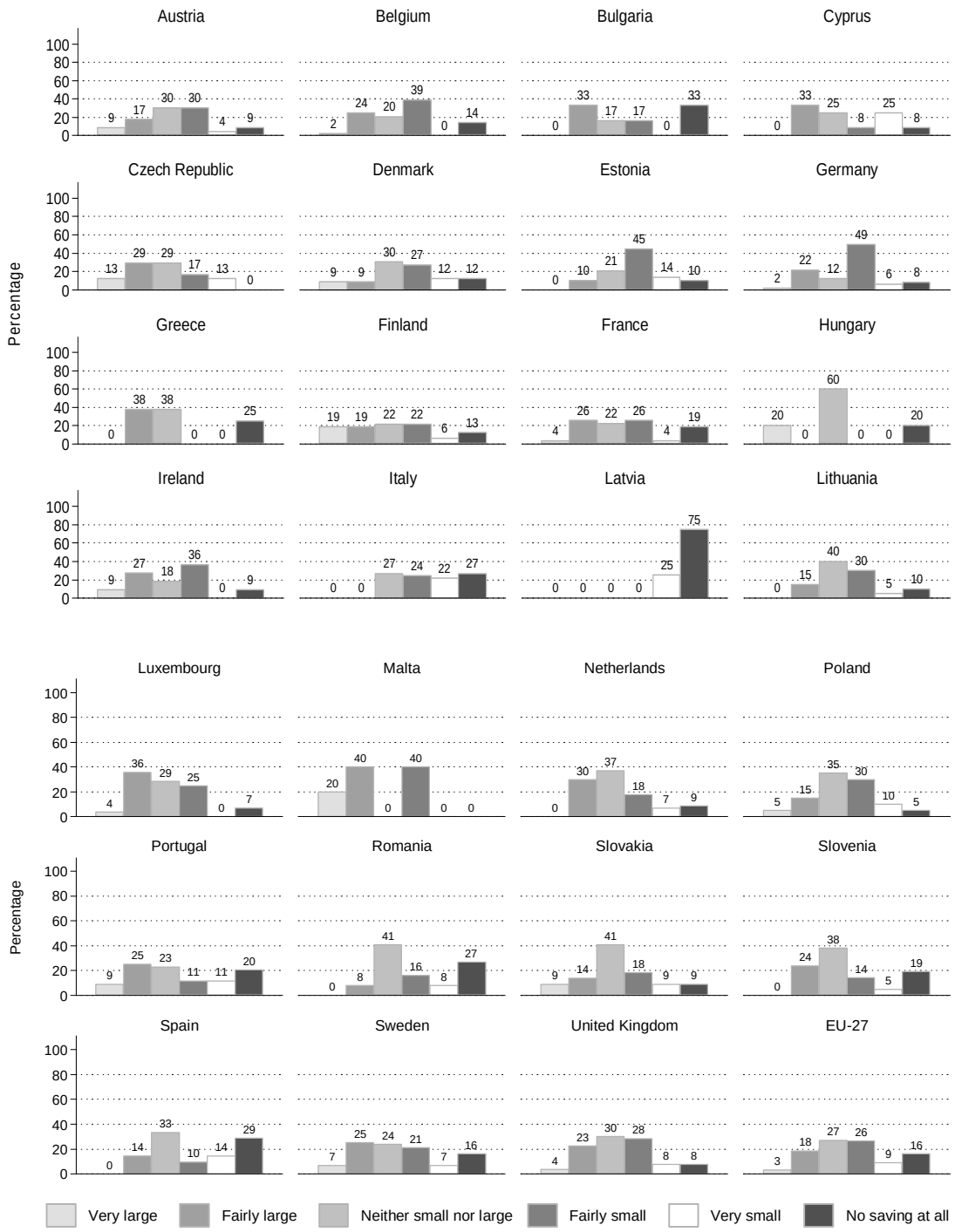
Overall across the EU, 16% of those who had switched tariff with their current supplier said that they had not had any savings from it and most significantly in Latvia 75% said that his was the case (Figure 43). In Bulgaria, Greece, Italy, Romania and Spain 25% or more of those who had switched tariff with their current supplier, also said that they had not saved anything.

Overall 21% of consumers who had switched tariff in the EU indicated that there had been a very large or fairly large saving and 35% indicated that there had only been a fairly small or very small saving associated with switching tariff with the current supplier.

In most countries there was approximately equal mixture of large; neither small nor large; and small savings (around 30% share each for most countries) for consumers.

However, in Latvia 75% of consumers said there was no saving at all from switching, and the other 25% said the savings were very small. On the other hand, 60% of Maltese consumers said the savings from switching were either very, or fairly large, suggesting that they benefit greatly from switching suppliers.

Figure 43: Savings from switching tariff with the same supplier



Note: Based on Q27b: 'Would you say the saving made by switching tariff is...'.
Percentage of those who have switched tariff with their current supplier. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who switched tariff is provided in Table 123. We note that the relevant sample is particularly small in Bulgaria, Greece, Hungary, Latvia and Malta where it consists of less than 10 respondents.
EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium analysis of data from general consumer survey

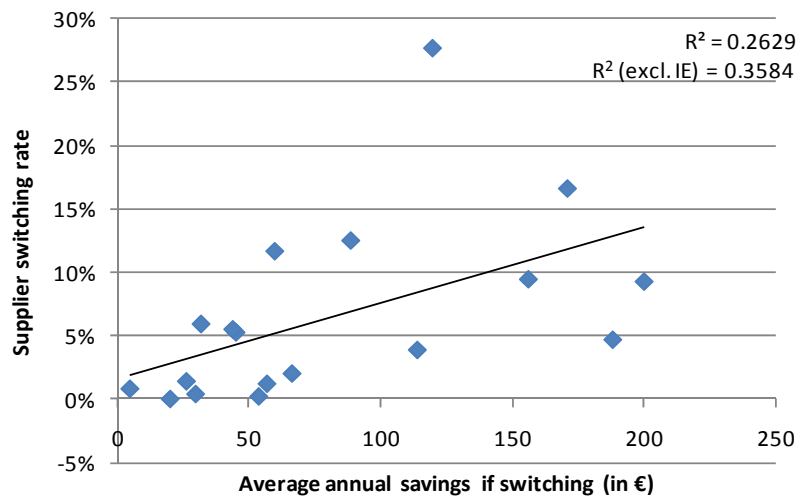
3.5.2 Savings from switching supplier

Section 2.3.3 in the chapter discussing choice in the market illustrated that it will in many cases be possible for consumers to find a cheaper offer either from their current supplier or by switching to an alternative supplier. Furthermore, in some cases there are large potential savings from switching; particularly in mature liberalised markets where there is a wide variety of choice.

Consistent with the hypothesis that consumers respond to financial incentives to switch supplier, the analysis of the data from the consumer survey and the mystery shopping exercise also shows that there is a positive link between supplier switching rates and the average amount that mystery shoppers found that that they would be able to save when switching (Figure 44).

It should be mentioned that Ireland again appears to be an outlier with a switching rate of 28%. If Ireland is excluded from the analysis, the relationship between the two variables becomes stronger.

Figure 44: Supplier switching rate vs. average annual savings from mystery shopping exercise



Note: Supplier switching rate refers to percentage of consumers who have switched supplier within the last 2 years from mid 2010 (excluding those who switched because they moved house). The annual savings are estimated by the lower bound presented in Table 10. Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. Approximately 50 mystery shopping exercises were undertaken per Member State. The outlier with a 28% switching rate is Ireland.
Source: ECME Consortium analysis of data from general consumer survey and mystery shopping.

3.5.3 Conditions involved with switching

Any assessment of the savings associated with switching supplier or tariff depend on the conditions under which these savings can be achieved. For example, whether the tariff is a first subscription offer, whether switching implies a commitment to other services and whether switching imply a minimum period of confidence.

Subscription offers

In some cases, savings associated with switching can only be obtained for a limited period of time as a subscription offer, and the savings may, in the long run, be smaller than the initial savings. According to the mystery shopping exercise:

- First subscription offers in case of supplier switching were relatively common in Austria, Germany, Portugal and Spain where more than 50% of mystery shoppers where given a special first subscription offer (Table 14).
- Notably, no mystery shoppers in Luxembourg and Poland were offered a special subscription discount
- In contrast, 74% of mystery shoppers in Germany were offered a first subscription deal. This may explain why German mystery shoppers on average reported much higher potential savings associated with supplier switching than any mystery shoppers in any other country. However, after an initial subscription period it is possible that the tariff would increase by so much that the savings from switching would disappear.

Commitment to other services

Any assessment of whether consumers are better off from switching is also complicated by the fact that consumers may be required to commit to other services in order to obtain the offer. While the electricity may be provided at a low cost, it may not necessarily be in the interests of consumers to commit to other services. In general the evaluation of the offer will very much depend on the individual circumstances for that individual.

The mystery shopping exercise shows that switching very rarely implies a commitment to other services. However, in Denmark, the Netherlands and the United Kingdom mystery shoppers relatively often reported that switching implied commitment to other services (22%, 33% and 25%, respectively).[46]

Minimum commitment period

A third aspect that complicates an assessment of the saving associated with switching is whether consumers are required to commit to the new supplier for some minimum period of time. While suppliers may be willing to offer a cheaper tariff to consumers who commit themselves to them for a specified period of time, new and better offers may become available during the commitment period and consumers will then not be able to benefit from such offers.

Consumers are, in fact, sometimes required to commit to their supplier for a minimum period to get cheaper offers; this is illustrated by the results of the mystery shopping exercise.

- In Belgium and Denmark 73% and 76% of mystery shoppers, respectively, reported that switching requires commitment to the supplier for a minimum duration.
- The same applies for between 56% and 64% of mystery shoppers in Finland, Germany, the Netherlands, Sweden and the United Kingdom.

[46] No information is available on the additional services that consumers would have had to buy.

- In contrast, no mystery shoppers in Portugal reported a minimum period of commitment to the new supplier.

On average, consumers have to commit for 1 year if there are required to commit themselves to the supplier for a fixed period. The average commitment period ranges from approximately 1 month in Luxembourg to 2 years in the Czech Republic.

Table 14: Terms involved with switching to cheaper offers

Country	Offered a special first subscription discount	Contract terms and conditions sent/found together with the offer	Switching implies commitment to other services	Switching implies a minimum period of commitment to the new supplier	Minimum period of commitment[1] (years)	
					Average	Standard deviation
Austria	56%	62%	4%	42%	1.29	0.63
Belgium	33%	57%	8%	73%	1.15	0.46
Czech Republic	35%	76%	6%	19%	2.00	0.50
Denmark	16%	56%	22%	76%	0.34	0.20
Finland	13%	43%	4%	56%	1.63	0.55
France	39%	71%	8%	18%	0.90	0.53
Germany	74%	74%	0%	56%	0.88	0.30
Hungary[2]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	31%	58%	6%	33%	0.68	0.67
Italy	28%	67%	8%	28%	1.23	0.54
Luxembourg	0%	85%	0%	6%	0.08	0.00
Netherlands	33%	43%	33%	57%	1.28	0.84
Poland	0%	39%	0%	14%	1.14	0.38
Portugal	59%	44%	0%	0%	n.a.	n.a.
Slovakia	27%	53%	0%	32%	0.93	0.55
Slovenia	2%	69%	0%	13%	0.81	0.67
Spain	50%	0%	2%	25%	0.96	0.14
Sweden	15%	48%	2%	60%	0.97	0.73
United Kingdom	17%	70%	25%	64%	1.00	0.30
EU-27	37%	57%	8%	38%	1.04	

Note: [1] Estimates only based on those who said that there was a minimum period of commitment.
[2] No cheaper offer was found by mystery shoppers in Hungary. Mystery shopping exercise 1 was not carried out in Bulgaria, Cyprus, Estonia, Greece, Latvia, Lithuania, Malta and Romania.
EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium analysis of data from mystery shopping exercise 1.

3.5.4 Savings and the use of unfair selling practices

Problems related to unfair selling practices

The results of the consumer survey undertaken for this study suggest that consumers who switch supplier often do so in order to get a cheaper offer. Furthermore, as illustrated above switching

rates tend to be higher in countries where the estimated average savings are large than in countries where the estimated average annual savings are relatively minor.

Consumers wishing to switch tariff or supplier may do so on their own initiative or in response to advertising or other selling practices implemented by suppliers. However, consumers who fall victims of misleading advertisement or unfair commercial practices, may not be able to objectively choose the tariff/supplier that best matches their preferences. This may in part explain why consumers do not necessarily obtain a better tariff when they switch.

Research undertaken by Ofgem, the energy regulator in the United Kingdom, suggests that more than half of switching activity in the energy sector in 2008 took place in response to direct sales activity and in 82% of these cases the supplier that approached them said that they were cheaper than their existing supplier.[47]

Ofgem's research also shows that approximately one-in-three of consumers who switched energy supplier in the United Kingdom considered deals offered by several suppliers. However, when a doorstep salesperson was involved only 15% considered deals from other suppliers than the supplier they eventually switched to.

Furthermore, almost half of energy consumers who switched as a result of a direct sales approach did not achieve a price reduction according to the Ofgem study.

Regulation to prevent unfair selling practices

The Unfair Commercial Practices Directive[48] provides common minimum standards for protection against unfair, misleading and aggressive commercial practices in the context of business to consumer trade, and, among other things, it bans misleading advertising and specifies that advertisements may not include false or deceptive information.

At least a few Member States have adopted additional regulation within the energy and/or electricity laws.

- For example, in Austria, any material addressed to consumers must be transparent and 'consumer friendly'. If the material includes prices, then commodity, transport costs and taxes must be shown separately.
- Similar requirements are applicable to suppliers in the United Kingdom according to the *Standard Conditions* of the electricity supply licence.
- In Ireland guidelines require suppliers to put in place codes of practice and customer charters guaranteeing a minimum level of service. One of these codes covers marketing and requires suppliers to protect customers against unwanted, unfair or misleading marketing methods.

[47] Ofgem (2008), 'Energy Supply Probe – Initial Findings Report'.

[48] Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market. The full text of the Directive is available from the following link: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32005L0029:EN:NOT

- In the Netherlands, the regulator has drawn up a code of conduct relating to telephone canvassing which has been signed by almost all energy suppliers in the market, with parties that have not signed the code being monitored closely.

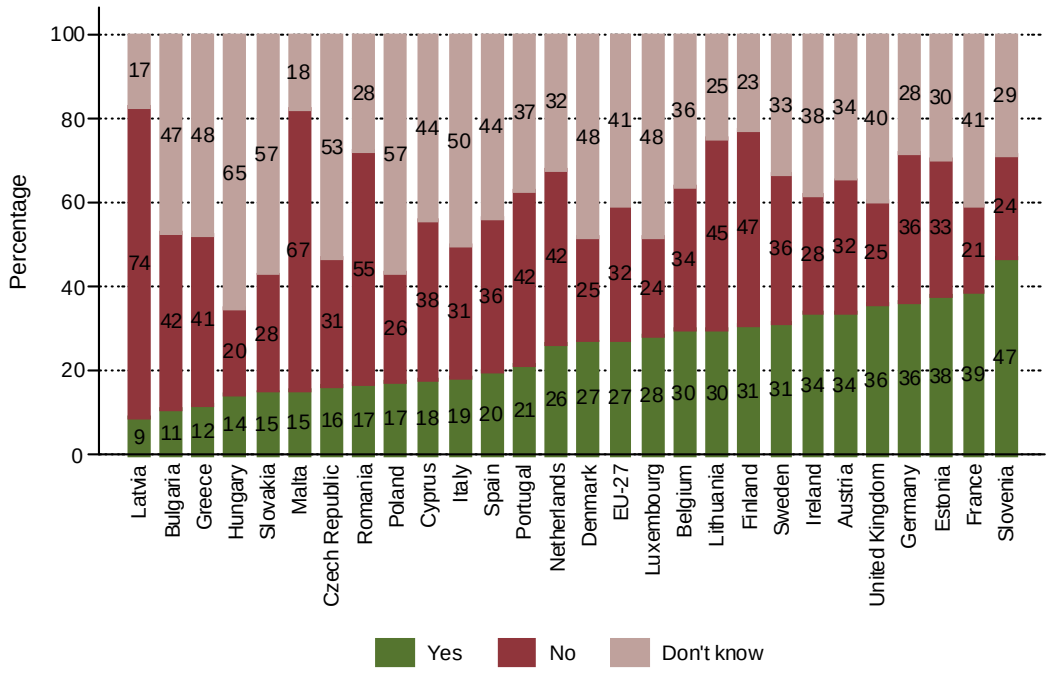
3.5.5 Consumer views on their tariff

Interestingly, very few consumers are convinced that they are on the cheapest tariff given their consumption; the largest share of consumers who think so is in Slovenia (47%) and the fewest consumers who think they are on the cheapest tariff are found in Latvia (9%).

On average in EU-27, 27% of consumers think that they are on the cheapest tariff given their electricity consumption. Thirty-two percent do not think that they are on the cheapest tariff and forty-one percent of consumers across the EU do not know if they are on the cheapest tariff.

It is also worth noting that in Hungary, Slovakia, the Czech Republic and Poland less than 50% of consumers know whether they are on the cheapest tariff, and in Latvia and Malta the majority of respondents do not think they are on the cheapest tariff given their consumption.

Figure 45: Percentage who say that they are on the cheapest tariff given their consumption



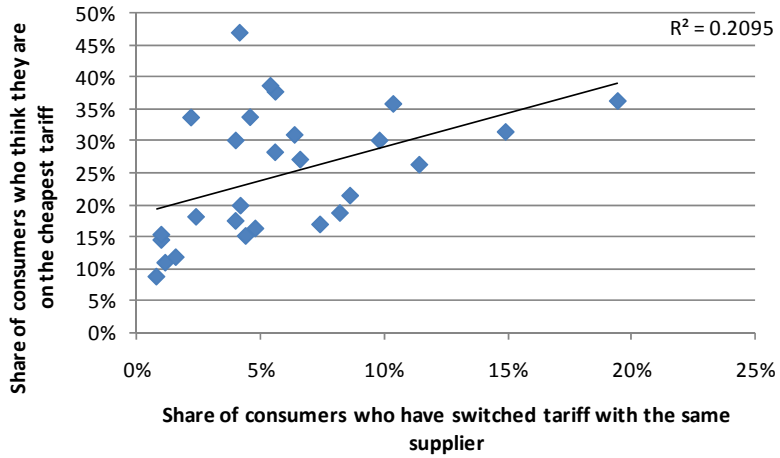
Note: Based on Q14.9: Percentage of consumers who said 'yes', 'no' and 'don't know' to the question 'I am on the cheapest tariff in the market given my usage'. EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium analysis of data from general consumer survey

There is some indication that consumers in Member States with high switching rates are more confident that they are on the cheapest tariff. However, interestingly, the relationship appears stronger for the share of consumers who have switched tariff with the same supplier within the last 2 years (Figure 46) than for the supplier switching rate over the same period (Figure 47). This

may be due to the added complexity of comparing offers between different suppliers which may make consumers less certain that they made the right choice.

It should also be noted that the cheapest option may not always be the best option from the consumer's perspective. For example, in case of green energy there may be a premium for green energy that consumers are willing to pay for environmental reasons.

Figure 46: Share of consumers who have switched tariff with the same supplier vs. share of consumers who think they are on the cheapest tariff



Note: Share of consumers who have switched tariff with the same supplier refers to tariff switches within the last 2 years from mid 2010.

Source: ECME Consortium analysis of data from general consumer survey

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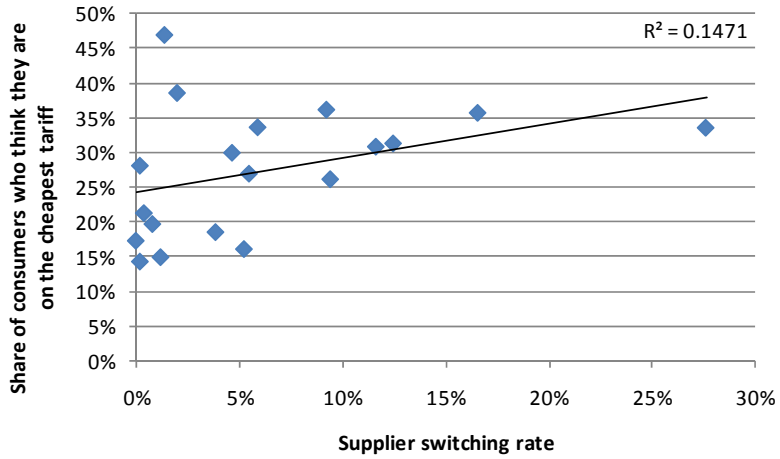
Figure 47: Supplier switching rate vs. share of consumers who think they are on the cheapest tariff



Note: Supplier switching rate refers to percentage of consumers who have switched supplier within the last 2 years from mid 2010 (excluding those who switched because they moved house). Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. The outlier with a 28% switching rate is Ireland.

Source: ECME Consortium analysis of data from general consumer survey.

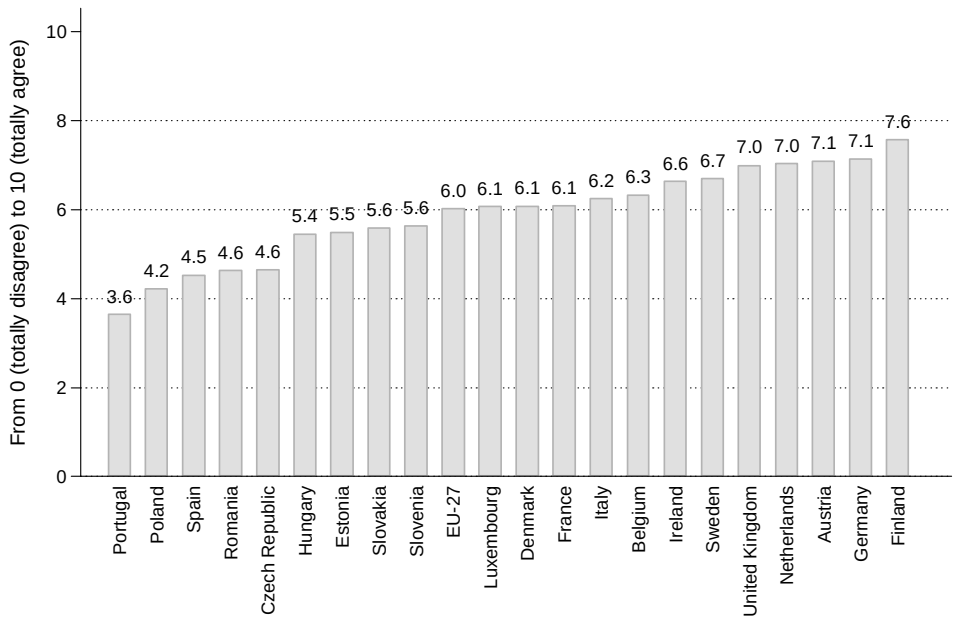
Consumers also generally do not feel that the prices offered by their supplier are very competitive compared to the prices of other suppliers (Figure 48).

On a scale from 0 to 10, where 10 corresponds to total agreement with the statement 'My supplier offers competitive prices compared to other suppliers':

- Consumers in Portugal provide the lowest average rating of 3.6.
- Consumers in Poland, Spain, Romania and the Czech Republic also provide average ratings below 5.
- In contrast, consumers in Finland are most confident that their supplier offers competitive prices with an average rating of 7.6 on the 10-point scale.

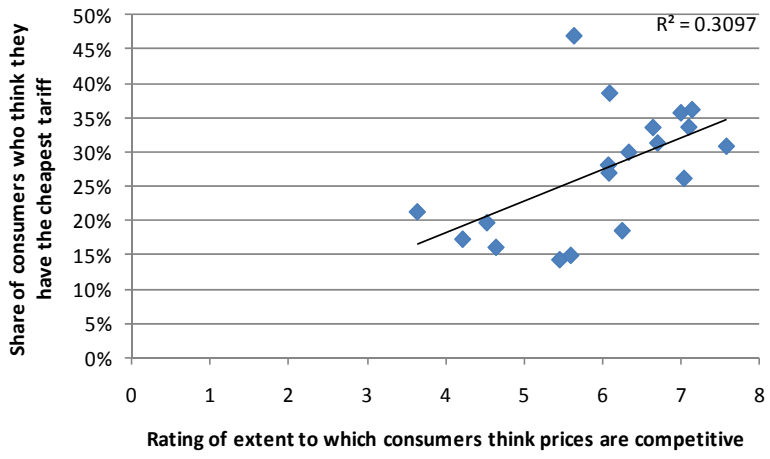
This again suggests that consumers are not very confident that they have chosen the supplier which can offer them the best deal, and there is a clear positive correlation between the extent to which, on average, consumers think that prices are competitive and the share of consumers who think they have the best tariff given their consumption level.

Figure 48: Extent to which consumers feel that their current supplier offers competitive prices



Note: Based on Q12.2: Agreement with statement: '(Name of supplier) offers competitive prices (compared to other providers)'. EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium analysis of data from general consumer survey

Figure 49: Share of consumers who think they are on the cheapest tariff vs. average rating of extent to which consumers think that prices are competitive



Note: The extent to which consumers think that prices are competitive is rated on a scale from 1 to 10, where 10 represents very competitive prices.
Source: ECME Consortium analysis of data from general consumer survey

3.6 Barriers to switching

This section discusses potential barriers to switching including:

- Limited access to alternative suppliers or tariffs.
- Legal and contractual barriers:
  - Regulated tariffs and irreversibility of switching;
  - Absence of consumer right to cancel an existing contract;
  - Ability of former suppliers to hinder the switching process.
- Lack of information or access to information about:
  - alternative suppliers;
  - prices and tariffs;
  - contract termination policies and switching procedures.
- Complicated and inefficient switching procedures:
  - Lack of a standardised switching procedure;
  - Consumers must contact many different parties in order to change supplier;
  - Length of time required to complete the switching process;
  - Inefficient communication between suppliers and DSOs;

Similar arguments may apply to tariff switching with the same supplier although possibly on a smaller scale. In this sub-section, we consider each of these barriers in turn drawing both on

results from the consumer survey undertaken for this study and from the stakeholder survey[49] undertaken for an ERGEG (2008) study.

3.6.1 Limited access to alternatives

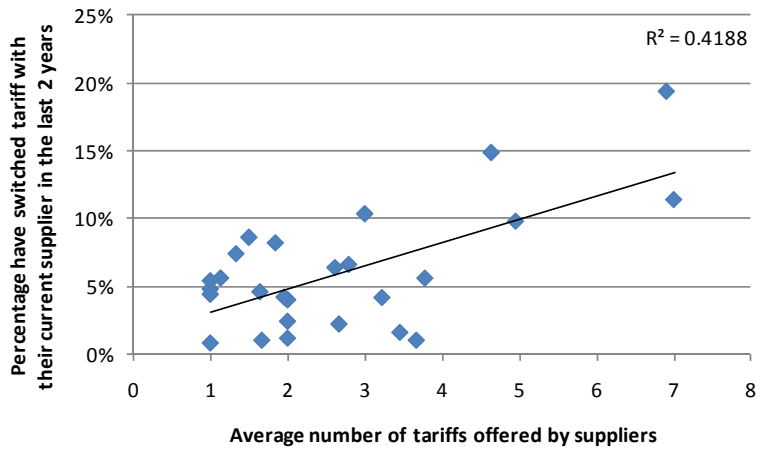
Clearly, the availability of alternative suppliers and tariffs is a prerequisite for switching, but once the choice level is above some threshold level it may not necessarily be the case that more alternatives lead to more switching. Nevertheless, it is expected that switching rates are higher in Member States where many tariffs and suppliers are available.

Below we consider the evidence first in relation to tariff switching with the same supplier and then in relation to supplier switching.

Tariff switching

This conclusion is borne out by the empirical evidence. Consumers generally are more active in terms of switching tariffs with their current supplier in Member States where suppliers on average offer a high number of tariffs (Figure 50), and in Member States where consumers are satisfied with the choice of alternative tariffs offered by their supplier (Figure 51). This suggests that a limited choice of alternative tariffs may hinder tariff switching. However, it should be noted, that this variable does not explain much of the variation on switching rates.

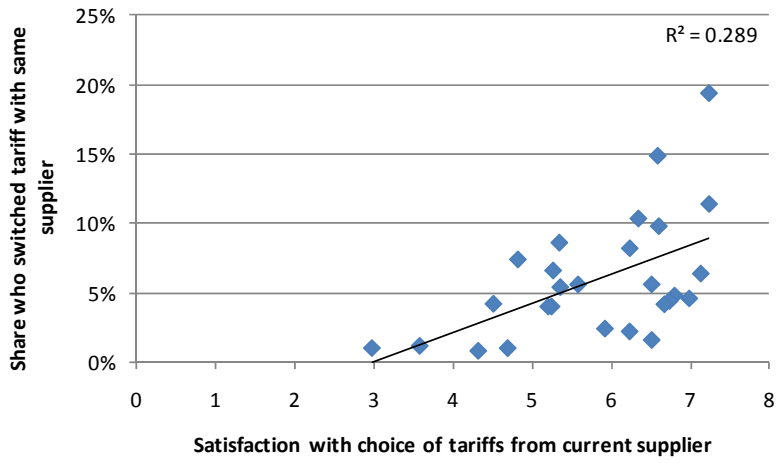
Figure 50: Tariff switching with same supplier vs. average number of tariffs offered by suppliers



Note: The average number of tariffs offered by suppliers is calculated as the average number of tariffs available per consumption level and power intensity considered in the price collection exercise.
Source: ECME Consortium analysis of data from general consumer survey and price collection

[49] The survey was completed by authorities in 20 Member States. The Member States that did not provide a response were Bulgaria, Cyprus, Hungary, Latvia, Malta and the Netherlands. The household markets are currently closed in Cyprus and Malta which implies that no switching is currently possible.

Figure 51: Tariff switching with same supplier vs. satisfaction with choice of tariffs from current supplier



Note: Satisfaction with the choice of tariffs is measured on a scale from 1 to 10, where 10 indicates that consumers think that there is a sufficient choice of tariffs.
Source: ECME Consortium analysis of data from general consumer survey

Supplier switching

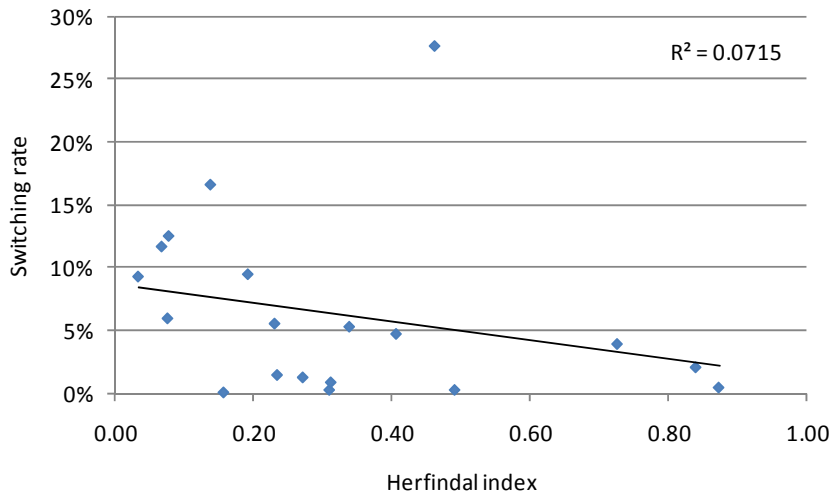
Similarly, when retail electricity markets are highly concentrated, it implies that consumers have a limited choice of suppliers. This may result in lower supplier switching rates. Figure 52 shows that there is indeed a negative link between the Herfindahl index which is a measure of market concentration and the supplier switching rate.

The Herfindahl index may, however, not be a good measure of the availability of alternative suppliers in markets where many suppliers are regional suppliers. Instead data from the mystery shopping exercises have been used as measures of the availability of alternative suppliers.

These data generally lead to similar conclusions:

- In particular there is a positive link between the supplier switching rate in a Member State, the average number of alternative suppliers found by mystery shoppers on the internet (Figure 53), and the average number of offers received by mystery shoppers searching for a cheaper tariff (Figure 54). This suggests that consumers are more active in terms of switching suppliers when they have relatively more alternatives and hence supplier switching, in some countries, may be limited by lack of a sufficient number of alternative suppliers.
- Furthermore, the analysis of the survey results shows that there is a strong positive link between supplier switching and consumer satisfaction with the number of alternative suppliers (Figure 55).

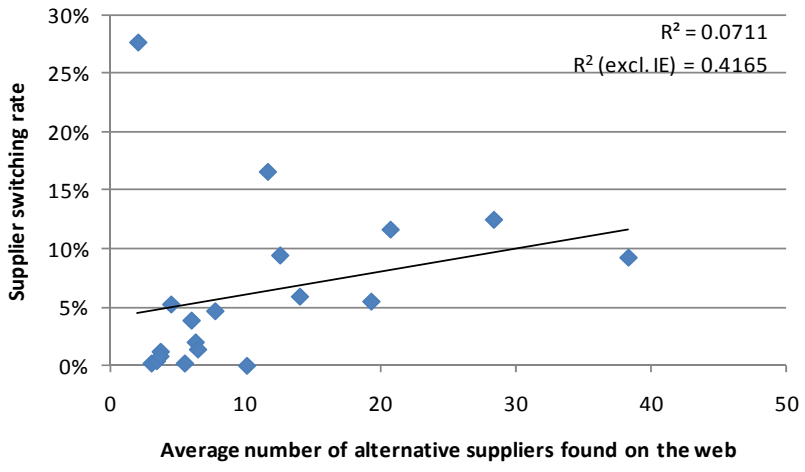
Figure 52: Supplier switching rate vs. Herfindahl index



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2010 but excluding those who switched because they moved house. Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of monopolies or regional monopolies. The Herfindahl index is calculated based on the consumer survey. The data point with switching rate 28% is Ireland.

Source: ECME Consortium analysis of data from consumer survey

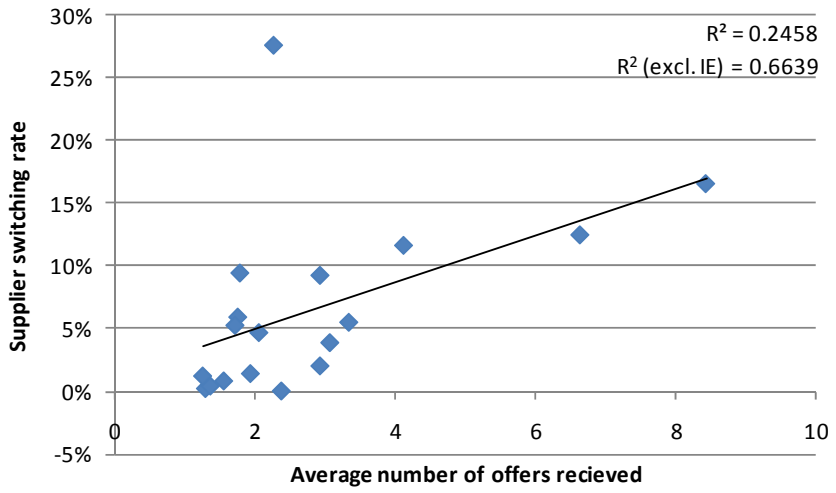
Figure 53: Supplier switching rate vs. average number of alternative suppliers



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2010 but excluding those who switched because they moved house. Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. The Herfindahl index is calculated based on the market shares from the consumer survey. The data point with switching rate at 28% is Ireland.

Source: ECME Consortium analysis of data from consumer survey and mystery shopping exercises

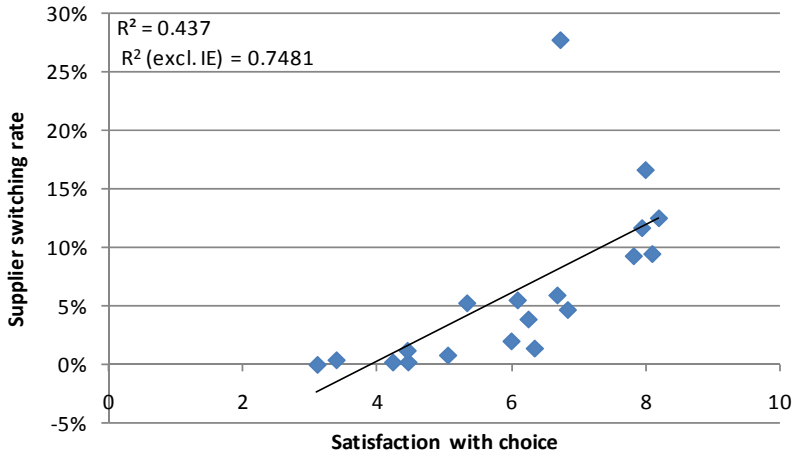
Figure 54: Supplier switching rate vs. average number of offers recived



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2010 but excluding those who switched because they moved house. Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. The Herfindahl index is calculated based on the consumer survey. The data point with switching rate 28% is Ireland.

Source: ECME Consortium analysis of data from consumer survey and mystery shopping exercises

Figure 55: Supplier switching rate vs. satisfaction with choice of suppliers



Note: Satisfaction with the choice of tariffs is measured on a scale from 1 to 10, where 10 indicates that consumers think that there is a sufficient choice of alternative suppliers. Switching rate refers to the percentage of households that switched provider in the two years to July 2010, but excluding those who switched because they moved house. Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. The Herfindahl index is calculated based on the consumer survey. The data point with switching rate at 28% is Ireland.

Source: ECME Consortium analysis of data from consumer survey

3.6.2 Legal and contractual barriers

As discussed in section 3.1 there may be switching barriers related to contract terms and regulation of the retail electricity market. This sub-section explores the extent to which this seems

to be the case in further detail. In particular, the analysis focuses on the effects of regulation on tariffs, irreversibility of switching, and the ability of suppliers to prevent switching.

Regulated tariffs and irreversibility of switching

A possible factor affecting the switching rate is whether prices are regulated. A recent ERGEG report suggested that regulated prices are perhaps the main factor preventing switching, as regulated prices are often set below market prices, so consumers do not have a financial incentive to switch.[50] In particular, in Hungary, Lithuania, Romania, and Slovakia, regulated prices are below the competitive prices, and in Denmark, Portugal and Spain, regulated prices are at a similar level as competitive prices.[51]

Furthermore, according to the ERGEG (2008) report, in Romania consumers are reluctant to switch away from the incumbent supplier because of the irreversibility of leaving the regulated tariffs and entering the competitive market.[52]

Price regulation and irreversibility of switching might thus affect both supplier switching, and switching to different tariffs with the same supplier. We consider the evidence in turn.

Tariff switching

On average, a larger share of consumers switch tariff with their current supplier in Member States without price regulation than in Member States with price regulation. The average share of consumers who have switched tariff in countries with price regulation is 4%, while it is 9% in countries without price regulation (Figure 56).

However, the relationship is not very strong, and a larger share of consumers have switched tariff in the last 2 years in France, Estonia, Denmark, Romania, Italy and Portugal, which are countries with regulated prices, as compared to consumers in Slovenia, Austria and the Czech Republic which are countries without price regulation. Therefore, the irreversibility of switching from regulated tariffs in Romania may not necessarily be a significant barrier to switching.

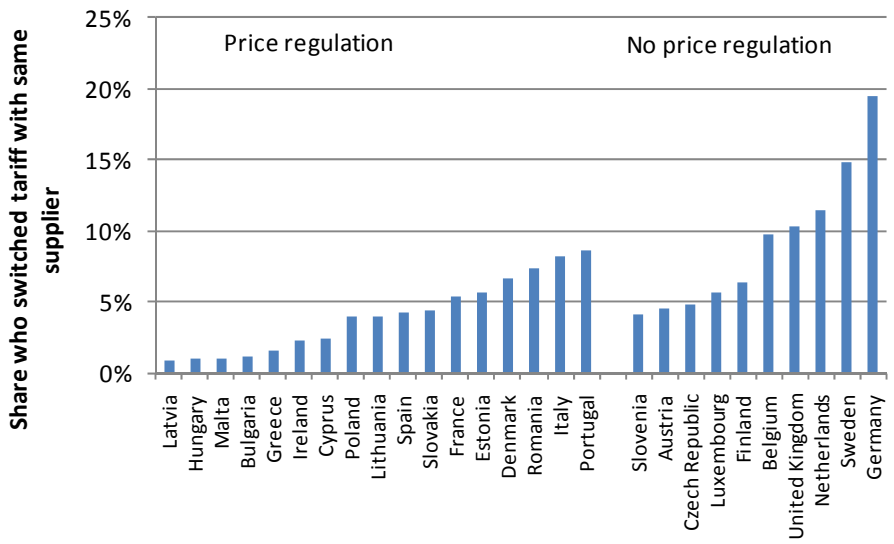
It is also not the case that tariff switching rates are extraordinarily low in Hungary, Lithuania, Romania and Slovakia where regulated prices are below competitive prices.

[50] ERGEG (2008), "*Obstacles to supplier switching in the electricity retail market Guidelines of Good Practice and Status Review 10 April 2008*".

[51] According to the ERGEG report "Status Review of End-User Price Regulation as of 1 July 2008" (2009).

[52] This was also mentioned for France in ERGEG (2008). However, consumers in France have recently gained the right to switch back.

Figure 56: Tariff switching with same supplier vs. price regulation



Note: Supplier switching rate refers to percentage of consumers who have switched supplier within the last 2 years from mid 2010 (excluding those who switched because they moved house).
Source: ECME Consortium analysis of data from consumer survey

Switching suppliers

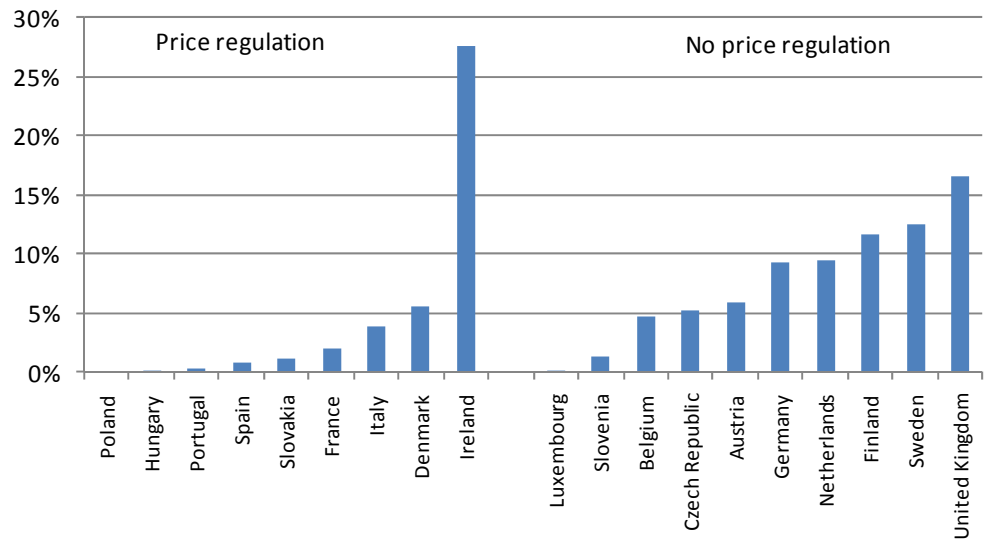
The average supplier switching rate in countries without regulated prices is 8% (percentage of households that switched supplier in the two years to mid 2010), compared to an average of 5% in countries with regulated prices (Figure 57).[53]

However, there are significant differences between countries within these two groups. For example, Ireland, where there are regulated prices, has the highest switching rate of all. In this case, it is likely that this is because the regulated price of the incumbent is sufficiently high. If Ireland is excluded from the analysis, the average for countries with regulated prices is 2%.

It is important to consider why there are low switching rates in a number of markets where prices are regulated. Several markets with regulated prices were only liberalised recently, and there is likely to be some lag between market opening and switching taking off (partly because it takes time for new suppliers to enter the liberalised market and for consumers to become familiar with the functioning of the liberalised market).

[53] These averages exclude Cyprus, Estonia and Malta, as the household retail market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies.

Figure 57: Supplier switching rates vs. price regulation



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2010 but excluding those who switched because they moved house. Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies.

Source: ECME Consortium analysis of data from consumer survey

Ability of former suppliers to hinder the switching process

In some circumstances incumbent suppliers may be able to object to a switch to a new supplier and this may reduce switching rates. An ERGEG survey of regulators from 2007 shows that, in over half of countries that responded to the relevant question in the survey, the incumbent supplier had a right to object to the implementation of a supplier switch.[54] It should be noted that the data refer to the situation in 2007 and there may have been changes to regulation in the area since. Therefore, in order to ensure comparability we use the switching rate based on Flash Eurobarometer 282 which is equivalent to the share of consumers who switched supplier in the period between July 2007 and July 2009

In countries where the former supplier could not object to the implementation of the supplier switch, the average switching rate is 9%, compared to 7.5% where the former supplier can object.[55]

[54] ERGEG (2008), "*Obstacles to supplier switching in the electricity retail market Guidelines of Good Practice and Status Review 10 April 2008*". The survey of regulators was issued in June 2007.

[55] These averages are lower as there is no information on cancelation for the United Kingdom so the United Kingdom is not included in the averages. Estonia is not included in the averages as the household market segment is currently closed and we have no reliable information on the scope for switching suppliers.

Table 15: Incumbent supplier's ability to object to the implementation of a supplier switch		
Former supplier had ability to object:	**Number of countries[1]**	**Mean switching rate[2]**
No	8	9.0%
Yes (total)	10	7.5%
Yes - no caveat	4	3.5%
Yes - If the customer already has a valid fixed-time contract	2	19.5%
Yes - in case of customer debt to the former supplier	1	2.0%
Yes - in case of customer debt to the former supplier, if it is a last resort supplier	1	0.0%
Yes - in case of error or customer debt to the former supplier	1	4.0%
Yes - in case of error	1	16.0%

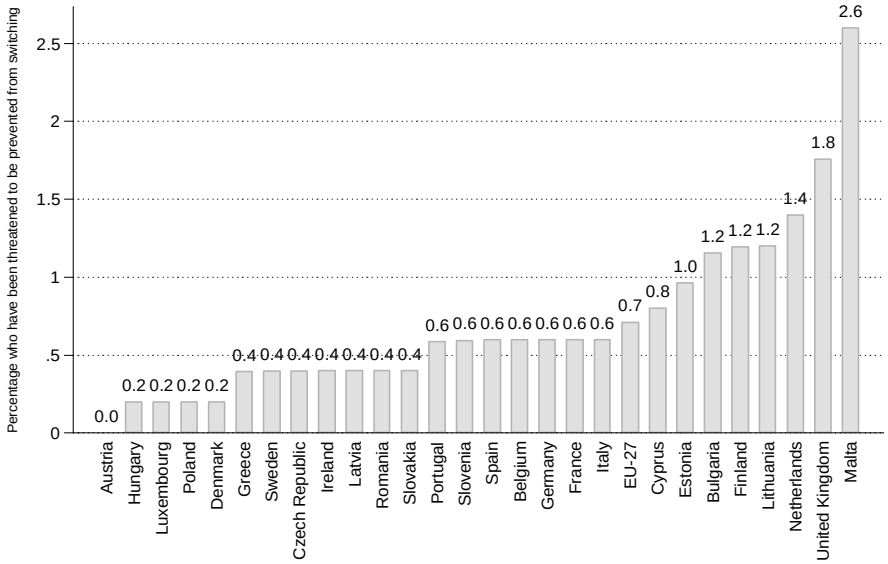
Note: [1.] Out of 18 Member States with open household retail markets that replied to the relevant question in the ERGEG survey. [2.] Switching rate refers to the percentage of households that switched provider in the two years to July 2009 and is based on Flash Eurobarometer number 282.

Source: ECME Consortium analysis of data from ERGEG (2008) and Flash Eurobarometer 282.

The results of the survey undertaken for this study indicate that very few people in practice have been threatened by their incumbent supplier to be prevented from switching (Figure 58). The estimates of the share of consumers who have been threatened to be prevented from switching, range from 0% of consumers in Austria to 2.6% of consumers in Malta (where switching is not possible).

These data suggest that being prevented from switching supplier by the incumbent supplier does not constitute a significant barrier to switching. This conclusion is also supported by the fact that the relationship between the share of consumers who have been threatened to be prevented from switching and the supplier switching rate is very weak and non-negative (Figure 59).

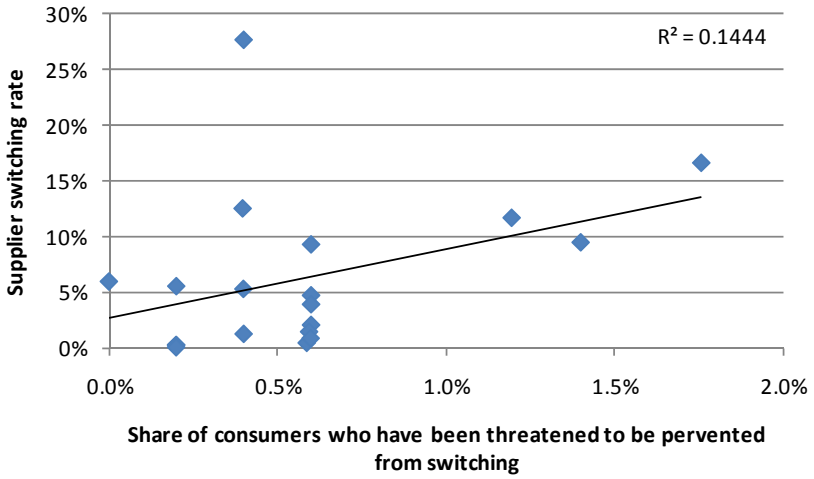
Figure 58: Percentage who have been treatened by supplier to be prevented from switching supplier



Note: Based on Q14.7: My provider threatened to prevent me from switching to another provider. EU-27 calculated as a weighted average using 2010 Eurostat population figures as weights.

Source: ECME Consortium analysis of data from general consumer survey.

Figure 59: Switching rate vs. share of consumers who have been threatened to be prevented from swtiching supplier



Note: Supplier switching rate refers to percentage of consumers who have switched supplier within the last 2 years from mid 2010 (excluding those who switched because they moved house). Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies.

Source: ECME Consortium analysis of data from general consumer survey.

3.6.3 Lack of information or access to information

To enable consumers to make decisions about switching, it is not only important that there are alternative suppliers and tariffs but that consumers also have the contractual rights to switch. It is also important that consumers are aware of the alternatives and how they can switch to an alternative supplier. This subsection analyses the relationship between switching rates and awareness and access to information.

Alternative suppliers

It is expected that easier access to information for about alternative suppliers will be associated with higher levels of supplier switching.[56] Information about alternative suppliers would generally either be sought by consumers from different suppliers or be provided by third-party organisations such as regulators, other public bodies or independent bodies. For example, many regulators in the EU-27 provide a price comparison tool which allows consumers to compare offers from different suppliers. In addition, regulators often provide names and contact details for suppliers.

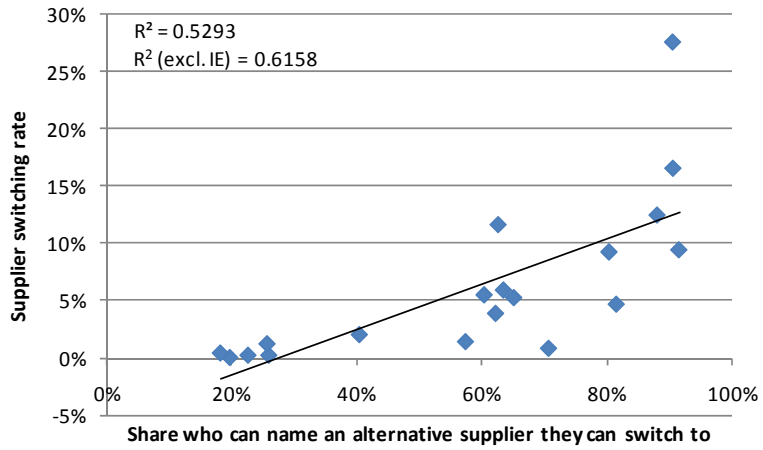
The survey results show a clear positive association between the share of consumers who can name an alternative supplier they can switch to and the supplier switching rate. One could argue that this result does not lead to the conclusion that higher awareness of alternative suppliers lead to higher supplier switching rates because the causality may be the other way around, i.e. consumers who have switched are more likely to be able to name a supplier because they have switched. However, the relationship holds even if the share of consumers who can name alternative suppliers is calculated based only on the sub-sample of consumers who have not switched supplier in the last 2 years.[57]

Price comparison sites may be an important source of information for consumers when switching electricity supplier. Analysis of the data collected for this study shows that there is a slight tendency for switching rates to be higher in Member States where a large share of mystery shoppers found a price comparison tool online (Figure 61). This suggests that the existence of price comparison tools may increase supplier switching rates.

[56] A similar argument could be made with respect to access to information about alternative tariffs and tariff switching rates. However, this is not borne out by the empirical evidence.

[57] In fact, the correlation between the two estimates of the share of consumers who can name an alternative supplier is 0.9996 which is equivalent to almost perfect correlation.

Figure 60: Supplier switching rate vs. share of consumers who can name an alternative supplier they can switch to



Note: Supplier switching rate refers to percentage of consumers who have switched supplier within the last 2 years from mid 2010 (excluding those who switched because they moved house). Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. The outlier with 28% a switching rate is Ireland.
Source: ECME Consortium analysis of data from general consumer survey.

Figure 61: Supplier switching rate vs. share of mystery shoppers who found a price comparison tool

Note: Supplier switching rate refers to percentage of consumers who have switched supplier within the last 2 years from mid 2010 (excluding those who switched because they moved house). Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. The outlier with 28% a switching rate is Ireland.
Source: ECME Consortium analysis of data from general consumer survey and mystery shopping exercises.

Switching procedures and conditions

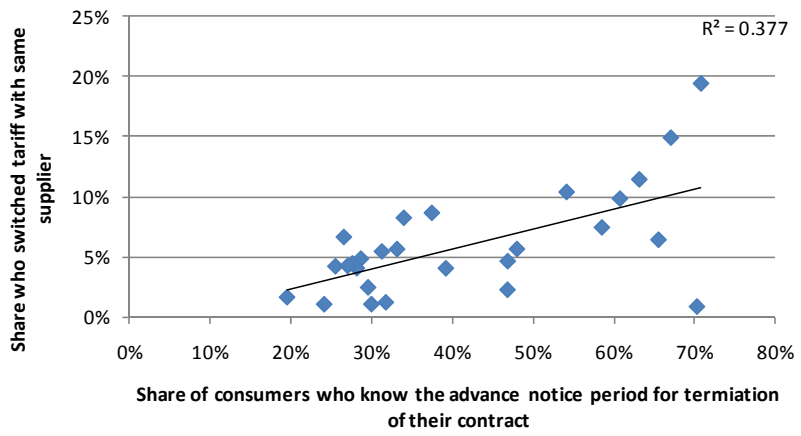
Another important area of information for consumers is information on the switching process. Consumers can try to obtain this information from suppliers or from other bodies. Information collected in the general consumer survey undertaken for this study, and the mystery shopping

exercises, provide evidence in relation to awareness of switching conditions and access to information about switching conditions from suppliers. In addition, this section considers evidence from the ERGEG (2008) report in relation to information about switching procedures provided by other organisations.

Information about switching procedures from suppliers

One source of information about switching procedures and conditions are the contracts between suppliers and consumers. The evidence shows that there is a positive link between awareness of the advance period that consumers must give when terminating their contact and switching rates. In particular, there is a positive correlation between the share of consumers who know the advance notice period of their contract and the share of consumers who have switched tariff with the same supplier or switched supplier within the last 2 years (Figure 62 and Figure 63, respectively).

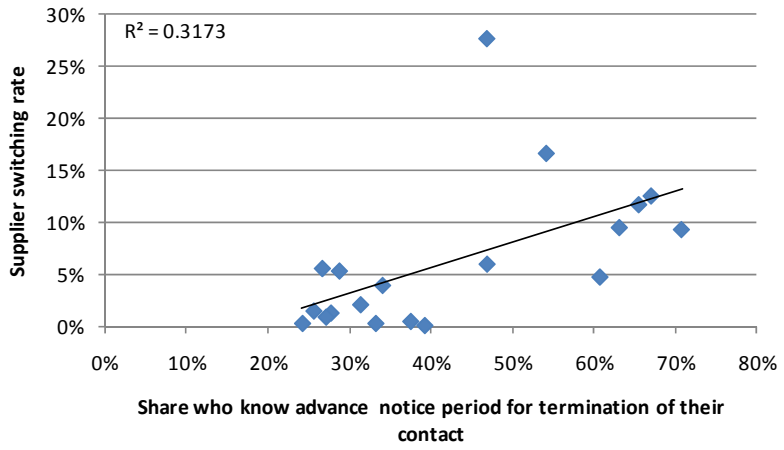
Figure 62: Share who have switched tariff with the same supplier vs. share of consumers who know the advance notice period of their contract



Note: Share of consumers who have switched tariff with the same supplier refers to tariff switches within the last 2 years from mid 2010.

Source: ECME Consortium analysis of data from general consumer survey.

Figure 63: Supplier switching rate vs. share of consumers who know the advance notice period of their contract



Note: Supplier switching rate refers to the percentage of consumers who have switched supplier within the last 2 years from mid 2010 (excluding those who switched because they moved house). Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. Approximately 50 mystery shopping exercises were undertaken per Member State. The outlier with a switching rate at 28% is Ireland.

Source: ECME Consortium analysis of data from general consumer survey.

Consumers who require clarification about switching procedures can contact their supplier. Mystery shoppers were asked to contact their supplier to get clarification for a number of questions related to supplier switching and record the time it took for them to get the appropriate answers.

In most cases, mystery shoppers received a clear answer regarding the termination policy (overall 76%) but this was less frequently the case in Hungary, where only 38% received a clear answer Table 16).

Generally, the answer was consistent with the general terms and conditions of the contract and there is some evidence that supplier switching rates are higher in Member States where consumers are able to obtain a clear answer about the termination policy (Figure 64).

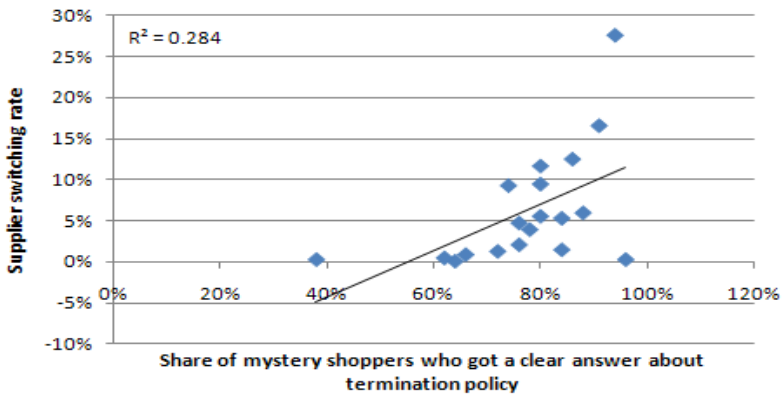
Table 16: Termination policy

Country	Received a clear answer on termination policy	Answer was consistent with general terms and conditions of the contract
Austria	88%	96%
Belgium	76%	74%
Czech Republic	84%	90%
Denmark	80%	78%
Finland	80%	86%
France	76%	82%
Germany	74%	76%
Hungary	38%	54%
Ireland	94%	94%
Italy	78%	76%
Luxembourg	96%	94%
Netherlands	80%	68%
Poland	64%	74%
Portugal	62%	65%
Slovakia	72%	82%
Slovenia	84%	80%
Spain	66%	84%
Sweden	86%	94%
United Kingdom	91%	89%
EU-27	76%	80%

Note: Approximately 50 mystery shopping exercises were undertaken per Member State. EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights. This mystery shopping exercise was not undertaken in Estonia, Latvia, Lithuania, Bulgaria, Cyprus, Greece, and Romania.

Source: ECME Consortium analysis of data from mystery shopping exercises.

Figure 64: Supplier switching rate vs. share of mystery shoppers who received a clear answer to questions about termination policy



Note: Supplier switching rate refers to percentage of consumers who have switched supplier within the last 2 years from mid 2010 (excluding those who switched because they moved house). Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. The outlier with a 28% switching rate is Ireland.

Source: ECME Consortium analysis of data from general consumer survey.

Getting information about switching procedures from regulators and other bodies

Every Member State that responded to the ERGEG survey of regulators from 2007 said that information on the steps consumers need to take to change supplier is available on the website of the regulator or another authority, and, in most cases, this information is also provided by some other organisation (such as consumers organisations). Furthermore, in the majority of cases, this information is provided by suppliers and also often by the distributor (Table 17).

In each case, the average switching rate for the period from July 2007 to July 2009 is higher among countries where this information is provided by the different organisations relative to countries where it is not. Note that the switching rate from Flash Eurobarometer 282 is used to ensure at least some overlap between the period that the switching rate refers to and the time of the data collection for the ERGEG survey.

Table 17: Where customers can find information about what steps they need to take in order to change supplier

Source of information	Information provided by source	Number of countries[1]	Average switching rate
Website of national authority[2]	No	0	n.a.
	Yes	18	9.9%
Other independent organisation[3]	No	5	4.2%
	Yes	11	13.1%
Suppliers[4]	No	1	2.0%
	Yes	14	11.6%
DSO[5]	No	7	5.9%
	Yes	9	13.8%

Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2009. [1.] Out of 19 Member States with open household retail markets that replied to the ERGEG survey. [2.] Regulator or other relevant national authority (e.g. government) – one missing observation. [3.] Information made available by consumers, energy, environmental organisations or private players (e.g. websites) – three missing observations. [4.] Four missing observations. [5] Three missing observations.
Source: ERGEG (2008) and Flash Eurobarometer 282.

3.6.4 Complicated and costly switching procedures

Complicated and costly switching procedures may also serve as a barrier to switching. Generally consumers would be expected to benefit from switching tariff and/or supplier if the gains associated with the switch are higher than the costs associated with switching. However, complicated and costly procedures and processes would generally be expected to make switching less attractive to the individual consumer.

It should be mentioned that the Unfair Commercial Practices Directive prohibits any administrative (non-contractual) barriers imposed by suppliers where a consumer wishes to exercise rights under

the contract, including rights to terminate a contract or to switch to another tariff or supplier[58]. This effectively means that suppliers cannot legally complicate switching procedures excessively.

In this subsection we consider the effects on supplier switching rates of:

- Contract termination fees.
- Number of parties that must be contacted.
- Duration of switching process.
- Communication between DSO and supplier.

The results illustrate that supplier switching may be facilitated by improved switching procedures. In particular, the univariate analysis illustrates that switching rates are generally higher in Member States where

the switching process is relatively short; and

where communication between DSOs and suppliers is efficient.

Contract termination fee

Mystery shoppers were asked to find out whether a termination fee would be involved for them when terminating their contract.

- In Hungary, Slovakia, Slovenia and Spain there was no termination fee involved for any mystery shoppers.
- In Austria, France, Germany, the Czech Republic, Luxembourg, and Portugal less than 5% of mystery shoppers reported that there would be a termination fee involved if they wanted to terminate their contract.
- In comparison in Belgium, the Netherlands, Sweden and the United Kingdom, a termination fee was involved in 25-50% of the cases.

There was large variation in the magnitude of the termination fee, ranging from €0 in Poland to €120 in Germany. This may be partly due to the fact that there are relatively few observations for each Member State which can be used to calculate the average.

Furthermore, the application of termination fees may depend on the specific contact type and therefore, due to the small sample size in the mystery shopping exercise, the results may not be representative for the country as a whole. Therefore, care should be taken when interpreting the results. This might also explain why, contrary to what would be expected, there appears to be a weak positive link between the share of mystery shoppers who report that a termination fee applies and the supplier switching rate.[59]

[58] The use of administrative barriers to switching is a factor which should be included in an assessment of whether companies used unfair commercial practices according to Article 9 or the Unfair Commercial Practices Directive.

[59] Using the supplier switching rate from the survey undertaken for this study the correlation is 0.344. The switching rate refers to the percentage of consumers who have switched in the 2 years until mid 2010 excluding those who switched because they moved house.

Table 18: Termination fee

Country	A termination fee was involved	Size of termination fee[1]	
		Mean (in €)	Standard Deviation
Austria	4%	24	0
Belgium	50%	99.08	119.08
Czech Republic	4%	:	:
Denmark	6%	65.98	1.94
Finland	14%	23.41	52.35
France	4%	15	0
Germany	2%	120	.
Hungary	0%	:	:
Ireland	10%	77.74	37.56
Italy	14%	14.93	7.68
Luxembourg	2%	95	.
Netherlands	44%	82.21	71.57
Poland	12%	0	0
Portugal	2%	:	:
Slovakia	0%	n.a.	n.a.
Slovenia	0%	n.a.	n.a.
Spain	0%	n.a.	n.a.
Sweden	32%	34.47	26.54
United Kingdom	26%	30.78	21.99
Eu-27	11%	47.39	75.30

Note:[1.] Calculated only based on responses from those who said that a termination fee was involved. Approximately 50 mystery shopping exercises were undertaken per Member State. EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights. This mystery shopping exercise was not undertaken in Estonia, Latvia, Lithuania, Bulgaria, Cyprus, Greece, and Romania.
Source: ECME Consortium analysis of data from mystery shopping exercises.

Number of parties consumers must contact

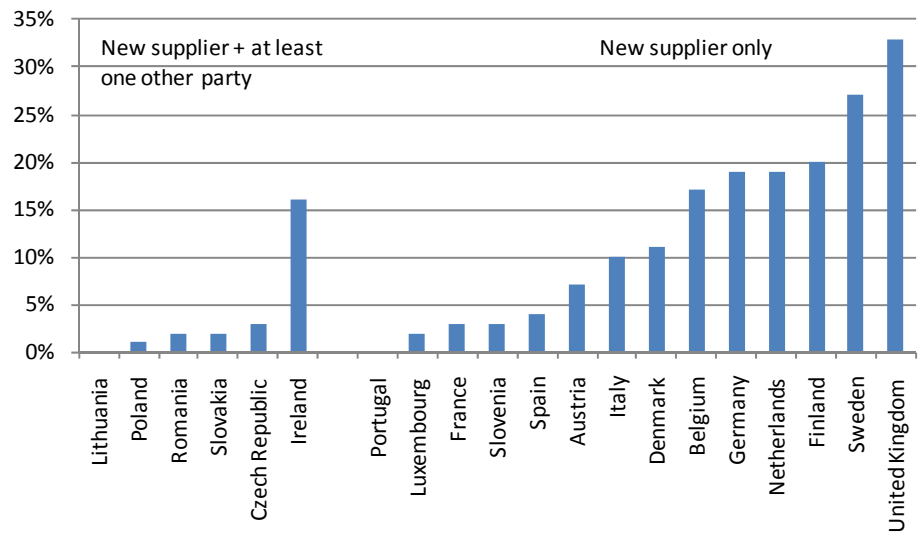
Consumers may also be less willing to switch contract if the process is very cumbersome and this may be a deterrent if they are required to contact many different parties in order to switch. According the 2007 ERGEG survey, in most countries consumers only needed to contact the new supplier. However, in several cases consumers also need to contact the former supplier and/or the DSO.[60]

Comparing this information with the switching rates for the period between July 2007 and July 2009, switching rates are higher in countries where fewer parties need to be contacted by the consumer (Figure 65). For countries where consumers only need to contact the new supplier the average switching rate is 12%, whereas for countries where consumers need to contact the new supplier and at least one other party (the former supplier and/or the DSO) the average switching rate is 4%.

[60] For the Czech Republic, Luxembourg, Slovakia and Slovenia, the information on the number of parties that consumers must contact in order to switch is taken from the country fiches in Annex A. This information has also been added for the Netherlands from the country fiche.

However, most countries where consumers need to contact more than one party are Eastern European countries where the market has only recently been opened. In Ireland, where both the new supplier and the DSO must be contacted, the switching rate is notably higher than in several countries where only the new supplier needs to be contacted.

Figure 65: Percentage of households who switched electricity provider between July 2007 and July 2009: parties consumers had to contact in order to switch in 2007



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2009 from Flash Eurobarometer 282. Cyprus, Estonia and Malta are not included as the household market is closed in these countries. For the Netherlands, information on the number parties is taken from the desk research.
Source: ERGEG (2008), Flash Eurobarometer 282 and country fiches in annex A

Duration of switching procedure

Another barrier to switching is the length of time required to switch suppliers. A long switching process may put consumers off from switching because it creates uncertainty about whether the switch will be a success and whether the new deal will still be the best once the switch is complete.

A comparison of information collected through the 2007 ERGEG survey with switching rates in different countries between July 2007 and July 2009 suggests there might be a link between shorter switching processes and higher switching rates. Countries where the process typically took less than a month had higher switching rates on average (Table 19). However, there is a significant outlier (Belgium), which had one of the most time-consuming switching processes (2 months), whilst at the same time the fourth highest switching rate (17%).

Table 19: Typical duration of the switching process in 2007 vs. supplier switching rate for the period from July 2007 to July 2009

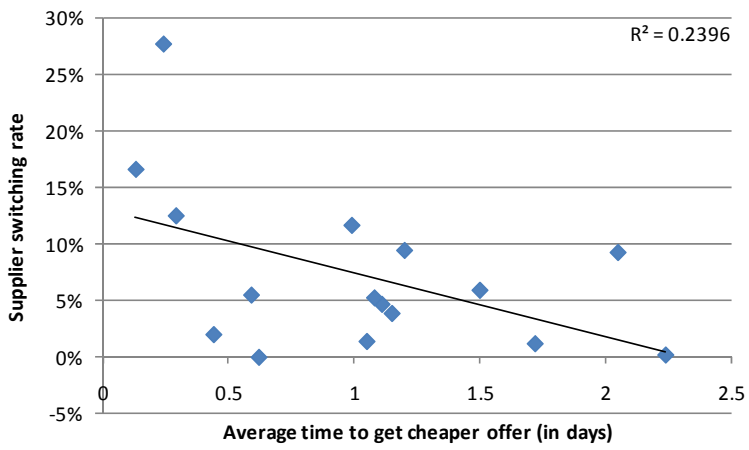
Duration	Number of countries[1]	Mean switching rate
less than 1 month	5	16.6%
1 month	1	0.0%
1 –2 months	11	7.1%
2 months	1	17.0%
more than 2 months	1	2.0%

Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2009 from Flash Eurobarometer 282. [1.] Out of 19 Member States with open household retail markets that replied to the ERGEG survey.

Source: ERGEG (2008) and Flash Eurobarometer 282.

Furthermore, an analysis of the results from the data collected as part of the mystery shopping exercises show that supplier switching rates tend to be lower in countries where, on average, it took mystery shoppers a relatively long time to obtain a cheaper offer (Figure 66). However, the correlation is not significant in a statistical sense.

Figure 66: Supplier switching rate vs. average time taken by mystery shoppers to get a cheaper offer



Note: Supplier switching rate refers to percentage of consumers who have switched supplier within the last 2 years from mid 2010 (excluding those who switched because they moved house). Cyprus, Estonia and Malta are not included as the household market is closed in these countries. Latvia, Lithuania, Romania, Bulgaria and Greece are also excluded as switching is limited by the existence of national or regional monopolies. The outlier with a 28% switching rate is Ireland.

Source: ECME Consortium analysis of data from general consumer survey.

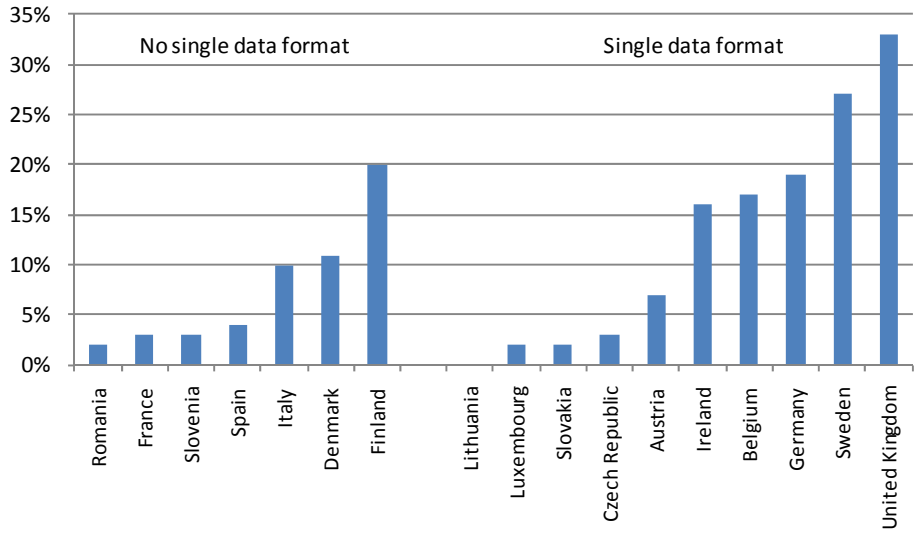
Communication between suppliers and the DSO

In order for the switching process to work quickly, the transfer of information between suppliers and DSOs must be efficient. The ERGEG (2008) report highlights the case of the United Kingdom where an automatic process is vital for processing the large number of switches that take place every month.

A factor that is essential for ensuring efficient transfer of information is the use of a single harmonised data format by suppliers and the DSO. According to the 2007 ERGEG survey, in 10 countries there is a legally binding data format used throughout the market.

A comparison of results of the ERGEG survey with switching rates for the period July 2007 to July 2009 shows that switching rates were higher where there is a single data format used by suppliers and the DSO (Figure 67). The average switching rate for these countries is 12.6%, compared to 7.6% for countries where no common format is used.

Figure 67: Percentage of households who switched electricity provider in the two years to July 2009: use of a single legally/regulatory binding data format throughout the market



Note: Switching rate refers to the percentage of households that switched provider in the two years to July 2009. Cyprus, Estonia and Malta are not included as the household market is closed in these countries.
Source: ERGEG (2008) and Flash Eurobarometer 282.

3.7 Determinants of supplier switching

This section brings together the discussion in the previous sections of this chapter and analyses determinants of switching in two multi-variate regression models. Firstly, cross-country differences in supplier switching rates are analysed at the country level. Secondly, this analysis is extended to the household level with an analysis of the factors which determine whether or not individuals have switched supplier within the last two years.

3.7.1 Explaining cross country differences in switching rates

The analysis of possible barriers to switching has suggested that there are a number of different variables which may explain cross-country differences in supplier switching rates over the past 2 years. This section uses a regression analysis to determine which of these factors are most important in terms of determining supplier switching rates. Before presenting the regression results, we briefly review the data and the estimation approach.

Data and sample used for regression

Dependent variable

The regression analysis is constructed to explain differences in the household supplier switching behaviour. Therefore, the dependent variable in the regression is the percentage of consumers who have switched supplier in last 2 years from mid 2008 to mid 2010 but excluding those who have switched supplier because they moved house. The switching rate is based on the data collected in the consumer survey undertaken for this study. As explained previously, consumers who switch supplier because they move house may be motivated by different factors as compared to consumers who switch for other reasons and, in some countries, may be required to switch supplier for structural market reasons.

Sample selection

The analysis focuses only on countries in which supplier switching is an actual possibility and excludes Bulgaria, Cyprus, Estonia, Greece, Latvia, Lithuania, Malta and Romania as these countries either have closed retail electricity markets, national or regional monopolies. This reduces the sample of countries included in the analysis to 19 countries.

Furthermore, the analysis in this chapter has shown that Ireland may be considered an outlier with much higher switching rates than in other countries. Therefore, in order to make sure that this outlier does not bias the parameter estimates, we exclude Ireland from the baseline model but we also show all regression results including Ireland.

Explanatory variables

Evidence from the analysis in this section is used to guide the selection of explanatory variables to be considered for the empirical analysis. The explanatory variables which were considered in the model selection stage of the analysis are summarised in Table 20. Details of how the variables are defined are included in Annex 6.

A large number of the variables in Table 20 are related to possible barriers to supplier switching which were analysed in the previous section. However, it should be noted that that the analysis does not include variables from ERGEG's 2007 recent survey of regulators. The reason is that the information collected in the survey relates to switching procedures as they were in 2007 and since many markets liberalised in 2007 there may have been significant changes to the procedures since. As a result, the information related to switching procedures may not have been relevant in the period that our dependent variable relates to.

In addition, it should be mentioned that the percentage of mystery shoppers who reported that a termination fee applied to their contact is not included in the analysis for two reasons. Firstly, the analysis in the previous section showed a very weak relationship with supplier switching rates, and secondly, due to the low number of mystery shopping exercises undertaken, it is not clear that the estimate is representative of the share of contracts with termination fees in each of the Member States.

In addition to the variables related to potential barriers, the analysis includes a number of additional variables. Firstly, variables related to the financial incentive to switch are included. Consumers would be expected to be more likely to switch if they expect significant potential

savings from switching and if there is high price dispersion (measured either by the range of prices or by the standard deviation of prices) among suppliers.

Secondly, consumers may be less likely to switch if they feel that the choice between different suppliers is very difficult. Hence, we would expect that the supplier switching rate is increasing in the percentage of consumers who think that it is easy to compare offers from different suppliers.

Third, as discussed previously in this chapter, consumers may choose not to switch if they are very satisfied with their supplier. As a proxy for satisfaction with suppliers we include the percentage of consumers who indicate in the consumer survey that the serviced provided by their supplier lives up to what they want.

Finally, we include the years since liberalisation as a measure of the maturity of the liberalised market. As argued earlier, switching rates may be expected to increase over time as the market adjusts to the possibility of switching.

Table 20: Possible determinants of supplier switching		
Possible barrier	**Description of variable used**	**Source**
Access to alternatives	Herfindahl index	Consumer survey
	Cumulative market share of four largest suppliers (C4)	Consumer survey
Legal and regulatory barriers	Price regulation dummy	Desk research
	% of consumers who have been threatened to be prevented from switching supplier	Consumer survey
Awareness and access to information	% who can name an alternative supplier they can switch to	Consumer survey
	% of mystery shoppers who found an online price comparison tool	Mystery shopping
	% of consumers who know the advance notice period for termination of their contract	Consumer survey
	% of mystery shoppers who got a clear answer to question about termination policy	Mystery shopping
	% of consumers who are generally well informed about retail electricity market	Consumer survey
Complicated and costly switching procedures	Average time taken by mystery shoppers to get an alternative offer	Mystery shopping
Other variables		
Financial incentives	Average annual savings in Euros which are possible if switching supplier	Mystery shopping
	Standard deviation of prices	Price collection
	Difference between maximum and minimum prices	Price collection
Complexity of choice	% of consumers who say that it is easy to compare offers from different suppliers	Consumer survey
Satisfaction	% of consumers who say that the services offered by electricity suppliers live up to what they want	Consumer survey
Maturity of liberalised market	Years since liberalisation (as of 2010)	Desk research

Approach to the empirical analysis

Given the very limited number of observations (18 excluding Ireland) and the relatively large set of possible explanatory variables (16), a general-to-specific modelling approach is not feasible in this case. Due to the limited number of observations the results of the general model with all explanatory variables might be questionable as there would, in general, be too few degrees of freedom to make meaningful tests of the statistical significance.

Therefore, a preliminary analysis was undertaken where a number of regressions were run with each of the variables in Table 21 included separately as single explanatory variables to explain cross-country variation in switching rates.

Following this, variables which seem to have a statistically significant effect on prices, based on the results of the preliminary analysis, were entered together as explanatory variables in a single

regression. This was then used as the general model in a general-to-specific model selection where insignificant variables were sequentially eliminated from the model.

It should be noted that specification tests of the model, excluding Ireland, suggests that the error terms of the general model are not normally distributed whereas they are in the model including Ireland (Table 21). This might be seen as an argument for including Ireland in the baseline model. However, as argued above, Ireland is a significant outlier and inclusion of Ireland in the baseline model could lead to significant biases in parameter values.

As the error terms are not normally distributed, care must be taken when making statistical inference and when reducing the model from the general to the reduced model. However, the estimator is still consistent and unbiased even though the error terms are not normally distributed. To overcome possible problems associated with non-normality of the error terms, the modelled R^2 and adjusted R^2 are monitored during the model selection in order to ensure that variables which explain a significant part of the variance in the data are not excluded.

All regression models are estimated by OLS.

Regression analysis

The preliminary analysis shows that the following variables are statistically significant at the 10% level of significance when entered on their own in the baseline regression excluding Ireland:

- The percentage of consumers who can name an alternative supplier.
- The number of years since liberalisation (as of 2010).
- The market share of four largest suppliers.
- A price regulation (dummy).
- The percentage of consumers who are generally well informed about retail electricity market.
- The percentage of consumers who say it is easy to compare offers from different providers.
- The percentage of mystery shoppers who found a price comparison tool online.
- The percentage of mystery shoppers who got a clear answer to questions about termination policy.
- The percentage of consumers who have been threatened to be prevented from switching supplier.
- Herfindahl Index of supply market.
- The average annual savings in Euros which are possible if switching supplier

The regression results for these variables are included in Annex 6.

Interestingly, the variable related to satisfaction with suppliers was not significant. This suggests that, either, consumers in countries where switching rates are high are not more or less satisfied than consumers in other countries.

Finally, a few variables related to possible barriers to switching were not significant in the preliminary analysis:

- The percentage of consumers who know the advance period of their contact.
- The percentage of consumers who feel generally well informed.
- The average time taken by mystery shoppers to obtain an alternative offer.

It should be mentioned that there were slight differences between the regressions including and excluding Ireland. For example, the percentage of satisfied consumers was statistically significant in the regressions including Ireland and the Herfindahl index. The cumulative market share of the four largest suppliers, and the percentage of mystery shoppers who had found a price comparison tool were also not significant variables.

The statistically significant variables in the preliminary analysis, excluding Ireland, were included in a general model which was then reduced sequentially to the following baseline model where all explanatory variables are significant at the 10% level of significance:

$$switching_{,j} = c_i + \beta_1(\%\ of\ consumers\ who\ can\ name\ an\ alternative\ supplier)_j + \beta_2(years\ since\ liberalisation)_j + \beta_3(cumulative\ market\ share\ of\ 4\ largest\ suppliers)_j + \varepsilon_i$$

The regression results and test statistics are provided in Table 21 for the general model and the reduced model. It should be noted that the R^2 is very high in both the general and reduced baseline models. This suggests that the baseline model is able to explain most of the variation in the data, and that the variables, which were excluded from the reduced model, provided very little additional explanatory power.

Discussion of results

When controlling for other factors, the estimation results indicate that only awareness of other alternatives (% of consumers who can name an alternative supplier), the maturity of the market (years since liberalisation) and the market share of the four largest suppliers are important in terms of explaining cross-country differences in switching rates.

As would be expected, there is a positive association between awareness of alternatives and the switching rate. An obvious prerequisite for switching electricity provider is knowledge of the alternatives. The more widespread the information about actual alternatives is at the national level, the higher are the observed switching rates. While this correlation by itself is hardly surprising it is noteworthy that once we account for the level of awareness about alternatives other variables relating to awareness show no statistically significant relationship with the rate of switching.

Furthermore, as expected, supplier switching rates increase with the maturity of the liberalised market. Given that we control for the extent of information dissemination about alternative supply options by including the level of awareness about alternative suppliers, the length of time for which a market has been liberalised does not appear to simply account for the additional time consumers had to learn about the existence alternative suppliers. It might instead account for the fact that consumers become more familiar with the switching process, improved switching procedures and improved regulatory environment.

Lastly, the degree of market concentration, as measured by the joint market share of the four largest suppliers, has a statistically significant positive effect on households' propensity to switch suppliers. This is perhaps surprising, as high market concentration may be seen as a measure of

few alternative suppliers. However, at the same time, large market shares of the four largest suppliers may also mean that there are large alternatives to the incumbent supplier and this may make switching more appealing.

Table 21: Cross-country supplier switching regressions

Explanatory variable	% of households who switched supplier (consumer survey) Baseline (without Ireland)		% of households who switched supplier (consumer survey) (with Ireland)	
	General model	Reduced model	General model	Reduced model
% of consumers who can name an alternative supplier	0.0802** (3.67)	0.0927*** (6.03)	0.0997* (2.58)	0.152** (3.53)
Years since liberalisation (as of 2010)	0.0124** (4.39)	0.0141*** (6.85)	0.0170** (3.57)	0.0198** (3.30)
Market share of four largest suppliers	0.0660 (1.24)	0.116** (3.35)	0.0970 (1.01)	0.271* (2.85)
Price regulation (dummy)	0.0253 (1.36)		0.0928** (4.87)	
% of consumers who are generally well informed about retail electricity market	0.0332 (0.37)		0.291* (2.40)	
% of consumers who say it is easy to compare offers from different providers	0.0282 (0.47)		0.115 (1.12)	
Price comparison tool	-0.0731 (-1.48)		-0.224** (-3.50)	
Clear found answer to termination policy	0.106 (2.02)		0.258** (3.61)	
% of consumers who have been threatened to be prevented from switching supplier	0.0195 (1.64)		-0.00710 (-0.38)	
Herfindahl Index	-0.00975 (-0.40)		-0.0365 (-0.86)	
Average annual savings in Euros which are possible if switching supplier	0.00007 (0.55)		-0.0001 (-0.59)	
Constant	-0.168* (-2.68)	-0.158*** (-4.37)	-0.349** (-4.13)	-0.331** (-3.37)
Observations	17	18	18	19
R2	0.972	0.939	0.953	0.728
Adjusted R2	0.910	0.926	0.869	0.674
F (p-value)	15.78 (0.035)	71.86 (0.000)	11.17 (0.038)	13.39 (0.000)
Shapiro-Wilk test for normality	0.815 (0.003)	0.713 (0.000)	0.978 (0.930)	0.431 (0.000)
Breusch-Pagan test for heteroskedasticity	0.44 (0.5083)	0.01 (0.9397)	0.03 (0.8565)	2.73 (0.0984)

Note: t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.7.2 Explaining household switching behavior

The household level analysis focuses on household individual characteristics that are related to the decision to switch electricity supplier rather than market structural factors. All data for the analysis is taken from the consumer survey undertaken for this study. Country specific factors are

taken into account by including country dummies. Similar results are obtained if the country specific variables from our cross-country model (*years since liberalisation* and *market share of the largest four suppliers*) are entered instead of the country dummies. Furthermore, it should be mentioned that the results of the cross-country regressions also hold at the household level (for details see Annex 6).

However, in addition to the results identified in the cross-country regressions, further statistically significant relationships are observed in the household regressions.

Data used for household level regressions

The dependent variable is a binary variable of whether a given household has switched electricity provider in the previous two years (excluding those who did so because they moved house), and the model is estimated econometrically with a logic model.

As in the cross-country analysis, countries where households cannot switch are excluded from the analysis. Furthermore, Hungary, Luxemburg, Poland and Spain are dropped from the sample as there are too few households which switch suppliers in these countries. The sample of countries is thus reduced to Austria, Belgium, the Czech Republic, Denmark, Germany, Finland, France, Ireland Italy, the Netherlands, Portugal, Slovakia, Slovenia, Sweden, and the United Kingdom.

A further problem with the analysis lies in the survey design. Ideally, to study the determinants for switching electricity providers the households' responses to the survey questions should refer to both their current and their previous supplier (for those households that have switched supplier). Unfortunately, the questions only relate to the current supplier. This makes a causal interpretation of many of our estimates impossible and the statistically significant results should be interpreted as associations rather than causal relationships.

Due to the large number of observations, a general-to-specific estimation approach is feasible and applied. The full model is provided in Annex 6 and the reduced model is provided in Table 22.

Discussion of results

Not surprisingly, most of the variables we identify to be strongly related to the probability of switching provider refer to knowledge about alternative providers (variables (b) and (i) in Table 22) and current contract terms and conditions (variable (a), (c), and (h)). Households that have switched providers are more likely to be aware of this information than households that have not. It is worth noting that once we take this level of knowledge into account, further indicators of familiarity with electricity supply are not related to the switching decision in a statistically significant way.

An important factor linked to the decision to switch provider appears to be the quality of the services provided. Reliability of electricity services, the quality of technical assistance, and the fact that the current provider provides information on how to reduce energy consumption (variables (d), (f), and (g)) have a statistically significant relationship with the decision to switch.

A higher quality level of technical assistance and information provision decreases the probability that the household switched providers. This is what one would expect if the household is satisfied with the current services. However, households that report a good reliability of the electricity service are more likely to have switched. One can conjecture that these households may have

suffered problems in this area with their previous supplier but are happy with the reliability of their current supplier.

There are indications that more price sensitive households are more likely to switch electricity providers. Firstly, consumers reporting they are on the cheapest tariff in the market given their consumption (variable (h)) have a higher probability of having switched by approximately 1.5 percentage points when compared to the average household in our sample that reports not to be on the cheapest tariff. Furthermore, the average household in our sample that has switched provider is less likely to have seen an increase in the price of electricity (variable (j)). It seems that price competition operates, at least to a certain extent, in the market and price sensitive customers can benefit from it by switching suppliers.

Interestingly, the estimation results show that households who have switched in the past are more likely to switch in the future. Indeed, for the average household in the sample, the intention to switch providers in the future (variable (k)) is associated with a higher probability of 2 percentage points of having switched in the past two years.

Given that we control for the level of satisfaction with the current supplier and the level of knowledge about alternative options in the market, this result should not be due to dissatisfaction with the quality of the current provider or better awareness of existing alternatives. It may indicate that households that have switched in the past develop a general familiarity with the process of switching and become more willing to consider switching providers if attractive alternatives become available.

Table 22: Household switching regressions

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
(a) Knows advance notice period to terminate current contract (dummy)	0.546** (0.173)	1.727** (0.299)	0.0122** (0.00415)
(b) Can name an alternative provider to switch to (dummy)	0.843** (0.261)	2.323** (0.606)	0.0170*** (0.00494)
(c) Has contacted provider in last 12 months about contract terms and conditions (dummy)	0.872*** (0.187)	2.391*** (0.447)	0.0277** (0.00871)
(d) Provider gives advice on ways to reduce electricity consumption (dummy)	-0.455** (0.167)	0.635** (0.106)	-0.0110* (0.00453)
(e) Has felt pressurised to sign a contract with a provider (scale 0 – 10)	0.0458* (0.0222)	1.047* (0.0233)	0.00102* (0.000505)
(f) Electricity service is reliable (scale 0 – 10)	0.122* (0.0514)	1.130* (0.0581)	0.00272* (0.00118)
(g) Provider offers high quality technical assistance scale 0 – 10)	-0.109*** (0.0286)	0.897*** (0.0256)	-0.00242*** (0.000689)
(h) Believes they are on the cheapest tariff in market given usage (dummy)	0.591*** (0.155)	1.805*** (0.280)	0.0145** (0.00455)
(i) Has compared offers from different providers (dummy)	1.124*** (0.181)	3.077*** (0.557)	0.0294*** (0.00629)
(j) Price of electricity provided by supplier has increased in last 12 months (dummy)	-0.866*** (0.166)	0.421*** (0.0698)	-0.0197*** (0.00453)
(k) Would like to change electricity provider (dummy)	0.769*** (0.172)	2.157*** (0.371)	0.0214*** (0.00641)
Occupational dummies (baseline : employed)			
(l) Self employed	-0.649* (0.275)	0.523* (0.144)	-0.0114** (0.00401)
(m) Non active	-0.257 (0.158)	0.774 (0.122)	-0.00555 (0.00340)
Country dummies	see Appendix		
Observations	3795	3795	3795
Log likelihood	-692.4	-692.4	-692.4
Pseudo R2	0.259	0.259	0.259
p-value	< 0.001	< 0.001	2.14e-85

Note: Standard errors in parentheses
(dummy) for discrete change of dummy variable from 0 to 1
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4 Consumer views on the functioning of the retail electricity market

This chapter analyses consumer views on different aspects of the functioning of the market and when possible compares these views with the views of stakeholders. In particular, the chapter considers:

- overall consumer satisfaction with services provided by electricity suppliers;
- to what extent are consumers well-informed about the retail electricity market;
- trust in suppliers;
- perceptions of quality of service of suppliers;
- availability and quality of information provided to consumers;
- availability and quality of assistance provided to consumers; and
- attitudes towards energy consumption.

More detailed discussions of certain aspects of the consumer experience in the market are provided in subsequent chapters. In particular we refer to Chapter 4 for a more comprehensive discussion of billing and payment and to Chapter 6 for a fuller analysis of problems, complaints and complaint handling.

It should be noted that the services provided by electricity suppliers include both product related services (i.e. providing consumers with electricity) and pure customer service (such as providing information, technical assistance, complaint handling). Throughout this report 'services' is used to describe the broader concept of all services provided by electricity suppliers (including electricity), whereas 'customer service' is used to describe the activities undertaken by a supplier in conjunction with the basic electricity services provided to consumers.

4.1 Overall consumer satisfaction with electricity services

This section analyses the level of overall consumer satisfaction and determinants of overall consumer satisfaction. For the purpose of this study and the analysis in this section, consumer satisfaction is measured by consumers' rating of the extent to which electricity services from their provider live up to what they want on a scale from 0 to 10 where 10 represent the highest level of satisfaction.

4.1.1 The level of consumer satisfaction

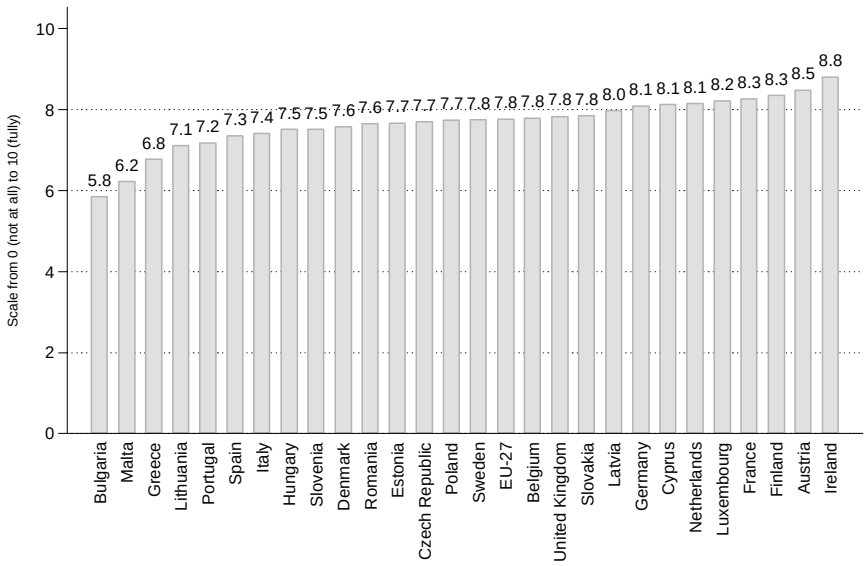
The responses of consumers, across the EU, when faced with the question of overall satisfaction with the electricity services, were that they were generally relatively satisfied but by no means fully satisfied.

- As shown in the Figure 68, overall across the EU satisfaction is rated at 7.8 and the vast majority of Member States have an average satisfaction score of more than 7.

- Only in Greece, Malta and Bulgaria was the average rating of below 7.

- The lowest average rating is observed in Bulgaria with 5.8 on the 10-point scale.
- At the other end of the scale consumers in Ireland and Austria are among the most satisfied consumers on average.

Figure 68: Average satisfaction with services



Note: Based on Q2: 'To what extent would you say that the electricity services from (name of provider) live up to what you want?'. Rating on a scale from 0 (don't live up to what you want at all) to 10 (fully live up to what you want). EU-27 averages are weighted using 2010 Eurostat population figures.
Source: ECME Consortium general consumer survey

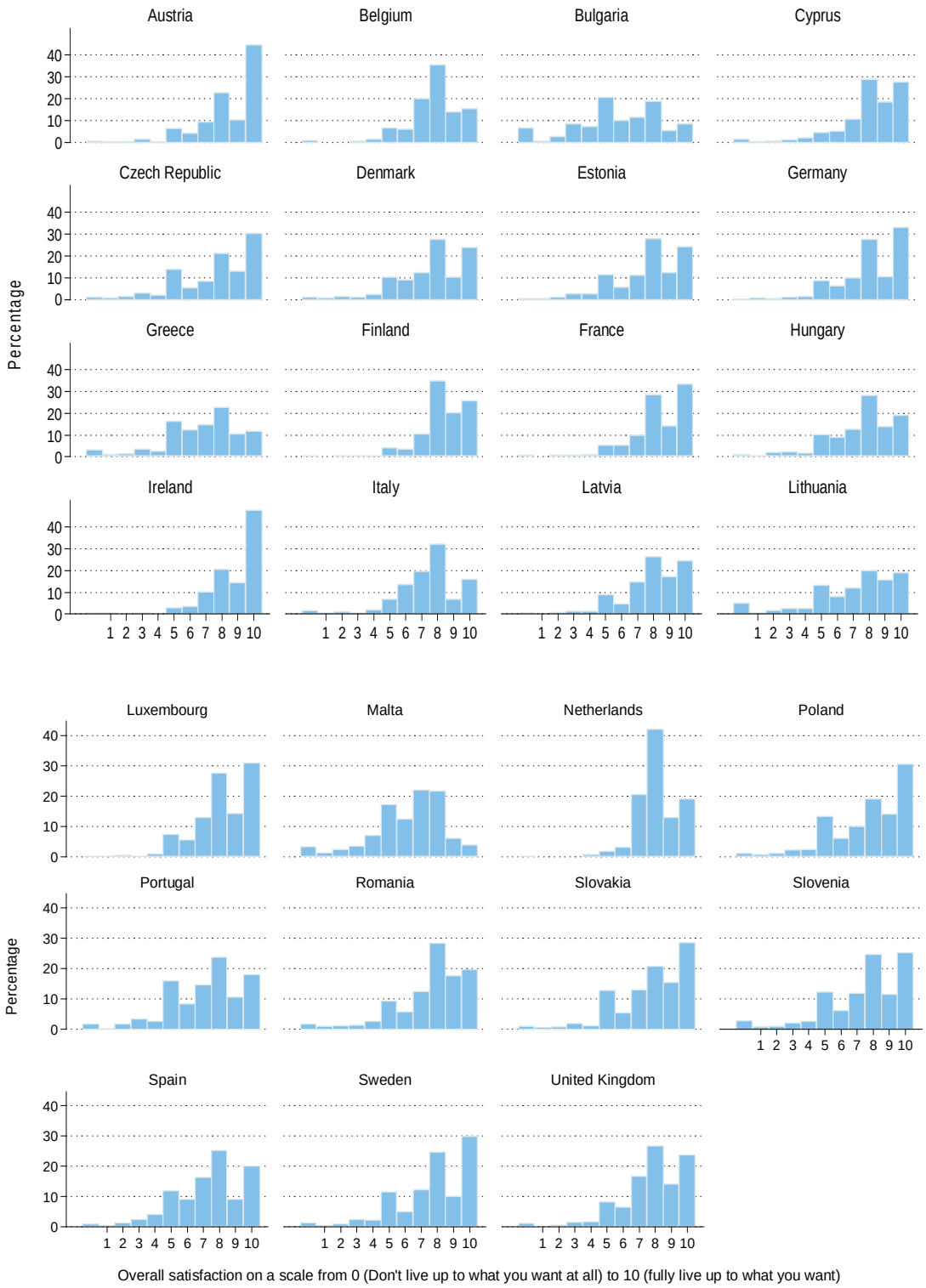
The distribution of the responses, shown in Figure 69, shows that most consumers provide ratings of more than 5.

However, a few consumers in Lithuania, Greece, Malta, Slovenia and Cyprus seem very dissatisfied with the services provided by suppliers.

In many cases, the percentage of people giving a certain score increases with the score. In fact, in Austria, the Czech Republic, France, Germany, Ireland, Luxembourg, Slovakia, Slovenia and Sweden the biggest group was fully satisfied.

However in each case, there were very small percentages of people giving a score of under 5, when faced with the question of whether the service lived up to their expectations. The figure below, again, indicates that out of all Member States, Bulgaria appears to have the least satisfied consumers, for it is the most diverse, in terms of having a small proportion of consumers giving each rating.

Figure 69: Distribution of rating of overall satisfaction with services



Note: Based on Q2: To what extent would you say that the electricity services from (name of supplier) live up to what you want?
Source: ECME Consortium general consumer survey

Stakeholder views on consumer satisfaction

As part of this study stakeholder views on the functioning for consumers of the functioning of the retail electricity market in each Member State have been collected from:

- electricity regulators;
- electricity associations;
- consumer protection authorities;
- consumer associations;
- company-specific ombudsmen;
- national ombudsmen.

While national and regional electricity regulators, consumer protection authorities and national ombudsmen generally are public funded[61], consumer associations are independent and typically privately funded associations working to improve consumer rights. Finally, company-specific ombudsmen and electricity associations are funded by companies.

A more detailed analysis of the role of the company-specific ombudsmen is provided in section 6.4.3 and the roles and responsibilities of publicly funded ministries and authorities are described in detail in Annex 1.

Analysis of the results of the stakeholder survey show that in many cases, stakeholders seem to have a good idea of just how consumers feel about the electricity services that they receive, giving similar scores to those given by consumers for their overall level of satisfaction, when asked as to what extent the services provided by electricity suppliers live up to what consumers want.

- This is the case in Finland, where the electricity association and consumer protection authority gave similar ratings as consumers from Finland gave.

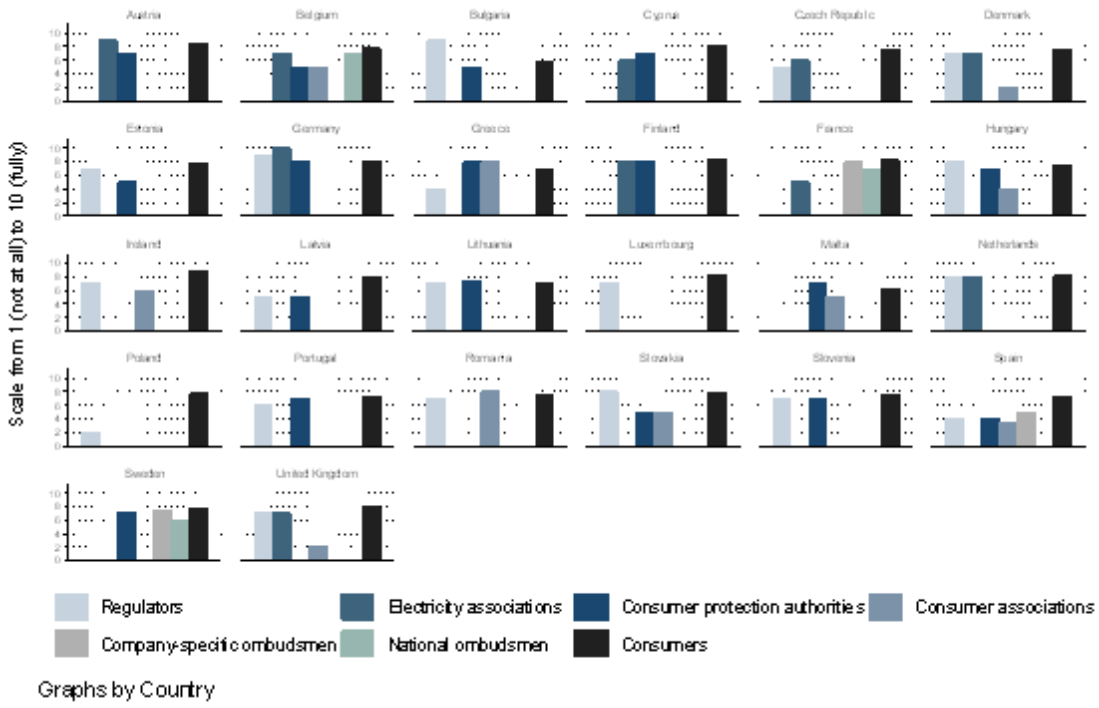
- However, in some Member States stakeholders were of much different views than consumers. For example, in Bulgaria, the regulator believed consumers to be very content, however in reality consumers do not appear to be.

- Another example where the opposite is true and the regulator rates the level of satisfaction much lower than consumers themselves is Poland. Polish consumers in fact are relatively content, whilst the regulator believes the picture is very different, giving a score of 2.

- Similarly, the consumer associations in Denmark and all stakeholders in Spain estimate the level of satisfaction much lower than consumers themselves.

[61] However the Energy Ombudsman in the United Kingdom is funded by the energy industry.

Figure 70: Perception of satisfaction by different stakeholders and consumers



Note: Based on responses to the question: In your opinion, to what extent do the services of electricity suppliers in your Member State live up to what consumers want? Measured on a scale from 1 (not at all) to 10 (fully).
Source: ECME Consortium analysis of data from general consumer survey and stakeholder survey

4.1.2 Determinants of consumer satisfactions

This sub-section analyses the determinants of satisfaction graphically and in a cross-Member State regression model which allows for an assessment of which factors are the most important determinants of customer satisfaction.

The graphical analysis consists of a series of scatter plots illustrating the association between satisfaction and other variables at the Member State level. Cross-tabulations like these at the cross-Member State level can be used to identify factors which may explain differences in satisfaction[62] across Member States.

As expected there is a clear positive link between the average level of consumer satisfaction with current suppliers and the average consumer ratings of current suppliers' quality in the following areas (Figure 71):

- reliability of service (i.e. the service works well all the time);
- availability of service (i.e. the supplier can be reached when needed);

[62] Similar cross-tabulations and scatter plots at Member State level are used several times throughout this report. This is done in order to illustrate the effect of different factors on outcome variables such as satisfaction, switching, prices, etc.

- professionalism of suppliers' staff (i.e. staff is professional, helpful and friendly);
- suppliers' handling of problems (i.e. questions and problems are dealt with promptly and accurately);
- suppliers' quality of service (i.e. overall quality of services); and
- choice of tariffs from suppliers.

This indicates not only that satisfaction with services depend on the quality of the services provided and the choice provided, the result is also sign of internal consistency of the responses provided by consumers.

There is also a clear positive association between satisfaction with the current supplier and whether (Figure 72):

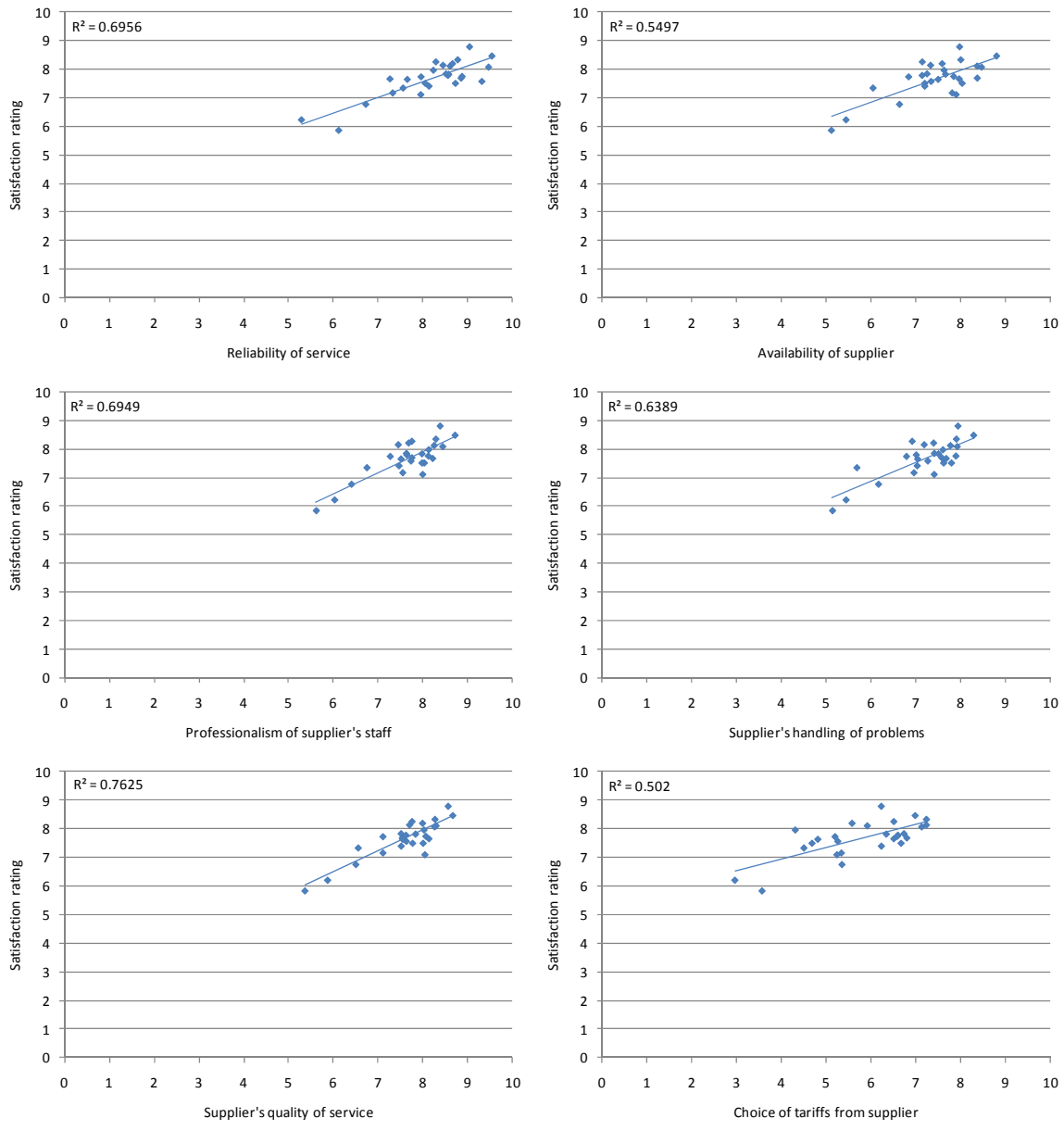
- the current suppliers' prices are perceived as fair and reasonable;
- consumers can afford their electricity bill;
- bills from current suppliers' are perceived as transparent; and
- tariffs of current suppliers' are perceived as transparent

This suggests that prices, transparency problems and affordability problems may be important sources of dissatisfaction for consumers.

Furthermore, there is a negative link between the share of consumers who have seen their price increase over the last 12 months and the average level of satisfaction with current suppliers.

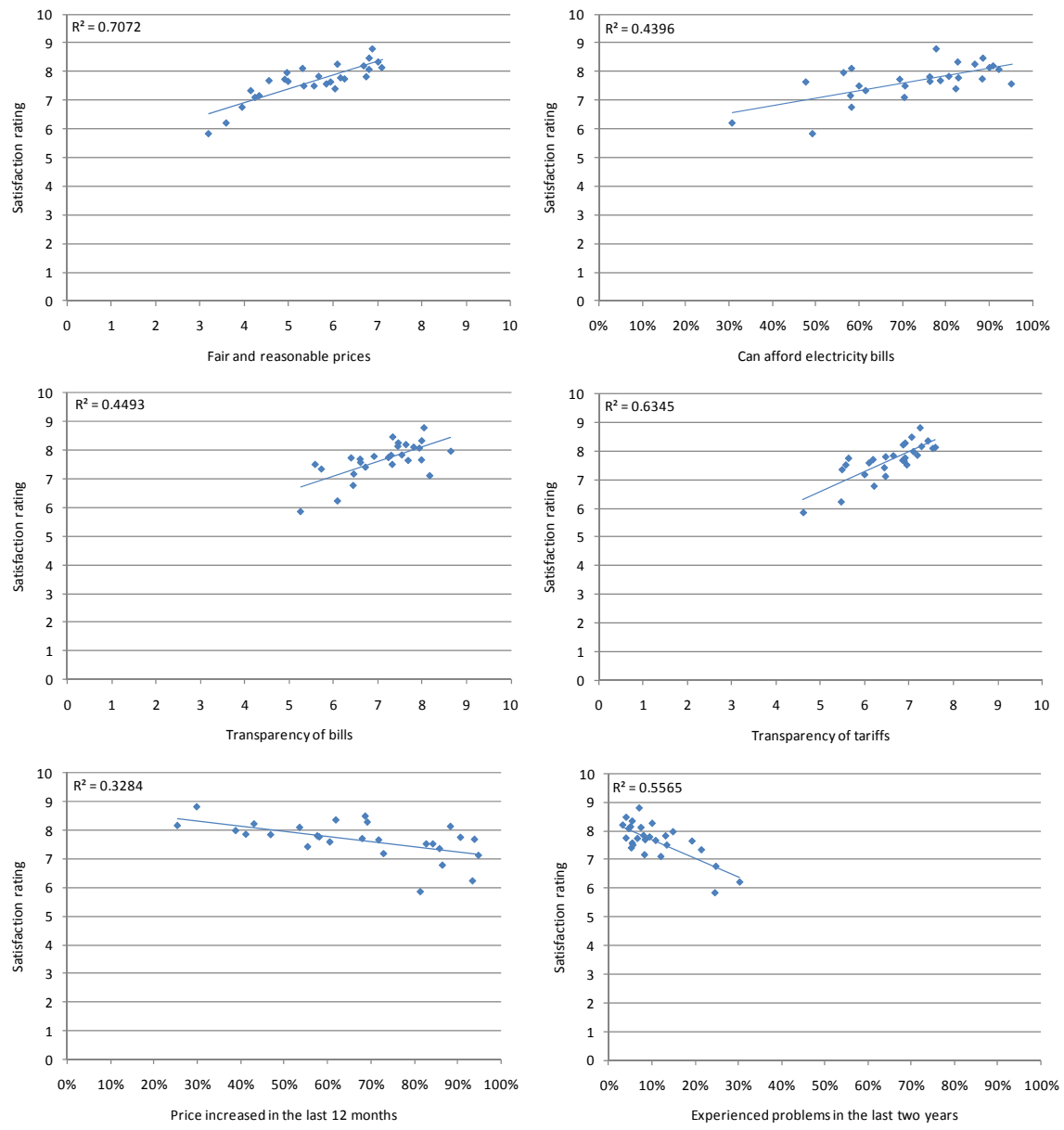
Unsurprisingly, there is also a negative link between the level of satisfaction and the share of consumers who have experienced one or more problems with their supplier in the last 2 years.

Figure 71: Satisfaction vs. quality of services



Source: ECME Consortium analysis of data from general consumer survey

Figure 72: Satisfaction vs. tariff, payment and billing factors



Source: ECME Consortium analysis of data from general consumer survey

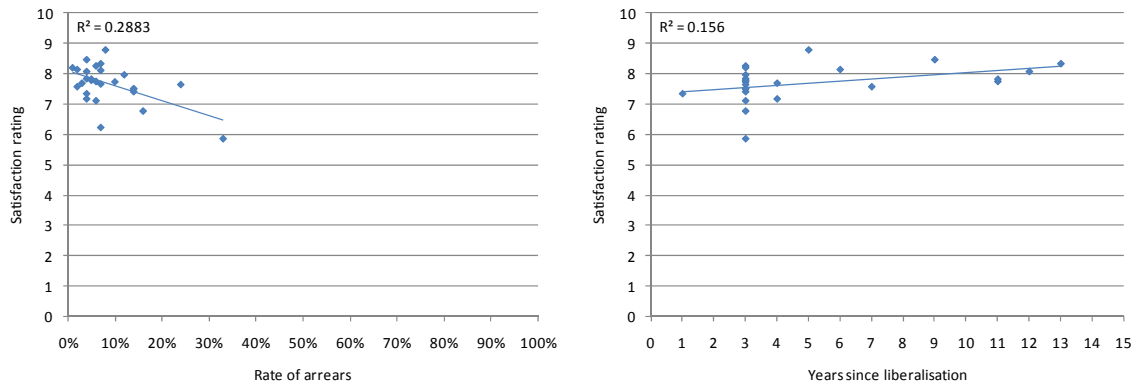
The fact that consumers appear relatively concerned with prices and payment problems is also highlighted by the fact that there is a negative association between the rate of arrears from Eurostat (see Chapter 9 on affordability) and the level of satisfaction with suppliers (Figure 193).

Finally, there is slight indication that satisfaction increases with the maturity of the liberalised market. However, the multivariate regression analysis undertaken in the next subsection shows that when controlling for other factors consumers in more mature liberalised markets appear to be less satisfied than consumers in recently liberalised or non-liberalised markets. This suggests that the positive correlation observed in Figure 73 is spurious and may reflect that the quality of

services increases with the maturity of the liberalised market because suppliers have to improve their services in order to retain their consumers.

Similarly, price transparency, choice of tariffs and the extent to which prices are perceived as fair and reasonable may increase with the maturity of the liberalised market.

Figure 73: Satisfaction vs. the rate of arrears and years since liberalisation



Source: ECME Consortium analysis of data from general consumer survey, desk research and Eurostat.

Statistical analysis of determinants of consumer satisfaction

In order to determine the most significant factors affecting consumer satisfaction, a regression analysis was undertaken. The analysis was undertaken at the Member State level using the average rating of consumer satisfaction in each Member State as the dependent variable.

Table 23 contains a list of the variables considered as explanatory in the regression and the sources of the data. The source of the data was mainly the consumer survey and all variables were available for all 27 Member States. A correlation matrix and summary statistics of these variables are included in Annex 3.

The correlation analysis reveals that there is a strong correlation between some of the variables considered; particularly those related to quality of customer service and overall quality of service. Therefore, in order to avoid problems of multicollinearity no two variables with a correlation of more than 0.9 were included in the analysis. As a result, the explanatory variables included in the analysis were limited to:

- reliability of service;
- supplier's quality of service;
- choice of tariffs from supplier;
- fair and reasonable prices;
- transparency of tariffs;
- transparency of bills;
- share who can afford electricity bills;
- price increased in the last 12 months;
- experienced problems in the last two years;

- rate of arrears;
- years since liberalisation (from 2010);

Table 23: Explanatory variable considered for analysis

Variable	Source
Satisfaction rating	Consumer survey
Reliability of service	Consumer survey
Availability of supplier	Consumer survey
Professionalism of supplier's staff	Consumer survey
Supplier's handling of problems	Consumer survey
Supplier's quality of service	Consumer survey
Choice of tariffs from supplier	Consumer survey
Fair and reasonable prices	Consumer survey
Transparency of tariffs	Consumer survey
Transparency of bills	Consumer survey
Share who can afford electricity bills	Consumer survey
Price increased in the last 12 months	Consumer survey
Experienced problems in the last two years	Consumer survey
Rate of arrears	Eurostat
Years since liberalisation (from 2010)	Desk research

A general-to-specific modelling approach was applied where the above mentioned variables were first included in a general model (available in Annex 3). This model was then sequentially reduced by eliminating the least statistically significant variable until all variables included in the model were statistically significant. All regressions were estimated by OLS.

The results of the reduced model are presented in Table 24. The results indicate that the rating of reliability of services significantly increases customer satisfaction as does the extent to which prices are seen as fair and reasonable and the transparency of bills. Furthermore, surprisingly a negative impact of *years since liberalisation* is observed. Hence, when controlling for the reliability of service, the transparency of bills and whether prices are considered fair and reasonable, more mature markets do not seem to have more satisfied consumers. In fact consumers in more mature liberalised markets appear to be less satisfied than consumers in recently liberalised or non-liberalised markets. One possible explanation is that consumers in more mature markets have more experience with how the market works and put higher demands on suppliers.

Table 24: Reduced model

	Coefficient	t statistic
Reliability of service	0.304***	3.54
Fair and reasonable prices	0.295***	3.6
Transparency of bills	0.162**	2.23
Years since liberalisation	-0.044**	-2.39
Constant	2.588***	4.71
Observations	27	
F (p-value)	35.19 (0.000)	
R2 (Adjusted R2)	0.8648 (0.8403)	
Breusch-Pagan heteroscedasiticy test	0.02 (0.8977)	
Shapiro-Wilk normality test	0.9537 (0.2635)	

Source: ECME Consortium analysis of data from the general consumer survey.

4.2 Consumer awareness

Based on responses to the general consumer survey undertaken for this study, this section analyses the level of consumer awareness in relation to:

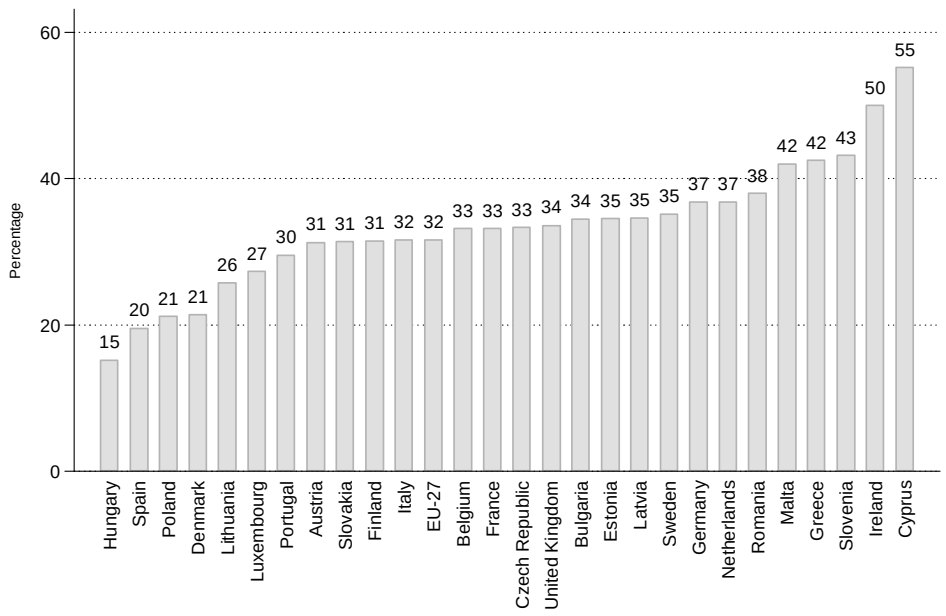
- overall awareness;
- electricity products and prices;
- the energy source;
- contact terms; and,
- consumer rights and consumer protection bodies.

4.2.1 Overall awareness

Generally consumer awareness in the market is limited and across the EU only one in three consumers feel well informed about the market (Figure 74).

Hungarian, Spanish, Polish, Danish and Lithuanian consumers are least informed about the electricity market and Irish and Cypriot consumers feel most informed about the market. Nevertheless, with the highest share of consumers, only 55% of consumers in Cyprus are feel well-informed about the market.

Figure 74: Percentage of consumers who are well-informed about the market



Note: Based on Q3.8: 'I am generally well informed about the retail electricity market'. Consumers are defined to 'well informed' if they provide a rating of 8, 9 or 10. The EU-27 average is calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium based on the general consumer survey

4.2.2 Electricity products and tariffs

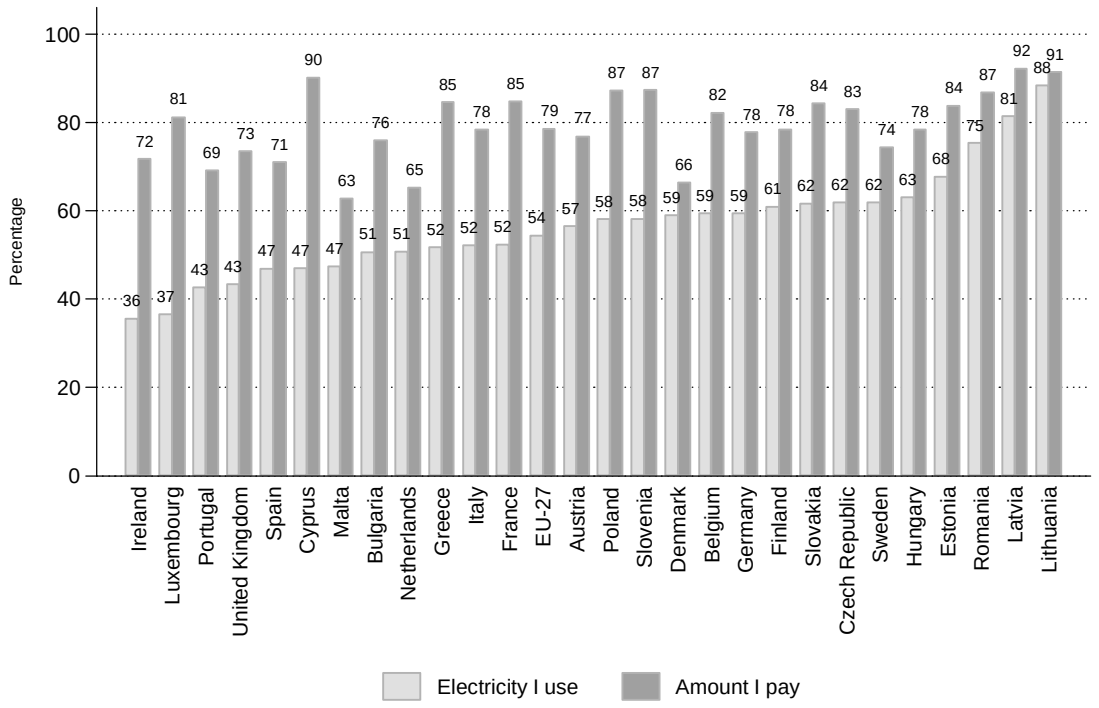
Consumers are generally well aware of the amount they spend on electricity and less aware of how much electricity they consume in kWh. Across the EU 79% of consumers know the amount they pay for electricity. In addition, more than 80% of consumers in 13 Member States[63] are well aware of the amount they pay and in all Member States more than 60% of consumers are well aware of how much they pay for electricity.

In comparison, 54% of consumers across the EU know how much electricity they consume in kWh terms and in all Member States fewer people know how much electricity they consume than the amount they pay for electricity. In Ireland, Luxembourg, Portugal, the United Kingdom, Spain Cyprus and Malta less than 50% of consumers are well aware of how much electricity they consume.

It is not necessarily the case that consumers who are aware of the amount they pay for electricity are also well aware of their consumption. For example, consumers in Luxembourg are among those who are most aware of how much they pay but least aware of how much they consume. It does, however, seem to be the case that generally consumers who are aware of how much they consume are also aware of how much they pay. The clearest examples are Latvia and Lithuania and this may be related to the fact that consumers are very involved in the metering and 'billing' process.

[63] ILuxembourg, Cyprus, Greece, France, Belgium, Slovenia, Poland, the Czech Republic, Slovakia, Estonia, Romania, Latvia and Lithuania.

Figure 75: Awareness of consumption and payment

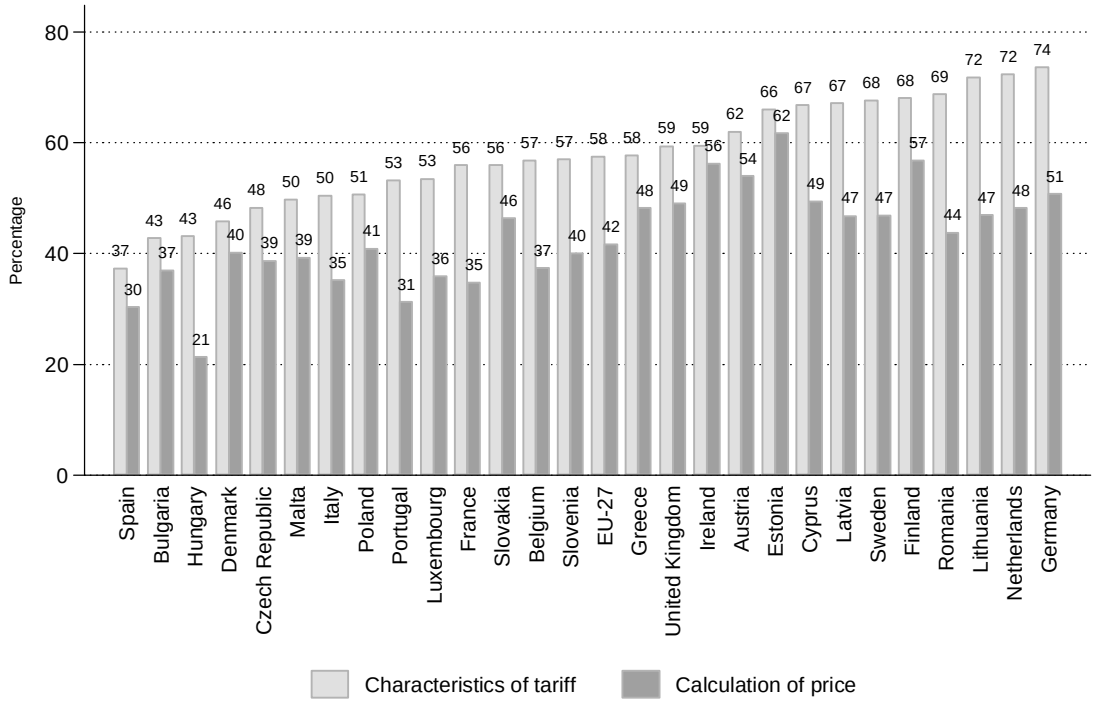


Note: Based on Q3: Agreement with statements: 1) I know how much electricity I use (per month, year or any other frequency) in kWh. 2) I know how much I pay for electricity (per month, year or any other frequency). Consumers are defined to 'well informed' if they provide a rating of 8, 9 or 10. The EU-27 average is calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey.

Consumer awareness of the characteristics of their tariff and how the price is calculated is not high and, on average across the EU 58% and 42% of consumers, respectively, are well aware of these two factors (Figure 76).

Consumers in all Member States have a better awareness of the characteristics of their tariff than of how their price is calculated. Consumers in Hungary and Spain are least aware of how the price is calculated (30% or less know how the price is calculated), while consumers in Finland, Estonia and Ireland have the greatest awareness of how prices are calculated (more than 55% of consumers).

Figure 76: Percentage of consumers who are well aware of tariff characteristcs and the price calculation that applies to them

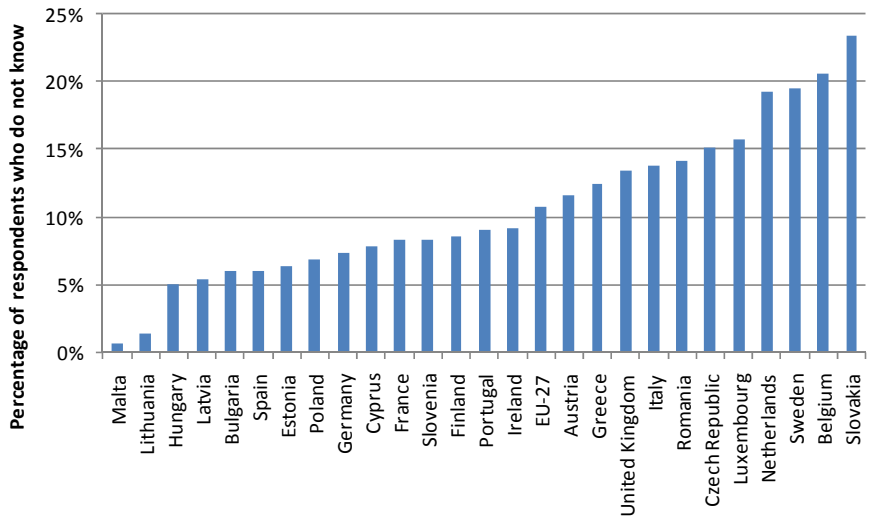


Note: Based on Q3: Agreement with statements: 4) I know the main characteristics of the tariff I am on (for example whether I am on a fixed or variable price, the duration of my contact, the use of green energy or not, etc) 6) I know how the price I pay for electricity is calculated. Consumers are defined to 'well informed' if they provide a rating of 8, 9 or 10. EU-27 average calculated using 2010 Eurostat population figures as weights.

Source: ECME Consortium general consumer survey.

It is also interesting to note that in 12 Member States (Austria, Belgium, Czech Republic, Denmark, France, Italy, Luxembourg, Netherlands, Romania, Slovakia, Sweden and United Kingdom) 10% or more of respondents to the consumer survey did not know whether their electricity prices had increased, decreased, or remained unchanged.

Figure 77: Share of respondents who do not know how electricity prices have changes over previous 12 months



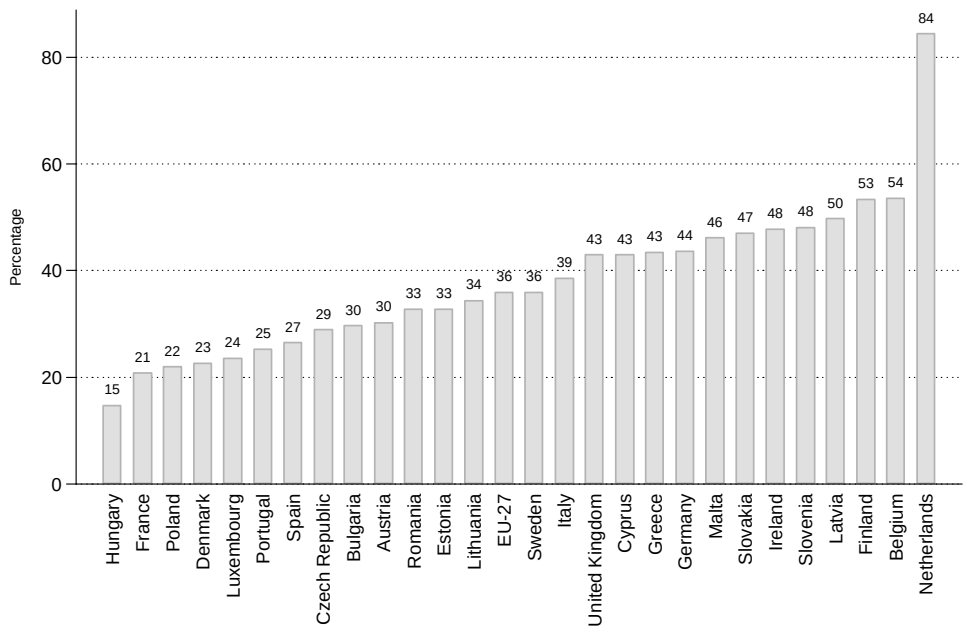
Note: Based on Q15. Percentage of respondents who responded 'don't know' to the question: 'In the last 12 months has the price of electricity provided by your supplier i) increased, ii) remained the same, iii) decreased, iv) don't know'. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME consumer survey

Given that consumers are not very aware of the price and tariff details which apply to them, it is not surprising that consumers are even less aware of alternative tariffs available either with their current supplier or alternative suppliers (Figure 78).

Overall in the EU, approximately two in three consumers are not well aware of alternative tariffs from their supplier and alternative suppliers. In addition less than 50% of consumers in 24 out of the 27 Member States are well aware of alternative tariffs and in Hungary, France, Poland, Denmark, and Luxembourg less than 25% of consumers are well aware of alternative tariffs. At the other end of the scale, Dutch consumers are much more aware of their alternatives than consumers in all of the other Member States (84% of consumers are well aware of alternative tariffs).

The Netherlands is also the country where the highest percentage of consumers (92%) is able to name an alternative supplier they could switch to (Figure 79). More than 88% of consumers can also name an alternative supplier in Sweden, Ireland and the United Kingdom. There is a large variation in the extent to which consumers are able to name alternative suppliers and the fact that switching is limited in countries like Romania, Estonia and Greece is reflected in the responses. However, the share of consumers who can mention an alternative supplier is below 50% even in Portugal, Poland, Hungary, Slovakia, France and Luxembourg where switching is possible (although not always all consumers in these countries have a choice of providers).

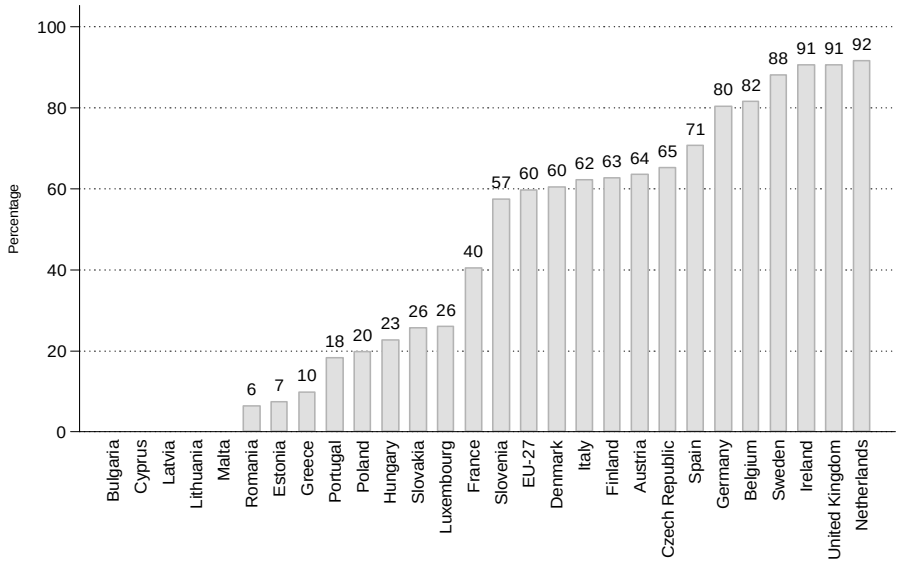
Figure 78: Percentage who are well aware of alternative tariffs



Note: Based on Q3: Agreement with statement: I am aware of the different tariffs offered by (name of supplier) and by other electricity suppliers. Consumers are defined to 'well informed' if they provide a rating of 8, 9 or 10. The EU-27 average is calculated using 2010 Eurostat population figures as weights.

Source: ECME Consortium general consumer survey.

Figure 79: Percentage who can name another supplier they could switch to



Note: Based on Q4.4: I can name another supplier I could switch to for electricity supplier. Consumers in Bulgaria, Cyprus, Latvia, Malta and Lithuania were not asked this question and only some consumers in Greece were asked the question. EU-27 average calculated using 2010 Eurostat population figures as weights.

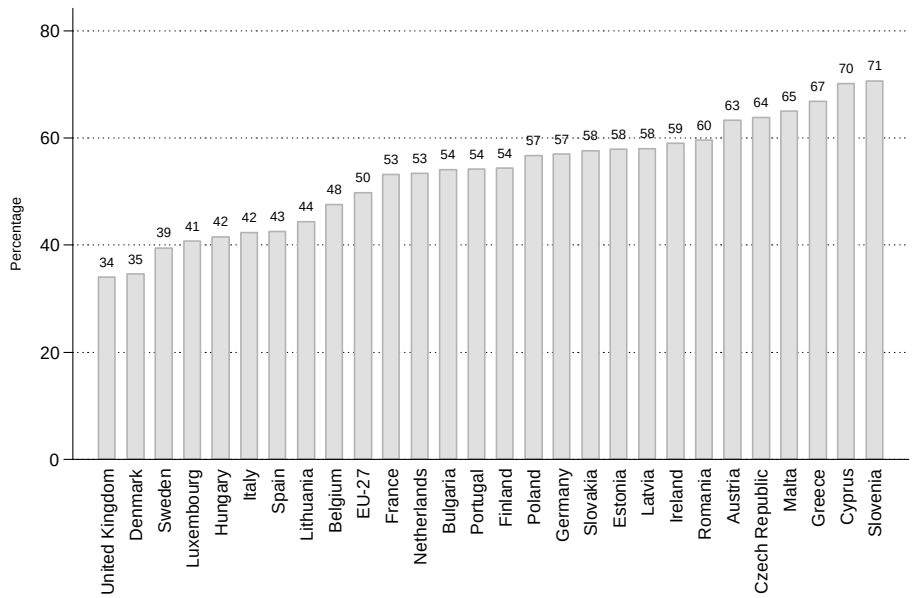
Source: ECME Consortium general consumer survey.

4.2.3 Electricity source

The level of consumer awareness in relation to the energy source of the electricity they use is comparable to consumer awareness about electricity consumption and the details of the tariff they use.

About half of EU consumers are well aware of the energy source of their electricity. This varies from 34% in the United Kingdom to 71% in Slovenia. Consumers in Denmark, the United Kingdom and Sweden are relatively poorly informed about the energy sources from which their electricity is generated.

Figure 80: Awareness of energy source

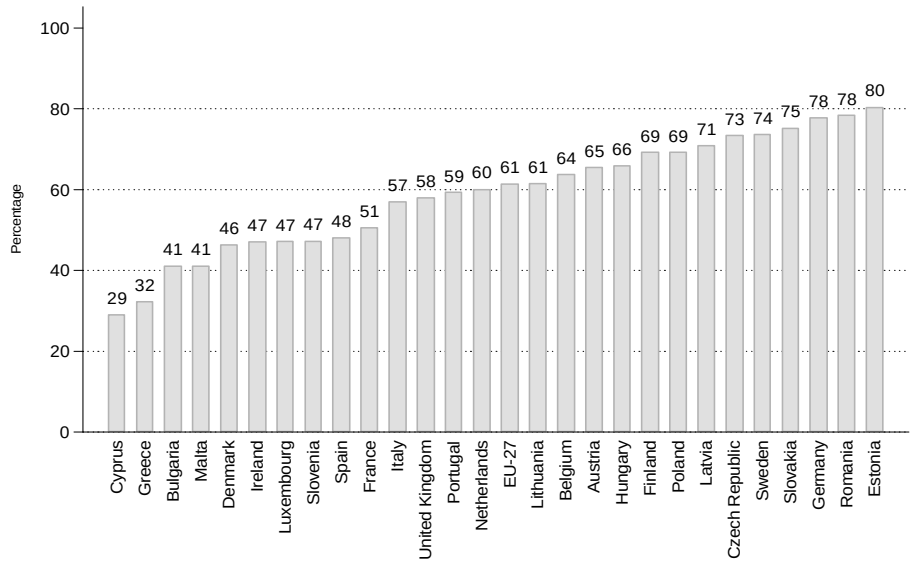


Note: Based on Q3: Agreement with statement: I know how the electricity I use is produced (e.g. nuclear generation, wind, gas, solar, petroleum, coal, etc.). Consumers are defined to 'well informed' if they provide a rating of 8, 9 or 10. The EU-27 average is calculated using 2010 Eurostat population figures as weights.Source: ECME Consortium general consumer survey.

4.2.4 Contract terms

There is a large variation in the extent to which consumers are familiar with the terms and conditions of their contract. Eighty percent of consumers in Estonia say that they have read the terms and conditions in their electricity supply contract. However, in contrast, only 29% of consumers in Cyprus indicate that they have read the terms and conditions of their contract and less than 50% of consumers have read their contract in Spain, Slovenia, Luxembourg, Ireland, Denmark, Malta, Bulgaria and Greece.

Figure 81: Percentage of consumers who have read their contact terms



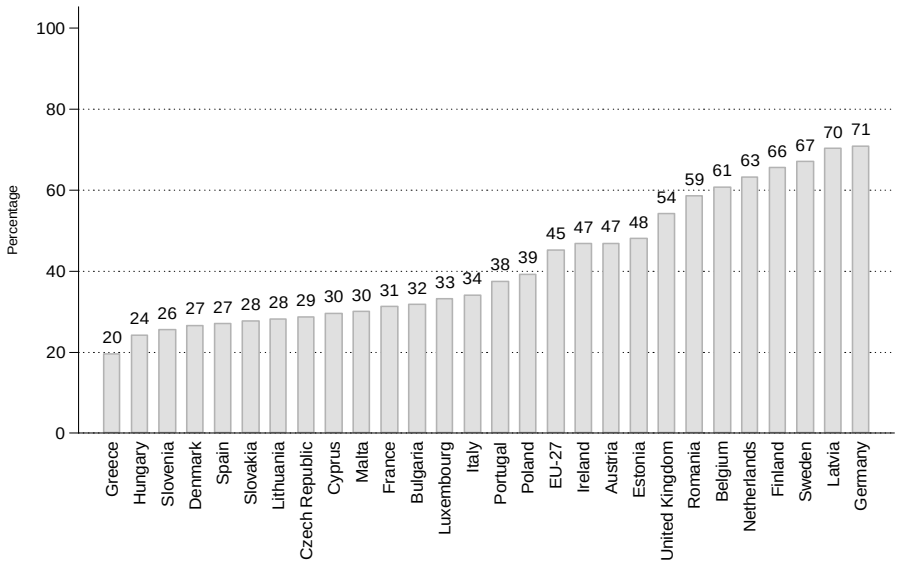
Note: Based on Q4.1: I have read the terms and conditions of my contract. EU-27 average calculated using 2010 Eurostat population figures as weights.

Source: ECME Consortium general consumer survey.

The results of the consumer survey also show that consumers who have read their terms and conditions may not necessarily know the details of the contractual arrangements such as the advance period for termination of the contract. In particular, although 80% of consumers in Estonia have read their contract, only 48% indicate that they know the notice they must give in case of contract termination. This may either be because the contract does not contain information about the notice period, or because the information is difficult to understand.

In 19 Member States, less than 50% of consumers know their advance period. In the United Kingdom, Romania, Belgium, the Netherlands, France, Sweden, Latvia and Germany more than 50% of consumers indicate that they know the advance notice period.

Figure 82: Percentage who know the advance notice period for termination of their contact



Note: Based on Q4.2: I know the advance notice period in case I want to terminate my contact with my electricity provider. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey.

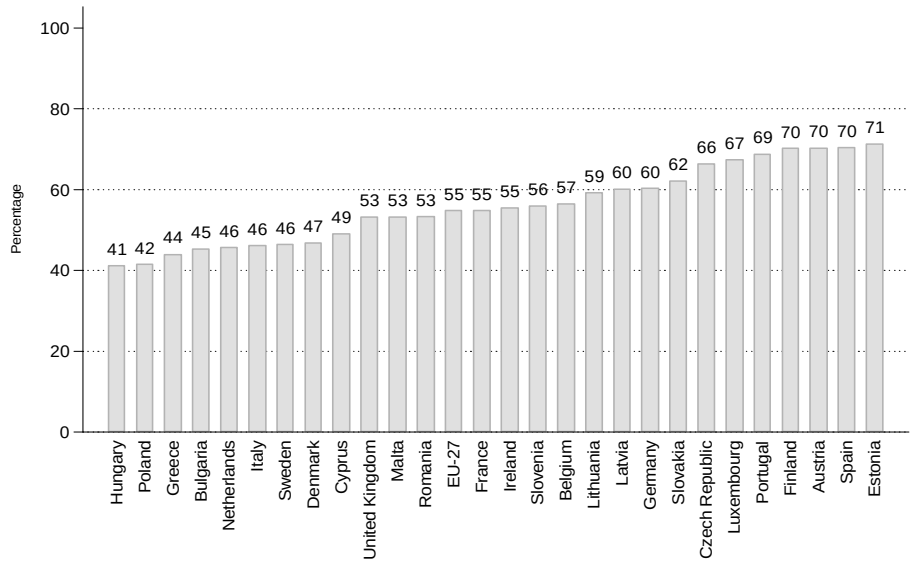
4.2.5 Consumer rights and consumer protection bodies

The results of the consumer survey indicate that consumers are not particularly aware of the existence of third party organisations that they can turn to for help if something goes wrong. In Hungary, Poland, Greece, Bulgaria, the Netherlands, Italy, Sweden, Denmark and Cyprus less than 50% of consumers can name an organisation they can turn to for advice or help with their electricity bill. This is despite the fact that some of these countries have well developed institutions in place to protect consumers. For example, in Sweden there is a specially designed Consumer Electricity Advice Bureau which provides information and advice to consumers.

The largest share of consumers able to name an organisation that can give advice or provide help is found in Estonia with 71% being able to do so. More than 65% of consumers in the Czech Republic, Luxembourg, Portugal, Finland, Austria and Spain are able to name an organisation they can turn to for help.

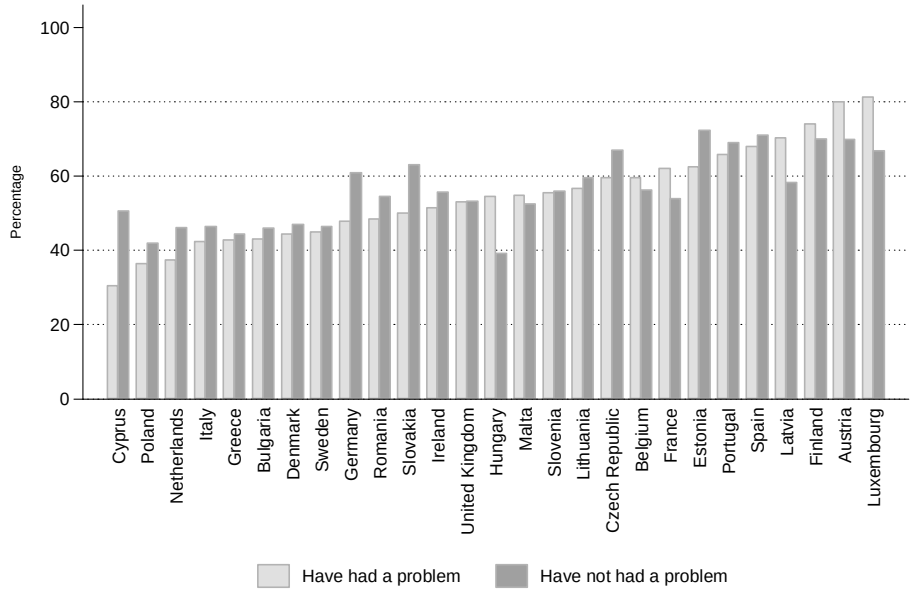
It generally does not seem to be the case that consumers who have experienced problems with their supplier in the last 2 years have a better awareness of organisations they can turn to for advice or assistance (Figure 84). Only in 8 out of 27 Member States (Hungary, Malta, Belgium, France, Latvia, Finland, Austria and Luxembourg) are consumers who have experienced a problem in the last 2 years more aware of organisations they can turn to for help or advice than consumers who have not experienced any problems.

Figure 83: Percentage who can name an organisation they can turn to for help or advice



Note: Based on Q4.3: I can name an organisation (regulator, ombudsman, consumer protection body) that I could turn to for advice or help about my electricity bill. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey.

Figure 84: Awareness of third-party organisations for consumers who have and have not experienced a problem with their supplier within the last 2 years



Source: ECME Consortium general consumer survey.

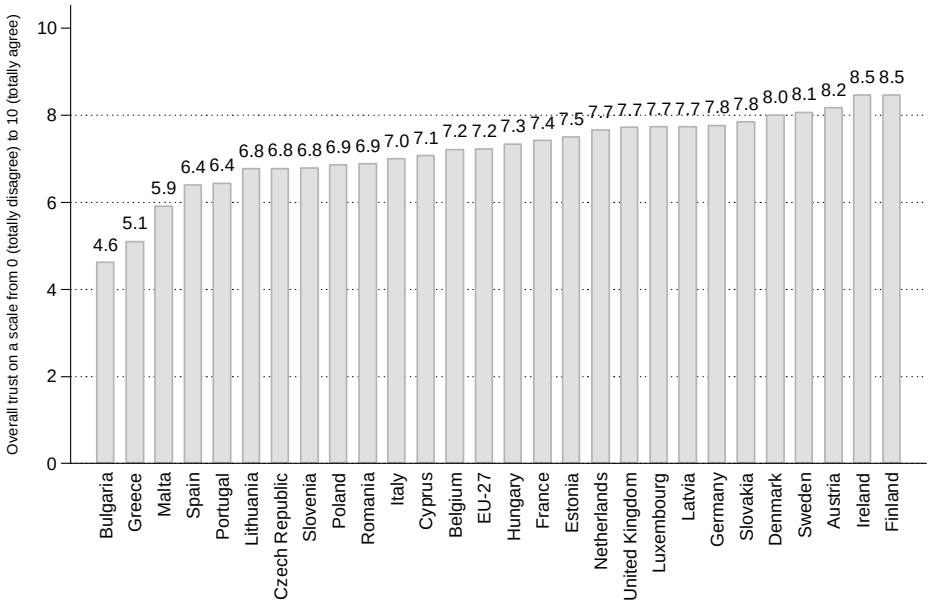
4.3 Consumers' experience in retail electricity markets: trust in suppliers

This section analyses consumer experiences with and trust in suppliers. It should be mentioned that consumer views in these areas may be linked to past experiences and if consumers have had bad experiences in the past this may have a negative impact on their expectations and the extent to which they trust their supplier.

Suppliers have to adhere to a number of consumer protection rules and regulations but the results of the consumer survey shows that consumers do not fully trust suppliers to do so. Across the EU consumers rate their trust in suppliers at 7.2 on a scale from 0 to 10 where 10 represents full trust (Figure 85).

The rating of consumers' trust of the extent to which their suppliers respect the rules and regulation protecting consumers ranges from 4.6 in Bulgaria to 8.5 in Finland and Ireland. Although average ratings in all countries except Bulgaria are above the midpoint of 5 there is considerable room for improvement, especially in Bulgaria, Greece and Malta where the ratings are particularly low.

Figure 85: Overall trust that suppliers respect the rules and regulations protecting consumers



Note: Based on Q9.6: To what extent do you agree or disagree with the following statements. Please use a scale from 0 to 10 where 0 means that you totally disagree and 10 means that you totally agree: I trust (name of supplier) to respect the rules and regulations protecting consumers. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium based on the general consumer survey

Consumers were also asked more specific questions about their expectations and trust in the following areas:

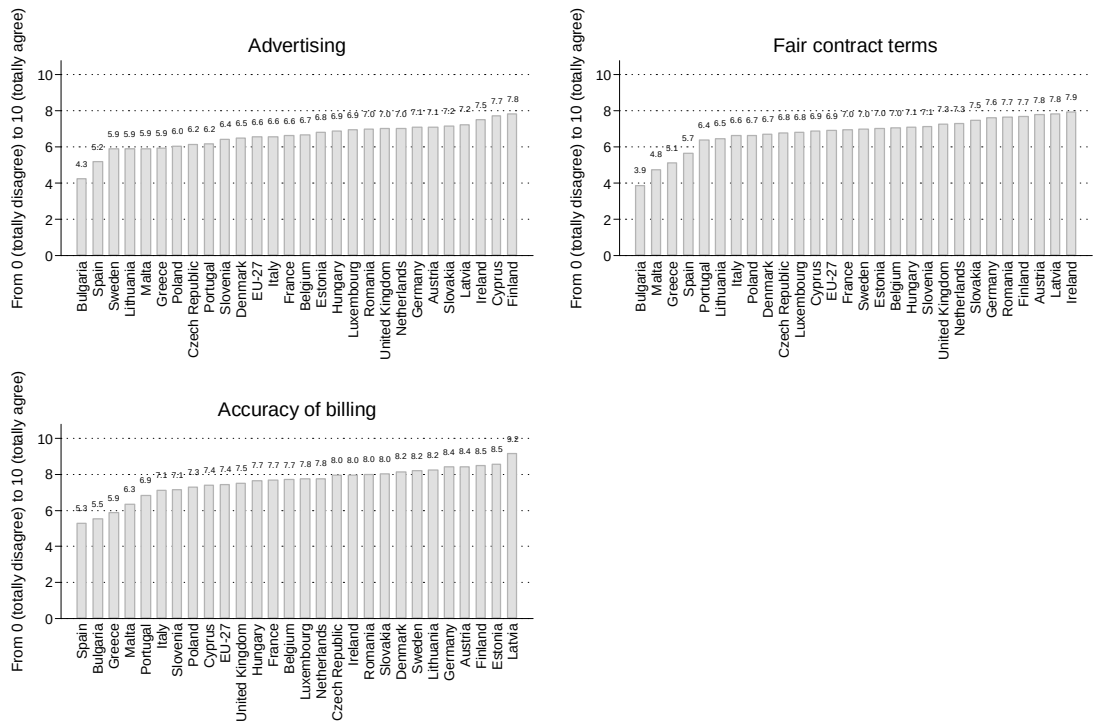
- non-misleading advertising;
- fair contract terms; and

- accuracy of billing.

Overall for the EU, consumers' trust in advertising is lower than in the two other areas with an average rating of 6.6 on the 10-point scale. With respect to the fairness of contract terms and the accuracy of billing consumer trust is rated at 6.9 and 7.2, respectively across the EU.

Generally, there is a positive correlation between the different trust variables (Table 25) meaning that consumers who trust their supplier in one area also trust their supplier in other areas. The strongest correlations are between overall trust that suppliers adhere to consumer protection regulation, and trust in the area of fair contract terms and accuracy of billing.

Figure 86: Consumer trust in different areas



Note: Based on Q9: To what extent do you agree or disagree with the following statements. Please use a scale from 0 to 10 where 0 means that you totally disagree and 10 means that you totally agree: 1) Advertising and pre-contractual documents from (name of supplier) do not deceive, mislead or omit relevant information, 4) The terms of the contract I have with (name of supplier) are fair i.e. they guarantee my rights as a consumer, and 5) I believe my bills accurately reflect my real consumption. EU-27 average calculated using 2010 Eurostat population figures as weights.

Source: ECME Consortium based on the general consumer survey

Table 25: Pair-wise correlations of trust variables

	Advertising	Fair contract terms	Accuracy of billing	Overall trust
Advertising	1			
Fair contract terms	0.5030	1		
Accuracy of billing	0.3920	0.5446	1	
Overall trust	0.4774	0.6430	0.6061	1

Source: ECME Consortium based on the general consumer survey

On the question of the quality of advertising and pre-contractual documents from electricity retailers, the responses given by consumers from different Member States to the consumer survey undertaken for this study differed remarkably as seen in (Figure 86). The responses on a Member State-level range from a quality rating of 4.3 in Bulgaria to7.8 in Finland. Bulgaria has the lowest rating by some distance, with Spanish consumers giving a rating of 5.2, the second lowest rating.

The majority of responses fell between 6 and 8, which suggest that consumers, although not completely agreeing with the statement that electricity providers do not deceive, mislead or omit relevant information in advertising and pre-contractual documents, do not seem to see this as a major issue, as is shown by the majority of scores being above 5.

In the stakeholder survey, stakeholders were asked to give their assessment of the quality of two aspects of advertisement and pre-contractual information:

- the seriousness of problems related to omission of the price in advertisement and information material; and
- the seriousness of problems related to clarity and correctness of the price indicated in advertisements and information material.

While these questions are slightly more specific than the question posed to consumers, the responses enable us to compare the views of consumers with those of other stakeholders (regulators, consumer associations, national ombudsman and consumer protection authorities). Stakeholders were asked to rate to what extent they viewed the two issues mentioned above as serious problems on a scale from 1 (not a problem at all) to 5 (a very serious problem).

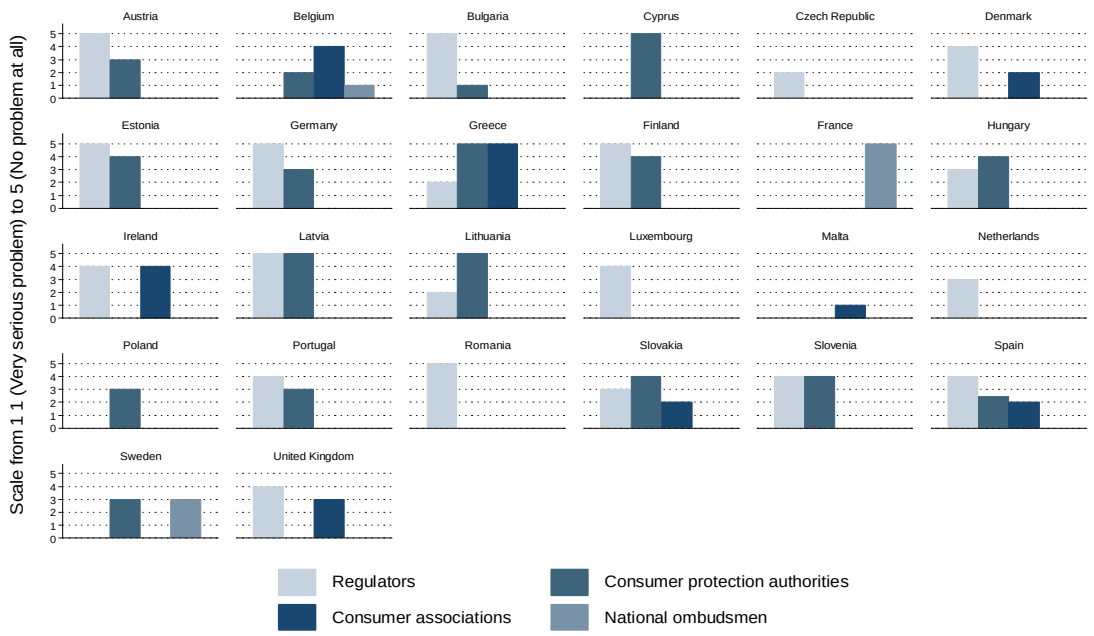
The responses of regulators in general indicate that they do not perceive big problems in relation to omission of the price in advertising and information material with only the Czech, Greek and Lithuanian regulators viewing this as being a bit of a problem with a rating of 2 (Figure 87). In comparison, regulators in Austria, Bulgaria, Estonia, Finland, Germany, Latvia and Romania rated this issue as 5, meaning that it was not perceived as a problem as all. Regulators perceived problems in the area as less serious than other stakeholder groups in all Member States except in Hungary, Greece, Lithuania and Slovakia.

Sixteen consumer protection authorities responded to the survey and only 2 gave a rating of 2 or below, thus indicating that they perceive some problems in relation to omission or prices from advertising and information material. In Belgium, the consumer protection authorities gave a rating of 2 and, in Bulgaria the omission of price information was viewed as a very serious problem by the consumer protection authority which gave a rating of 1.

In comparison, consumer associations, when responding, generally indicated that they perceived problems in the area as more serious than other stakeholders. Of the 8 responses, the consumer association in Slovakia, Spain and Denmark gave a rating of 2 and the Maltese consumer association indicated that this was a very serious problem in Malta, with a score of 1. However, the Belgian consumer association did not perceive serious problems in the area and provided a rating of 4.

The 3 national ombudsmen that participated in the survey gave very different responses. In France, omission of price information was not seen as a problem by the national electricity ombudsman, who gave a rating of 5. Whilst not viewed as very serious problem in Sweden the national ombudsman services provided a rating of 3 which is well in line with the assessment provided by the consumer protection authority. In comparison, the Belgian national electricity ombudsman viewed omission or price information from advertising and information material as a very serious problem and in fact as a more serious problem than other stakeholders in Belgium.

Figure 87: Quality of advertising: indication of price in advertising/information material



Note: Rating of seriousness of problems with 'Price not indicated in advertising/information material'. The French regulator, one of the Spanish regional consumer protection agencies and the Hungarian consumer association responded 'Don't know'. For the Spanish and Lithuanian consumer protection agencies multiple responses were received and the average was taken over all the received responses in that category.

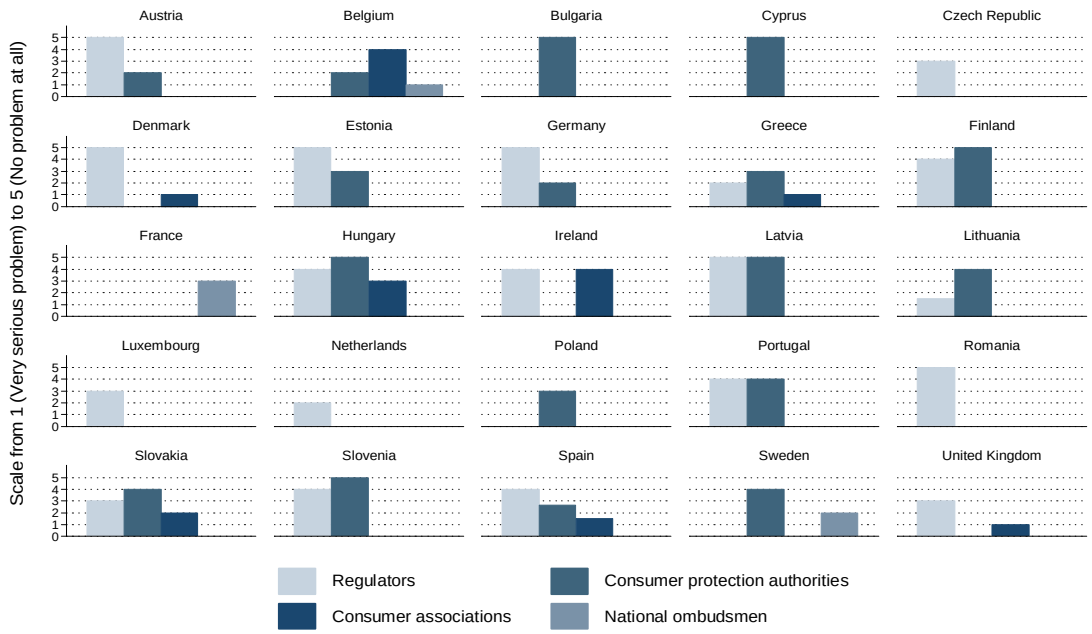
Source: ECME Consortium analysis of data from stakeholder survey

In relation to the clarity and correctness of indicated price, the most positive responses came from consumer protection authorities, with 6 out of 16 scoring it 5 and thus not viewing it as a problem at all (Figure 88). Only the Austrian, Belgian and German consumer protection authorities gave a rating a 2 or less. There were similar responses from regulators on the issue of clarity and correctness of the price information, with just the 3 regulators from the Netherlands, Greece and Lithuania giving a score of 2 or below, and as such viewing this as quite a serious problem. The regulators in Austria, Denmark, Estonia, Germany, Latvia and Romania did not view this as problem at all.

These mostly positive views were not generally shared by consumer associations. Of the 8 responses received, 5 consumer associations rated this issue 2 or below, so seeing this as being a much bigger issue than the consumer protection authorities or regulators. However, in Ireland the consumer association provided a rating of 4, like the regulator, and in Belgium the consumer association perceived less serious problems in the area than the consumer protection authority and the national ombudsman. The Swedish national ombudsman services also viewed problems

related to the clarity and correctness of the indicated price as relatively serious problems (and more so than the Swedish consumer protection authority) while the French national ombudsman did not view it as a major problem.

Figure 88: Quality of advertising: Clarity and correctness of indicated price

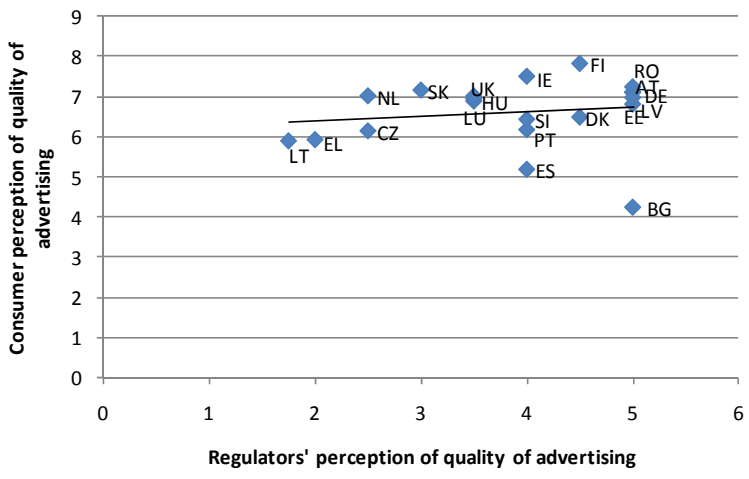


Note: Rating of seriousness of problems with 'Wrong advertised price/unclear advertised price'. The French and Bulgarian regulators and one of the Spanish regional consumer protection agencies responded 'Don't know'. For the Spanish and Lithuanian consumer protection agencies multiple responses were received and the average was taken over all the received responses in that category.
Source: ECME Consortium analysis of data from stakeholder survey

Comparing both consumer and regulator perceptions of the quality of advertising should allow a more rounded picture as to the situation in the electricity sector.

If there is positive correlation between the perception of consumers and that of regulators, which would suggest that consumers and regulators within their respective Member States are of the same opinion. In order to make a comparison possible, the average rating provided by regulators over the two pricing dimensions is taken as a measure of regulators' views on the quality of advertising and pre-contractual information. However, no clear association is observed between the responses of consumers and regulators (Figure 89). Regulators in Lithuania, Greece, the Czech Republic, the Netherlands and Slovakia view the quality of advertising as much lower than consumers. In contrast, Bulgarian consumers view advertising and pre-contractual information as being of relatively low quality whereas the Bulgarian regulator indicates that there are no quality issues in relation to pricing information in advertising.

Figure 89: Relationship between consumer and regulator perceptions of quality of advertising



Note: Regulator perception of quality of advertising is calculated by taking the average across ratings of seriousness of – problems with 'Price not indicated in advertising/information material' and 'Wrong advertised price/Unclear advertised price'. Consumers' perception of quality is measured on a scale from 0 to 10 (where 10 represents high quality advertising) and regulator perceptions are measured on a scale from 1 to 5 (where 5 represents high quality advertising).

Source: ECME Consortium analysis of data from stakeholder survey and general consumer survey

4.4 Perception of quality of service of suppliers

Consumers' and regulators' perception of service quality gives a good initial indication of areas that consumers and regulators observe as problematic. In this section, we analyse consumers' perception of quality of service from pre-contractual information to reliability of supply and customer management and compare the views with those of regulators in the same areas. In particular, we consider quality perceptions in the following areas:

- reliability of supply (i.e. speed of intervention/ supply brought back on line following brown-out, major fault);
- speed of service provision for connections and disconnection;
- technical assistance;
- customer management relationship (i.e. phone/internet interface between customer and retailer, complexity of process, likelihood to successful complete the interaction, quality of information, etc); and
- overall quality of service.

4.4.1 Reliability of supply

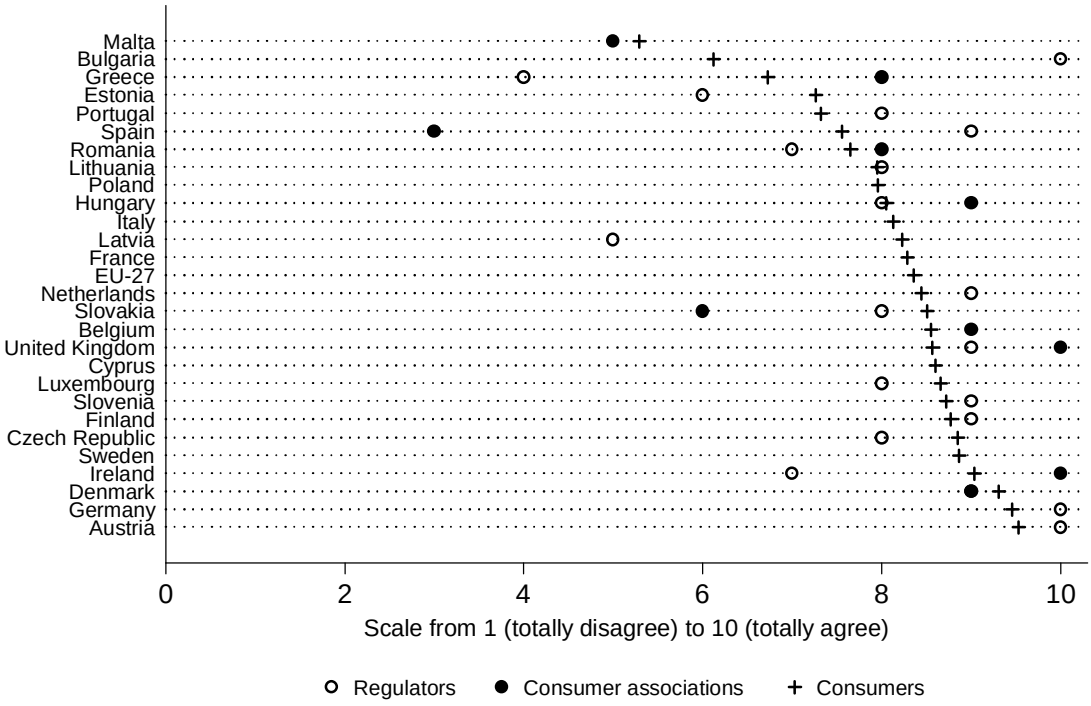
In order to gauge perceptions of the reliability of the electricity supply, regulators, consumer associations and consumers were asked to indicate in the different surveys undertaken for the project the extent to which they agreed with the statement 'the electricity service is reliable' on a scale from 0 (totally disagree) to 10 (totally agree).

In general, consumers on average and stakeholders perceived the reliability of supply to be high with the EU average rating provided by consumers at 8.4 on the 10-point scale. The average response from consumers was less varied than the responses from consumer associations or

regulators. Nevertheless, the range of consumer responses varied from just 5.3 in Malta to over 9 in Austria, Germany, Ireland and Denmark. But, the majority of consumer responses fell between 8 and 9, which indicates that, overall across the EU-27, consumers are very satisfied with the reliability of the electricity supply.

The range of responses from consumer associations and regulators across the EU was much wider than the responses from consumers. The lowest response from a consumer association was provided by the Spanish consumer association (3) and the highest was provided by the Irish and UK consumer associations (10). Generally, the views of consumer associations was relatively well in line with the views of consumers with the exception of Spain and Slovakia where consumer associations provided much lower ratings than the average consumer rating. It is also worth noting that the consumer association in Malta agrees with consumers that the supply is not too reliable.

Figure 90: Perception of reliability of supply

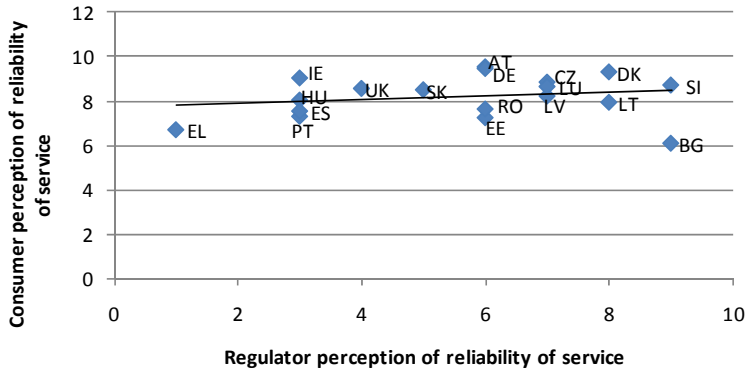


Note: Agreement with statement: 'The electricity service is reliable, i.e. it works well, all the time and without supply interruptions. The regulators in Finland, France and the Netherlands and the consumer associations in Belgium, Ireland, Romania and the United Kingdom responded 'don't know'.

Source: ECME Consortium analysis of data from stakeholder survey and general consumer survey

The views of regulators in the area of reliability of supply range from 4 in Greece to the highest scores of 10 in Austria, Bulgaria and Germany. Clearly the responses from regulators are much more varied than the average responses from consumers (Figure 91) and a positive correlation between the views of regulators and consumers is not observed. This is mainly because the regulators in Bulgaria and Spain rate the reliability of supply much higher than consumers in these Member States do on average while regulators in Greece, Latvia and Ireland provide a much lower rating of the reliability of supply than consumers.

Figure 91: Relationship between consumer and regulator perception of reliability of supply



Note: Agreement with statement: 'The electricity service is reliable, i.e. it works well' measured on a scale from 0 to 10 (where 10 represents high quality reliability).

Source: ECME Consortium analysis of data from stakeholder survey and general consumer survey

4.4.2 Speed of service for connections and disconnections

In the area of speed of service for connections and disconnections, the responses from consumers were, once more, less varied than those of both consumer associations and regulators, ranging from 5.2 in Bulgaria to 8.7 in Austria (on a scale from 0 to 10 where 10 represents the greatest speed of service) (Figure 92). Across the EU as a whole the average rating was 7.3 on the 10-point scale. This shows that consumers, on average agree at least to some extent with the statement that requests for connection or disconnection are dealt with rapidly.

There were 2 stakeholders that rated speed of quality below 5 and thus indicated disagreement with the positive statement on speed of service. In particular, the Spanish consumer association gave a score of 2 and the Czech regulator gave a rating of 4. Both the responses from regulators and consumer associations showed a wider range of opinions than those from consumers. The highest rating response from a consumer association was 9 in the United Kingdom, with the highest regulator score being 10 from Bulgaria and Germany, all feeling that suppliers and DSOs[64] in their respective Member States dealt with issues of connections and disconnection rapidly.

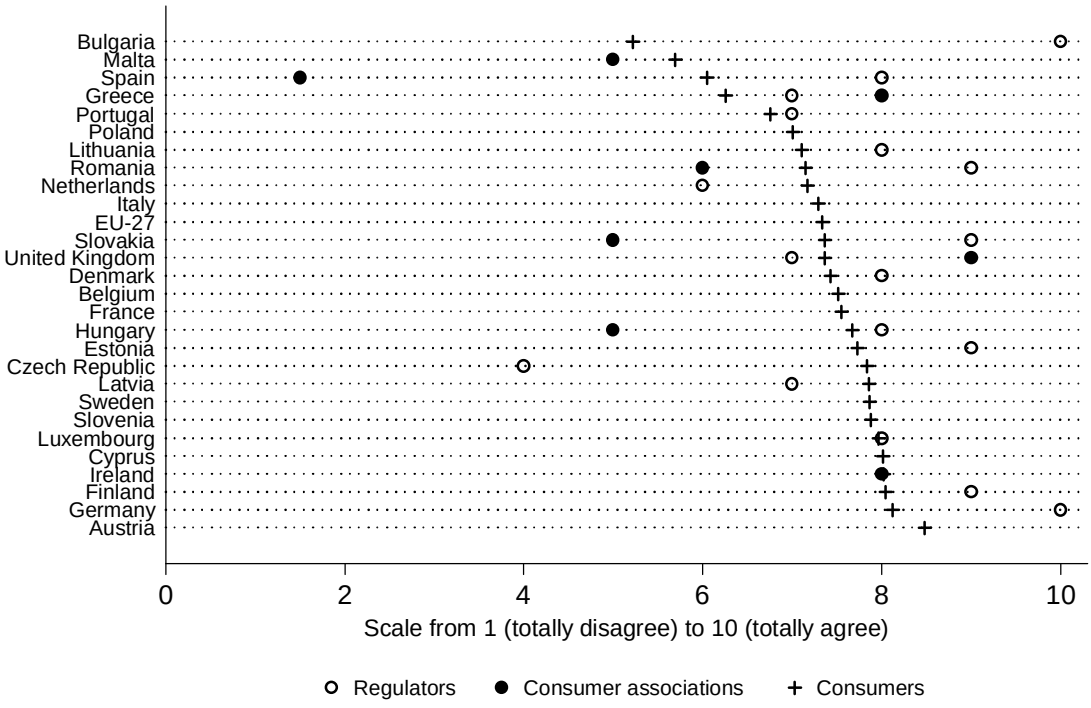
When comparing consumer and regulator perceptions of the speed of service, it is clear that there is not a positive correlation between the average rating provided by consumers and the rating provided by regulators on this service dimension (Figure 93). However, this is mainly due to two specific cases. Firstly, the regulator in Bulgaria perceives the speed of service in Bulgaria as much higher than consumers do on average. Secondly, consumers in the Czech Republic rate the speed of service for connection and disconnection much higher than the regulator.

It should be noted that the average consumer ratings of the speed of service in relation to connection and disconnection generally is lower than the rating in of the reliability of supply. This

[64] Connection and disconnection is typically the responsibility of DSOs although the contact of the consumer may go through the supplier.

indicates a higher level of satisfaction among consumers with the reliability of supply than with the speed of service for connection and disconnection.

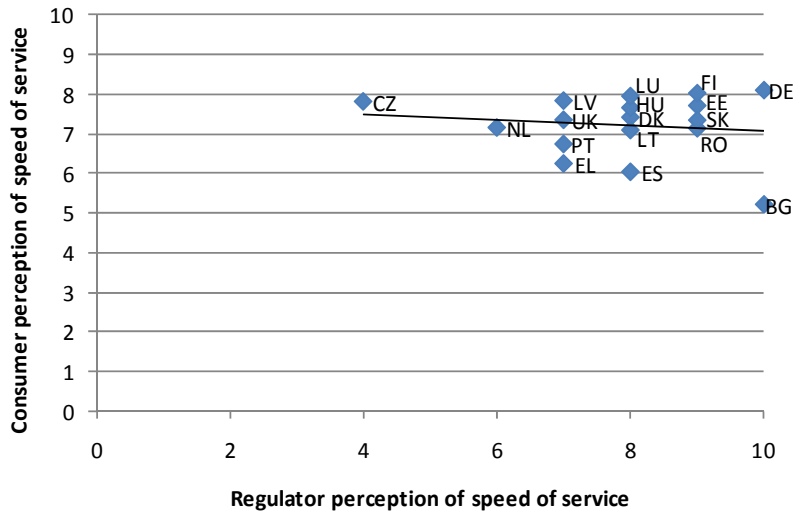
Figure 92: Perception of speed of service



Note: Agreement with statement: 'Requests for connections/disconnections are rapidly dealt with'. The regulators in France and Slovenia and the consumer association in Belgium and Denmark responded 'Don't know'.

Source: ECME Consortium stakeholder survey

Figure 93: Relationship between consumer and regulator perception of speed of service



Note: Agreement with statement: 'Requests for connections/disconnections are rapidly dealt with' measured on a scale from 0 to 10 (where 10 represents high speed).
Source: ECME Consortium stakeholder survey and general consumer questionnaire

4.4.3 Technical assistance

With respect to the quality of technical assistance provided by suppliers, overall consumers in the EU rate the quality relatively low at 6.3 and with respect to the responses from different stakeholders there is a similar pattern as observed throughout this analysis (Figure 94). The average responses from consumers, by Member State, are much less varied than the responses of consumer associations and regulators. The responses from consumers are, on average, between 5.5 (Poland) and 8.1 (Cyprus) on the 10-point scale However, the average rating for consumers in Bulgaria was only 4.1 and thus much lower than in any other Member State. This means that consumers in Bulgaria, overall, disagree with the statement that suppliers offer high quality technical assistance.

Bulgaria is the only Member State where neither a consumer association nor the regulator provides a rating of the quality of technical assistance which is close to the average rating provided by consumers. While the Bulgarian regulator rated the reliability of service, the speed of service and the response to consumer complaints and questions much higher than consumers did on average, the Bulgarian regulator's response is in line with that of Bulgarian consumers when it comes to the quality of technical assistance.

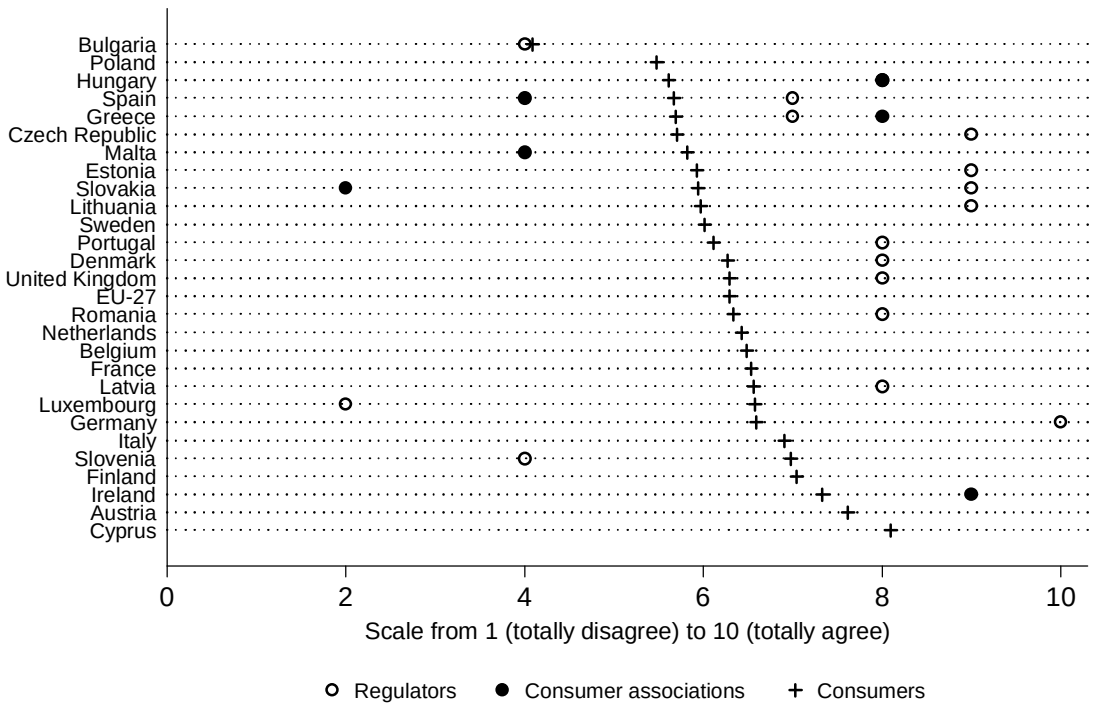
However, in the majority of cases, the replies from different organisations within the same Member State differ markedly. Both the Slovak consumer association and the regulator from Luxembourg gave responses of 2, suggesting that they perceive the technical quality of assistance provided by suppliers to be of relatively low quality and much lower compared to the views of consumers. It is worth noting that the Slovak regulator, on the other hand, considers the technical assistance to be of much higher quality than consumers.

The Spanish and Maltese consumer associations and the Slovenian regulators also provide a much lower rating of the quality of technical assistance than consumers in these Member States. All

other stakeholders rate the quality of technical assistance higher than consumers in the same Member State and the German regulator fully agrees that the technical assistance provided by suppliers is of high quality.

Again no positive relationship between the views of regulators and consumers can be observed (Figure 95).

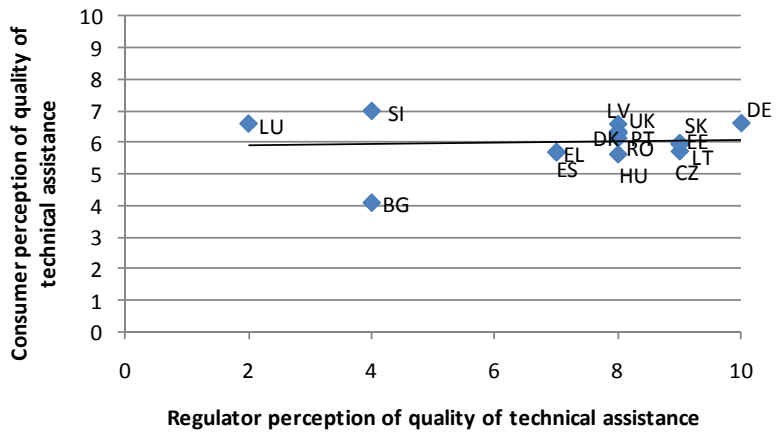
Figure 94: Perception of quality of technical assistance



Note: Agreement with statement: 'Electricity suppliers offer high quality technical assistance when it comes to new installations, repairs, etc.' The regulator in France, Finland and the Netherlands and the consumer association in Belgium, Denmark, Romania and the UK responded 'Don't know'.

Source: ECME Consortium analysis of data from stakeholder and general consumer survey

Figure 95: Relationship between consumer and regulator perception of quality of technical assistance



Note: Agreement with statement: 'Electricity suppliers offer high quality technical assistance when it comes to new installations, repairs, etc.' measured on a scale from 0 to 10 (where 10 represents high quality assistance).
Source: ECME Consortium stakeholder survey and general consumer questionnaire

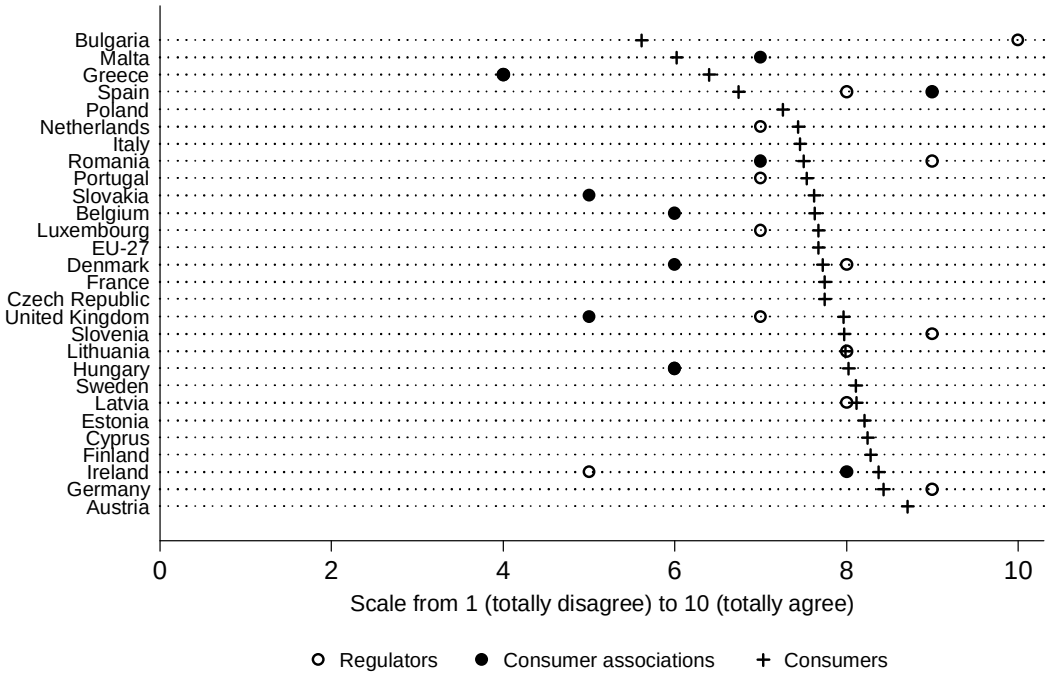
4.4.4 Customer management relationship

The way suppliers treat their customers is another important element of how consumers view the service provided by their electricity supplier. One factor that would make up part of customer management relationship is the general attitudes of staff, i.e. whether the staff is perceived as professional, helpful and friendly.

Across the EU consumers rate the general attitude of the staff at 7.7 on the 10-point scale (Figure 96). When asked whether they agreed with the statement that staff of the electricity supplier is professional, helpful and friendly, consumers in all Member States, on average, gave ratings above 5.6 and, with the exception of Bulgaria, Malta, Greece and Spain, all average consumer ratings were above 7.3. This suggests that consumers overall are relatively satisfied with the professionalism, friendliness and helpfulness of staff.

Figure 96 also provides further evidence that the responses of consumers are much less varied than the views of regulators and consumer associations. The consumer associations generally rated the quality of the staff lower than consumers except in Malta and Spain. The views of regulators were relatively well in line those of consumers, although the Bulgarian regulator provides a much higher rating of staff quality than Bulgarian consumers.

Figure 96: Perception of attituides of staff



Note: Agreement with statement: 'Staff of electricity suppliers is professional, helpful and friendly'. The regulator in France, Finland and the Netherlands and the consumer association in Belgium, Denmark, Romania and the UK responded 'Don't know'.
Source: ECME Consortium stakeholder survey and general consumer questionnaire

The quality of the customer management relationship, however, not only depends on the quality of staff.

Therefore a more comprehensive measure of the perceived quality of the customer management relationship is constructed as the average rating on the 10-point scale of the following components:

- The extent to which suppliers provide information
- The extent to which supplier have a website with useful information
- The extent to which suppliers can always be reached
- The extent to which the staff Is helpful, friendly and professional
- The quality of the technical assistance
- The extent to which suppliers react promptly and accurately to questions and problems

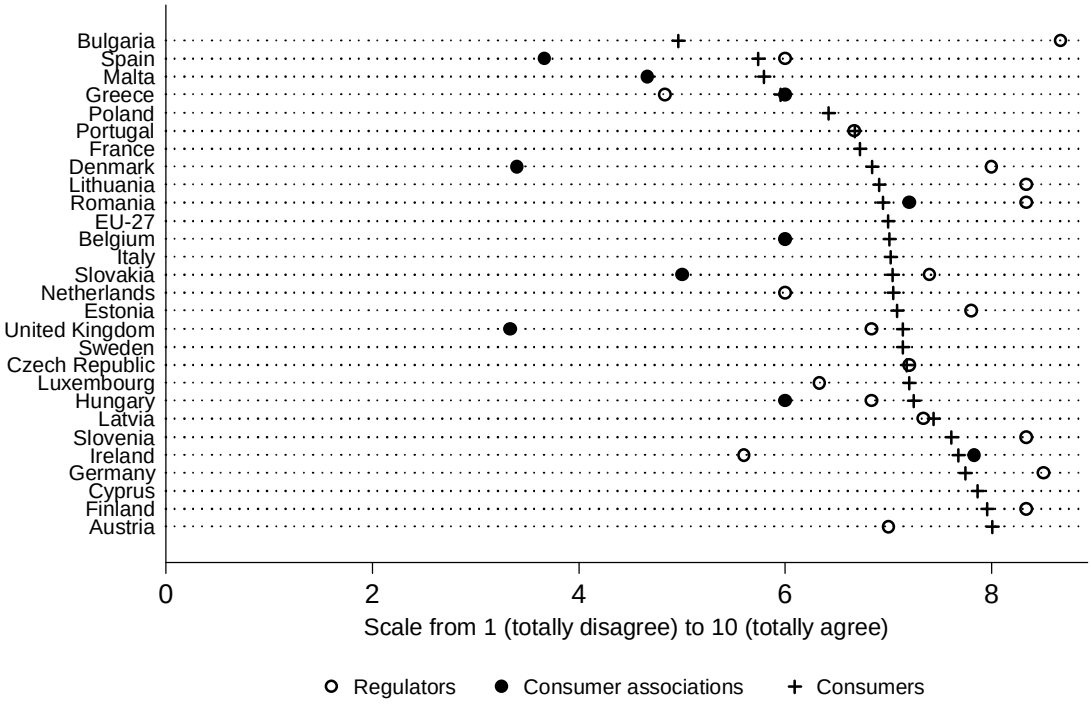
Once again, the majority of responses given by consumers across EU-27 vary much less than the responses of the consumer associations or regulators. On average, consumers in all Member States except Bulgaria rate the quality of customer management relationship between 6 and 8 and the EU average is 7.

Regulators were in agreement with consumers that the level of customer management relationship was high, as all gave ratings of 5 and over but the Bulgarian regulator viewed the quality of the customer management relationship as much higher than consumers.

Consumer associations generally rated the quality of the customer management relationship lower than consumers and regulators. However, the Romanian consumers association provided a rating which was slightly above the average rating provided by consumers. Similarly, the Slovene consumer association provided a rating slightly above the average consumer rating and much higher than the rating provided by regulators. Finally, the views of the Greek consumer association were in line with the views of Greek consumers but the regulator rated the quality of the customer management relationship much lower.

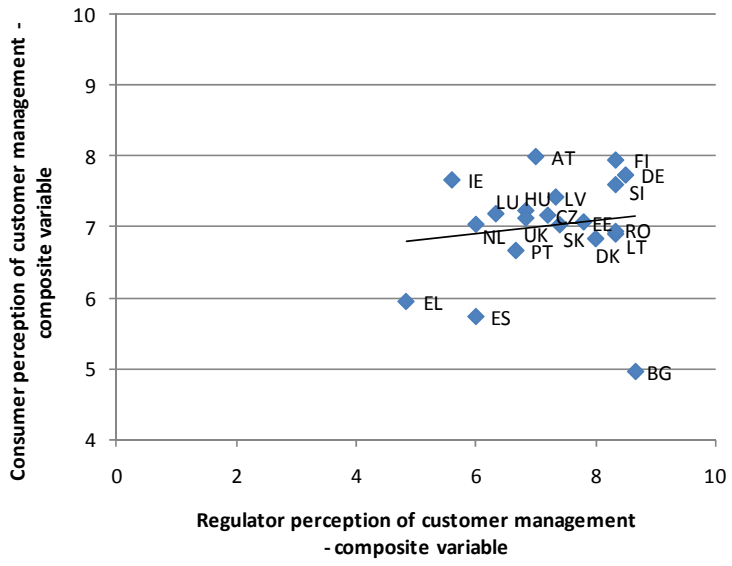
There is a very slight positive correlation between the consumer and regulator ratings and, here, the Bulgarian case is clearly an outlier where the regulator perceives the quality of customer management services as much higher than consumers (Figure 97).

Figure 97: Perception of quality of customer management relationship



Source: ECME Consortium stakeholder survey and general consumer questionnaire

Figure 98: Relationship between consumer and regulator perception of quality of customer management relationship



Note: Measured on a scale from 0 to 10 (where 10 represents high quality customer management relationship).
Source: ECME Consortium stakeholder survey and general consumer questionnaire

4.4.5 Overall quality of service

This sub-section concludes the discussion of the perceived quality of service with an analysis of the consumer and stakeholder perceptions of the overall quality of service in the retail electricity market.

Firstly, looking at the perceptions of consumers across the EU, the responses to the survey indicate that consumers generally think that the quality of services is above average but at the same time there appears to be room for service improvements.

In particular, on the 10-point scale where 10 represents high overall quality of services, the EU average rating is 7.6 and the ratings vary from 5.4 in Bulgaria to 8.7 in Austria.

Relatively, low ratings are, on average, provided by consumers in Bulgaria, Malta, Greece and Spain. In this analysis of perceptions of quality, these Member States have consistently been among the Member States where consumers perceive the quality of service to the low.

In contrast, Ireland and Austria have consistently ranked among the top 5.

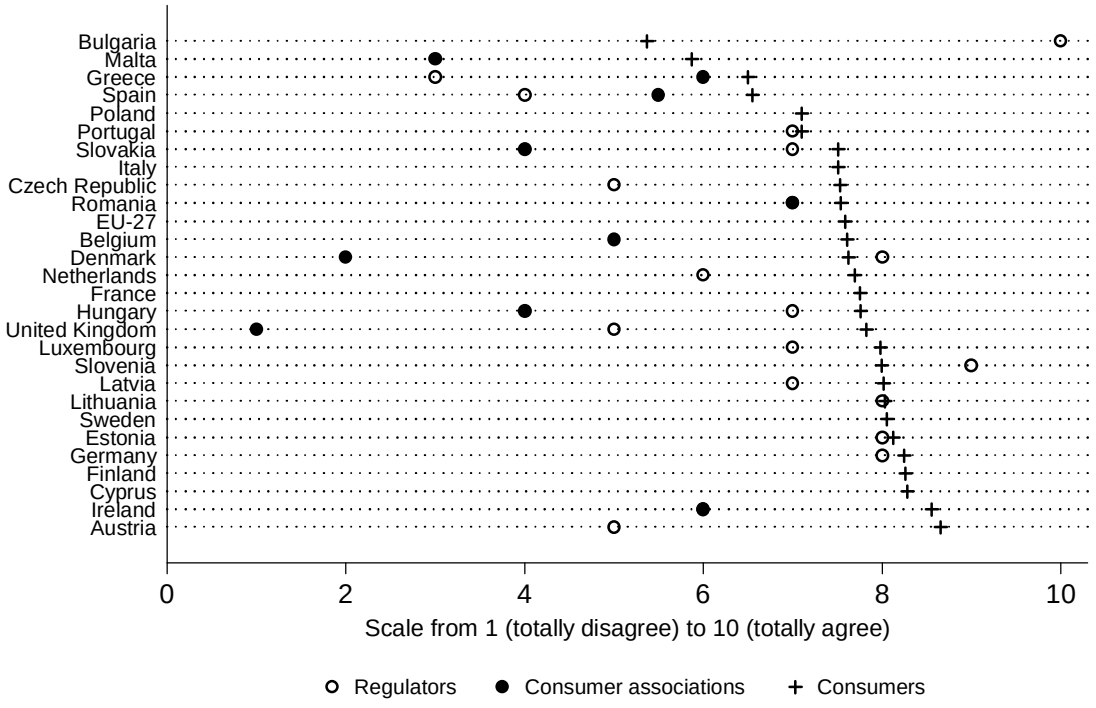
Whereas the lowest average consumer response was 5.4, the lowest response from a consumer association was from the United Kingdom, at around 1 and the consumer associations in Denmark, Hungary and Slovakia also provided ratings below the midpoint on the scale. There were also two regulators, from Greece and Spain, with scores below 5.

The responses of stakeholders were much more divided but, generally, stakeholder ratings of the overall quality of services are lower than the average consumer ratings. There are three

exceptions. Firstly, as already observed in most parts of this analysis the Bulgarian regulator rates the overall services provided by electricity suppliers much higher than consumers. The Danish and Slovenian regulators also consider the overall quality of services to be slightly higher than consumers.

As already observed previously, there is generally no correlation between the perceptions of regulators and the perceptions of consumers (Figure 100).

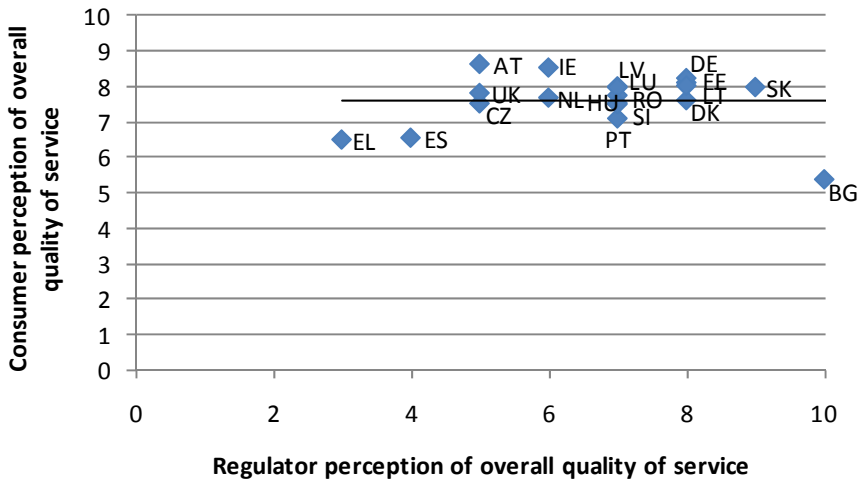
Figure 99: Perception of overall quality of service



Note: Agreement with statement: 'Electricity suppliers offer overall a high quality service'. The regulator in France and the consumer association in the UK responded 'Don't know'.

Source: ECME Consortium analysis of data from consumer and stakeholder surveys

Figure 100: Relationship between consumer and regulator perception of overall quality of service



Note: Agreement with statement: 'Electricity suppliers react promptly and accurately when contacted with problems or questions' measured on a scale from 0 to 10 (where 10 represents high speed).
Source: ECME Consortium stakeholder survey and general consumer questionnaire

4.5 Availability and quality of information

The relatively low level of awareness among consumers may be due to:

- poor access to information; or,
- poor quality of information which is difficult for consumers to understand.

Below we explore these two aspects further. First, we consider consumers' access to information, and second, we consider the extent to which consumers are able to understand the information provided.

4.5.1 Access to information

Suppliers may use a combination of active and passive means to provide consumers with information. Suppliers that actively provide information to their consumers take the initiative to contact consumers with information they believe to be relevant for the consumer. For example, this may be information included with the bill or separate information leaflets sent to consumers.

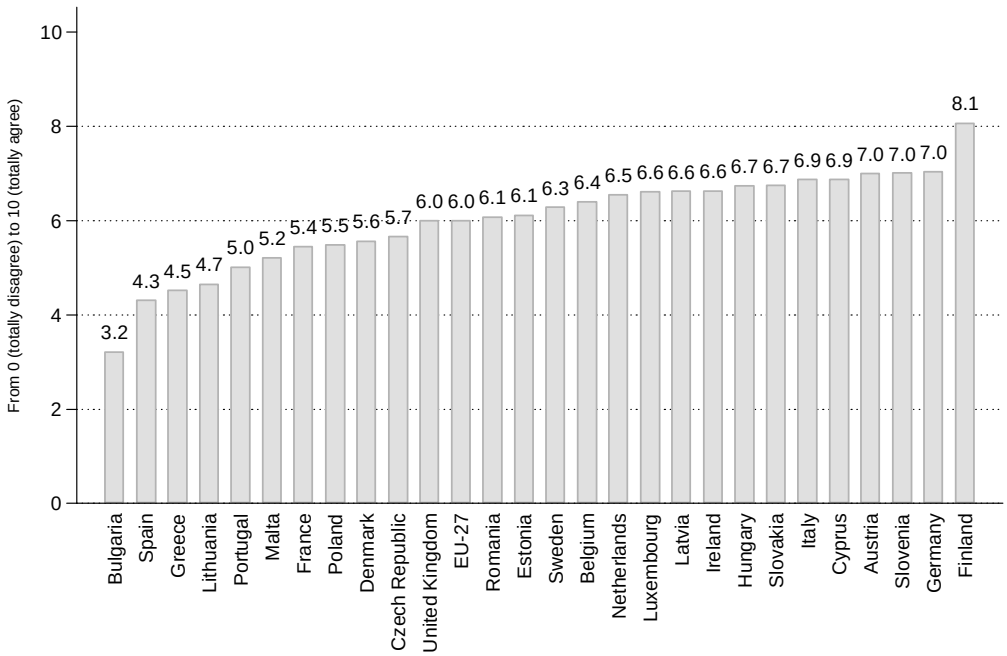
Active provision of information to consumers

The consumer survey indicates that suppliers are not particularly active in terms of providing their customers with information about their services and tariffs. Respondents ranked their agreement with the statement 'Your provider informs you regularly about their services and tariffs' on a scale from 0 (totally disagree) to 10 (totally agree). The average ranking for each Member State is shown in Figure 101. The statement was found to be most supported by Finnish consumers who gave an

average ranking of 8.1. In comparison, no other Member State had an average ranking of more than 7.

The results also indicate that with an average score of 3.2, Bulgarian suppliers are the least active in terms of providing consumers with information. Spanish, Greek and Lithuanian suppliers also achieve average scores below 5 indicting that they provide information about tariffs and services to consumers relatively rarely.

Figure 101: Rating of the extent to which suppliers provide consumers with information on a regular basis



Note: Based on Q10.2: Agreement with the statement: (Name of supplier) informs you regularly about their services and tariffs'. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium based on the general consumer survey

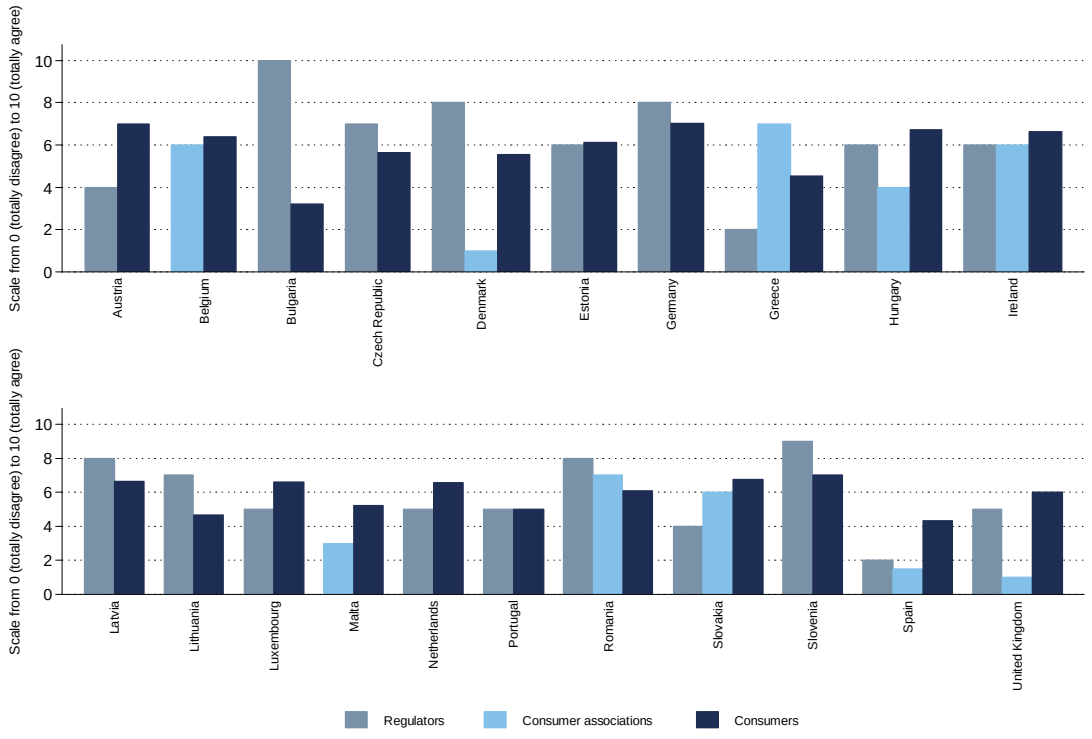
Usually the views of regulators, consumer associations and consumers are well aligned on this issue (Figure 102).

However, there are some clear exceptions. For instance, in the view of the Bulgarian regulator the suppliers regularly provide information in a way that is easily understandable. As discussed above, consumers do not tend to agree with this assessment.

It is also worth noting that the consumer associations in Denmark and the United Kingdom are much less satisfied with the level of information provided than consumers and regulators. While the difference between stakeholders and consumers may be partly due to the fact that stakeholders were also asked whether the information was easily understandable, this cannot explain differences in the opinions among different stakeholders.

Consumers and stakeholders in Spain largely agree that very little information is provided and consumer associations and regulators generally provide a lower rating than consumers, perhaps because the information that is provided is hard to understand.

Figure 102: Stakeholder and consumer view on whether suppliers provide information about tariffs and services on a regular basis in a way that is easily understandable to them



Source: ECME Consortium stakeholder and consumer questionnaires

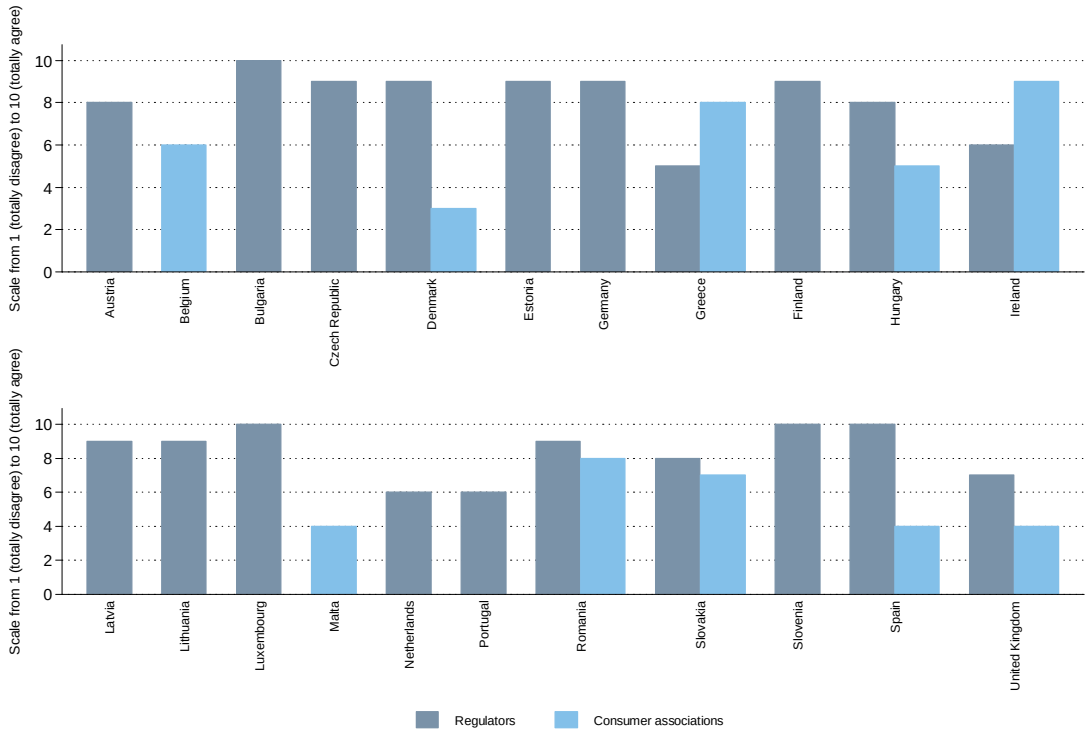
The electricity bill is a regular means for the supplier to actively provide its consumers with information. However, the level of information provided by suppliers may vary considerably from Member State to Member State. In order to provide insights into the access to information on electricity bills, respondents to the billing and payment survey were asked to assess how easy it was for them to find and understand specific pieces of information on their bill. These results are analysed in detail in Chapter 3. The analysis shows that basic billing information such as the name of supplier; supplier contact details; and, the billed amount can very easily be found and understood by consumers. However, other types of information which are not directly related to billing were much harder to find (for example information regarding switching, information regarding the next bill, energy saving advice, information about the source of energy and information on offers and discounts).

Passive provision of information to consumers

Besides actively contacting consumers and giving them relevant information, suppliers may also use a more passive approach when providing information and put in place information services that consumers can contact when they seek information. Suppliers may for example run a website which provides relevant information for consumers.

Consumer associations and regulators generally indicate that they believe suppliers' websites provide useful information (Figure 103). However, the Danish, Spanish, British and Maltese consumer associations do not seem to think that this is the case. The Greek regulator and Hungarian consumer association are also sceptical in this regard.

Figure 103: Usefulness of information provided on supplier websites

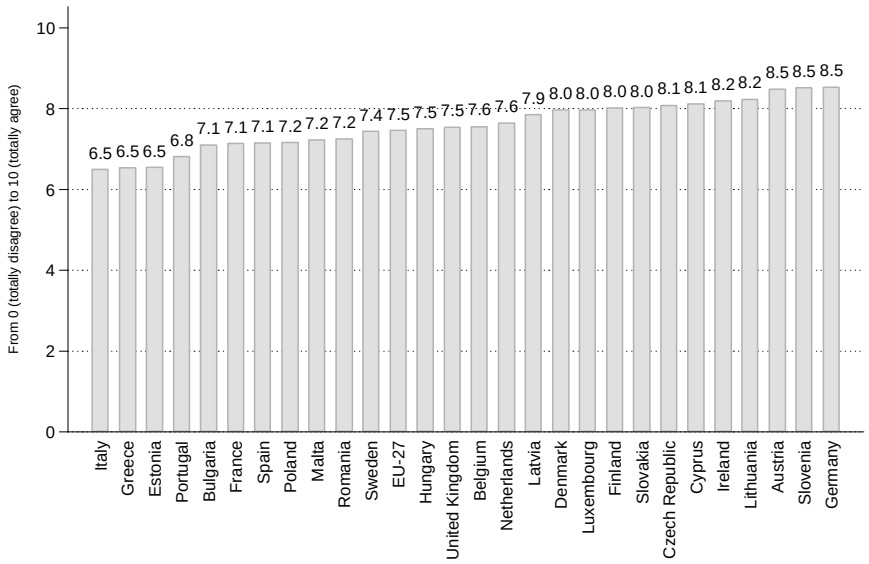


Note: Agreement with the statement: Electricity suppliers have websites that provide useful information.
Source: ECME Consortium based on the stakeholder surveys

Consumers were asked if they think it is easy to find information on suppliers' websites. In particular, respondents to the general consumer survey were asked to indicate their agreement with the statement, 'Your supplier has a website on which you can easily find the information you want', on a scale from 0 (totally disagree) to 10 (totally agree).

Average ratings in the Member States range from 6.5 in Italy, Greece and Estonia to 8.5 in Austria, Slovenia and Germany. This indicates that consumers generally think it is relatively easy to find the information they want on suppliers' websites. Overall this would seem to indicate that suppliers have a relatively good passive provision of information on their websites where consumers can find the information they need. In comparison, suppliers seem to fare less well in terms of active provision of general information to consumers (for example non-billing related information provided on the electricity bills). Hence consumers would typically need to actively seek information in order to become better informed about the market.

Figure 104: The extent to which suppliers have a website where consumers can easily find information



Note: Based on Q10.3: Agreement with the statement: (Name of supplier) has a website on which you can easily find the information you want. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium based on the general consumer survey

The mystery shopping exercises provide further insight into what information is available and whether consumers are able to find useful information on the websites or any other means of communication (bills, contacts, letters, etc.). The results indicate that suppliers typically provide information about tariffs, payment methods, terms and conditions, contact details for customer services and to a lesser extent contact details for energy mediators or other third-party organisations that can assist consumers who have electricity related problems.

In particular, at least 50% of mystery shoppers where able to find information about their electricity tariff in all Member States, and all mystery shoppers in 16 out of 27 Member States where able to find their tariff (Table 26). However, less than 75% were able to do so in Belgium, Bulgaria, Italy and Lithuania.

Similarly, in 16 Member States, all mystery shoppers were able to find information about which payment methods they could use. In contrast, only 46% of mystery shoppers in Finland were able to do so and only 67% of mystery shoppers could find the information in Belgium and Slovakia.

No mystery shoppers were able to find the terms and conditions related to their contract in Cyprus and only 33% were able to do so in Bulgaria. In all other countries, at least 50% of mystery shoppers found their terms and conditions.

Suppliers generally provide contact details for their customer service department, where consumers can direct complaints and all mystery shoppers were able to find such contact details in 21 out of 27 countries. The exceptions were Germany, Luxembourg, the Netherlands, Poland, Sweden and the United Kingdom but even in these countries at least 75% of mystery shoppers found the contact details.

Suppliers less frequently appear to provide consumers with contact details of third-parties who can assist consumers with problems. In 15 Member States less than 50% of the mystery shoppers were able to find contact details for third parties provided by the supplier. In Cyprus, Germany, Luxembourg, Malta, Slovenia and Spain no mystery shoppers were able to find such details. In contrast, all Estonian, Latvian and Slovakian mystery shoppers were able to find the information.

Table 26: Access to specific pieces of information

Country	Number of companies included in exercise	Can find the type of tariff they are on	Can find the payment methods they can use	Can find the terms and conditions related to their contract	Can find a customer service number to complain to	Can find contact details of an energy mediator or other third-party organisation	Information index
Austria	4	**100%**	**80%**	**100%**	**100%**	40%	0.84
Belgium	4	**50%**	**67%**	**83%**	**100%**	**50%**	0.70
Bulgaria	3	**67%**	**100%**	33%	**100%**	33%	0.67
Cyprus	1	**100%**	**100%**	0%	**100%**	0%	0.60
Czech Republic	3	**100%**	**100%**	**100%**	**100%**	33%	0.87
Denmark	10	**100%**	**100%**	**100%**	**100%**	**90%**	0.98
Estonia	4	**100%**	**100%**	**80%**	**100%**	**100%**	0.96
Finland	13	**85%**	46%	**62%**	**100%**	23%	0.63
France	3	**100%**	**100%**	**100%**	**100%**	**75%**	0.95
Germany	7	**100%**	**75%**	**88%**	**88%**	0%	0.70
Greece	2	**100%**	**100%**	**100%**	**100%**	**50%**	0.90
Hungary	4	**100%**	**100%**	**100%**	**100%**	**75%**	0.95
Ireland	3	**100%**	**100%**	**69%**	**100%**	**54%**	0.85
Italy	5	**67%**	**83%**	**83%**	**100%**	17%	0.70
Latvia	1	**100%**	**100%**	**100%**	**100%**	**100%**	1.00
Lithuania	2	**50%**	**100%**	**100%**	**100%**	**50%**	0.80
Luxembourg	4	**75%**	**75%**	**50%**	**75%**	0%	0.55
Malta	1	**100%**	**100%**	**100%**	**100%**	0%	0.80
Netherlands	3	**80%**	**80%**	**80%**	**80%**	40%	0.72
Poland	10	**90%**	**90%**	**70%**	**80%**	40%	0.74
Portugal	2	**100%**	**100%**	**100%**	**100%**	**50%**	0.90
Romania	4	**100%**	**100%**	**86%**	**100%**	43%	0.86
Slovakia	3	**100%**	**67%**	**100%**	**100%**	**100%**	0.93
Slovenia	6	**83%**	**83%**	**100%**	**100%**	0%	0.73
Spain	7	**100%**	**100%**	**86%**	**100%**	0%	0.77
Sweden	9	**80%**	**100%**	**90%**	**90%**	20%	0.76
United Kingdom	12	**83%**	**94%**	**56%**	**83%**	**56%**	0.74
EU-27		**90%**	**90%**	**83%**	**94%**	36%	0.78

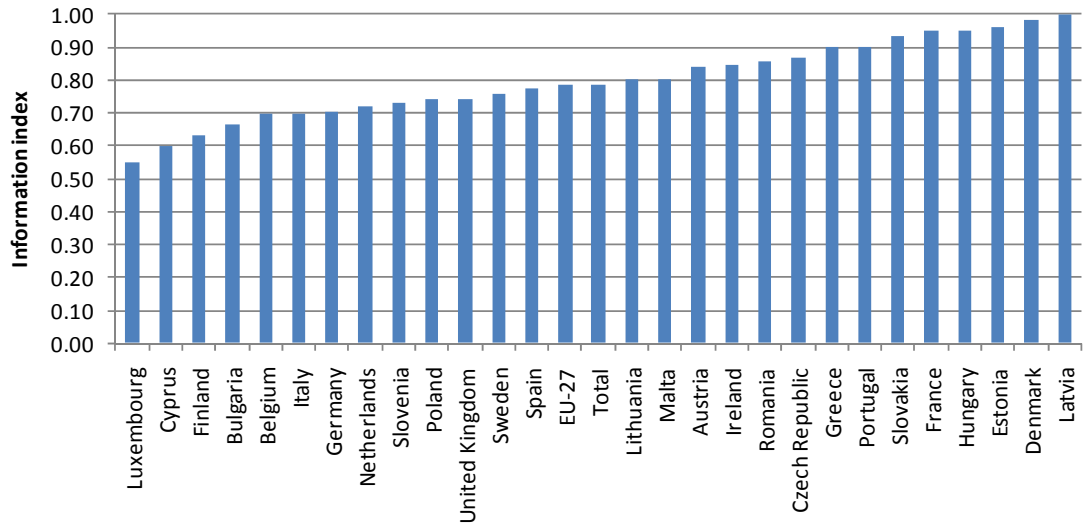
Note: Bold indicates that at least 50% where able to access their account. The index is calculated as the average of the five information components in this table. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: Mystery shopping scenario 5 undertaken by the ECME Consortium.

Overall, when these scores are combined into an aggregate index of the availability of specific types of information, the results of the mystery shopping exercise suggest that suppliers provide more information in Latvia than in any other country. However, in Latvia, only one supplier was included in the mystery shopping exercise and this supplier provided all the pieces of information

mystery shoppers were asked to look for. The scores for Greece, Portugal, Slovakia, France, Hungary, Estonia and Denmark are all above 0.9 which means that mystery shoppers where able to find the information in at least 90% of the cases.

Although mystery shoppers in all Member States were able to find the information they were looking for in more than 50% of the cases, the specific pieces of information detailed in Table 3 are less easily available in some Member States than in others. In particular, information is relatively hard to find in Luxembourg, Cyprus, Finland and Bulgaria where mystery shoppers found the requested information in less than 70% of the cases.

Figure 105: Availability of specific pieces of information



Note: One mystery shopping exercise was undertaken for each of the main suppliers. The index is calculated as the average of the five information components in Table 26. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: Mystery shopping scenario 5 undertaken by the ECME Consortium.

4.5.2 Understanding information provided by suppliers

Consumers may also have difficulty understanding the information provided by suppliers and this might explain why consumers do not feel well informed about the electricity market.

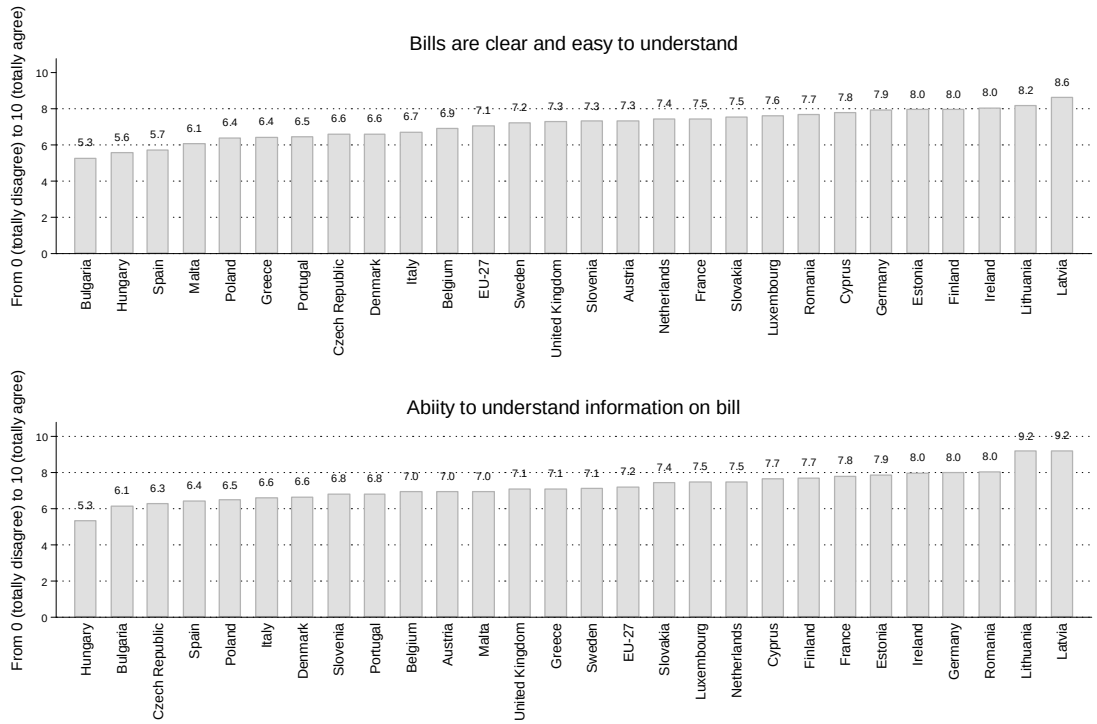
Clarity of information provided on the electricity bill

Consumers across the EU, on average, rate the extent to which bills are clear and easy to understand at 7.1 on a scale from 0 to 10, where 10 represents the highest level of clarity of bills (Figure 106). This suggests that overall in the EU there is room for improvement of the clarity of electricity bills. The average rating ranges from 5.3 in Bulgaria to an average score in Latvia of 8.6.

With respect to their ability to understand their bill, consumers across the EU, on average, rate this at approximately the same level (7.2 on the 10-point scale). Consumers in Latvia and Lithuania are the most confident that they understand their electricity bill (Figure 106) and the reason might be that consumers in these countries receive no bills in the same sense as consumers in other Member States. Instead consumers in Latvia and Lithuania pay based on actual meter readings they make themselves. The fact that consumers are more involved in the process may mean that

transparency in the billing process is also higher. Hungarian and Bulgarian consumers on the other hand are least confident that they understand the information provided on their electricity bill.

Figure 106: Understanding the electricity bill



Note: Based on Q12.4: Agreement with statement: Bills of (name of supplier) are clear and easy to understand and Q3.3: Agreement with the statement: I understand the information provided on my electricity bill. EU-27 average calculated using 2010 Eurostat population figures as weights.

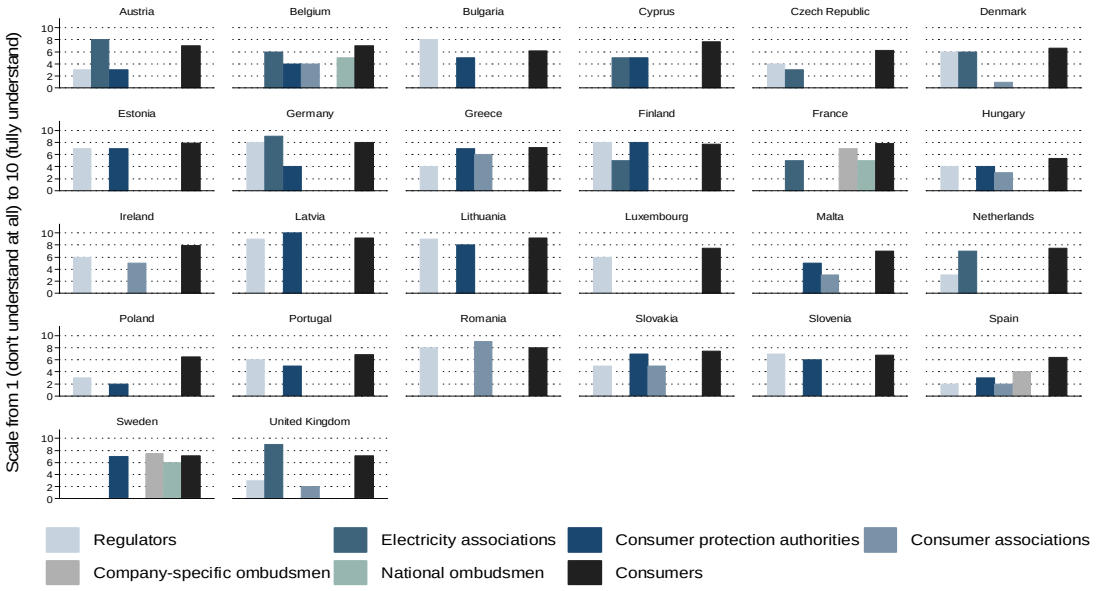
Source: ECME Consortium analysis of data from general consumer survey

Interestingly, stakeholders are generally more pessimistic than consumers about the ability of consumers to understand electricity bills. This may be either because stakeholders are overly pessimistic or because consumers overestimate their own ability to understand the information provided on the electricity bill. Stakeholders' views may be influenced by the fact that they mainly deal with enquires or complaints when consumers do not understand the information.

On the other hand, electricity industry associations in Austria, Germany and the United Kingdom report a better understanding of electricity bills by consumers than the latter do. We note that it is unfortunate if the industry views the situation in the market in a more positive light than what is the case, because this may imply that the industry is unable to identify areas where conditions for consumers could be improved.

The consumer protection authority in Latvia and the consumer association in Romania also provide higher ratings of consumers' ability to understand their bills than consumers themselves.

Figure 107: Stakeholder views on whether consumers undertand electricity bills



Note: Agreement with statement: In your opinion, do consumers understand the information provided on the electricity bill?
Source: ECME Consortium stakeholder surveys

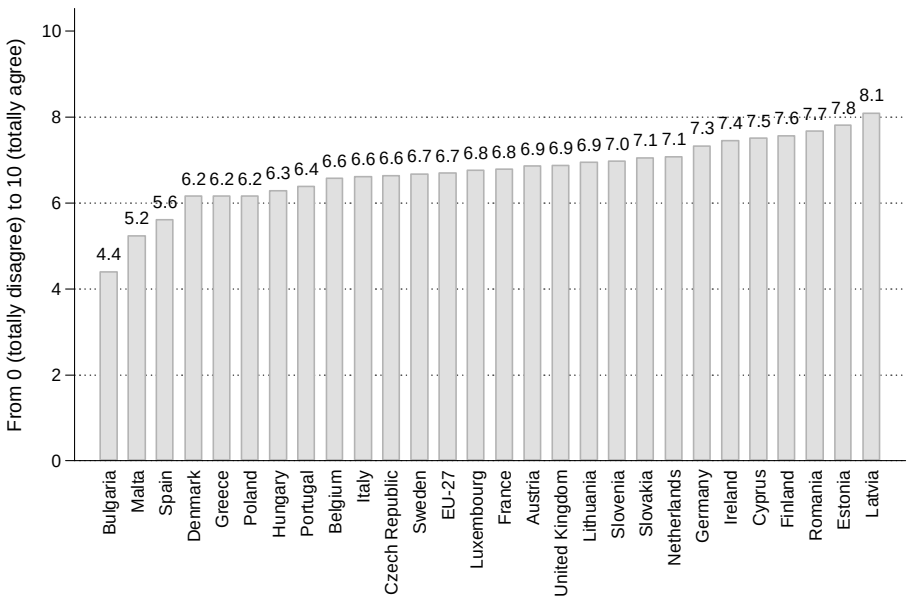
Clarity of other information provided by the suppliers

Respondents to the general consumer survey were also asked to rate the clarity of information provided in the contract with their supplier and the clarity of tariff information on the 10-point scale.

Although consumers on average indicated some agreement with the statements: 'The information in my contract with my supplier is clear complete and easy to understand', and 'Tariffs of my supplier are clear and easy to understand', there is also room for improvement in the clarity of information in this respect. Most notably in Bulgaria, Malta and Spain, consumers find contact and tariff information relatively unclear and difficult to understand (Figure 108 and Figure 109).

Overall the evidence suggests that consumers are generally not kept regularly informed by the suppliers. Instead consumers have to actively seek the information they need from websites etc. Furthermore, the information provided by suppliers on electricity bills, in contract terms and about tariffs could be clearer and easier for consumers to understand. All these factors are likely to contribute to the fact that consumers do not feel particularly well-informed about the electricity market.

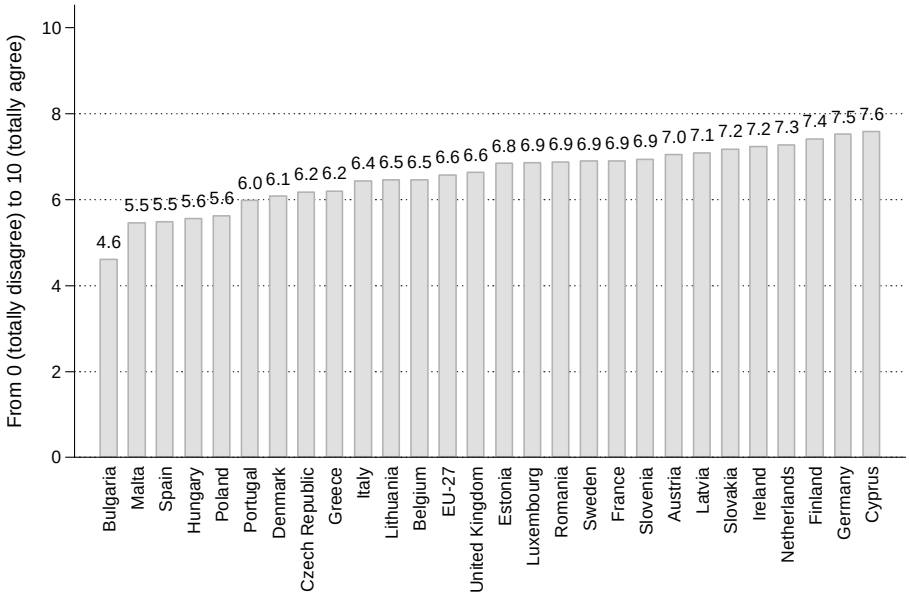
Figure 108: Clarity of contract terms



Note: Based on Q9.3: Agreement with statement: The information in my contract with (name of supplier) is clear, complete and easy to understand. EU-27 average calculated using 2010 Eurostat population figures as weights.

Source: ECME Consortium general consumer survey

Figure 109: Clarity of tairff information



Note: Based on Q12.3: Agreement with statement: Tariffs of (name of supplier) are clear and easy to understand. EU-27 average calculated using 2010 Eurostat population figures as weights.

Source: ECME Consortium general consumer survey

4.6 Availability and quality of assistance

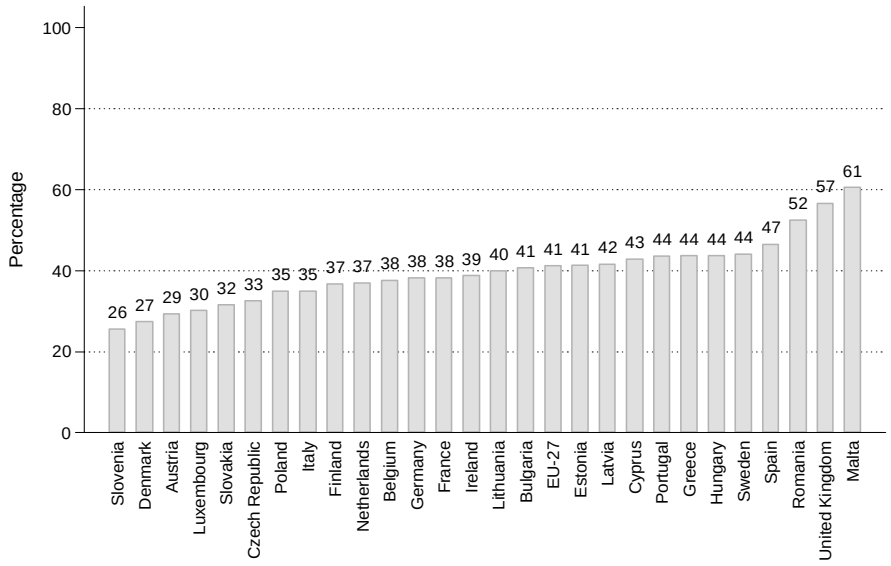
Having analysed the availability and quality of information provided by suppliers, this section analyses the availability and quality of additional assistance provided by suppliers, for example, in relation to billing, energy consumption and contract terms and conditions.

Consumers in some Member States contact their suppliers to ask for assistance or additional information. In particular, 61% of consumers in Malta, 57% of British consumers and 52% of Romanian consumers have contacted their supplier in the last year regarding one or more of the following issues:

- Their electricity consumption.
- Their tariff.
- Their electricity bill.
- The energy source of electricity they use.
- Their terms and conditions.
- Power interruptions.
- Other connection issues.

In contrast, less than 30% of consumers have contacted their supplier about any of these issues in Slovenia, Denmark and Austria (Figure 110). Across the EU, 41% of consumers have contacted their supplier for assistance within the last 12 months.

Figure 110: Percentage of consumers who have contacted their supplier in the last 12 months



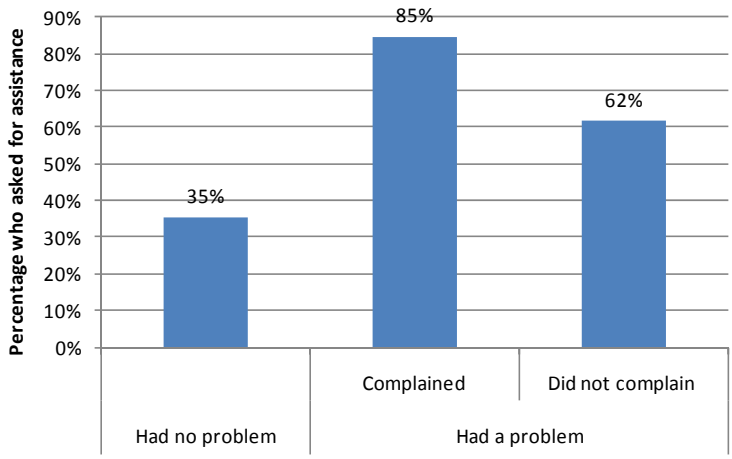
Note: Based on Q5a: In the past 12 months have you contacted your electricity provider concerning any of the following issues? EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey

There is a clear tendency that respondents who have experienced a problem within the last 2 years are more likely to have contacted their supplier for assistance. Respondents who complained

about the problem are also more likely to also have contacted their supplier for assistance. However, we note even among respondents who have not experienced a problem in the last 2 years that 35% have contacted their supplier for assistance.

It should be noted that assistance is a broader concept than complaint handling which is discussed in further detail in Chapter 6 on problems, complaints and complaint handling. Assistance not only entails responding to complaints but also responding to questions and requests for information.

Figure 111: Percentage of consumers who asked for assistance by complaint behaviour



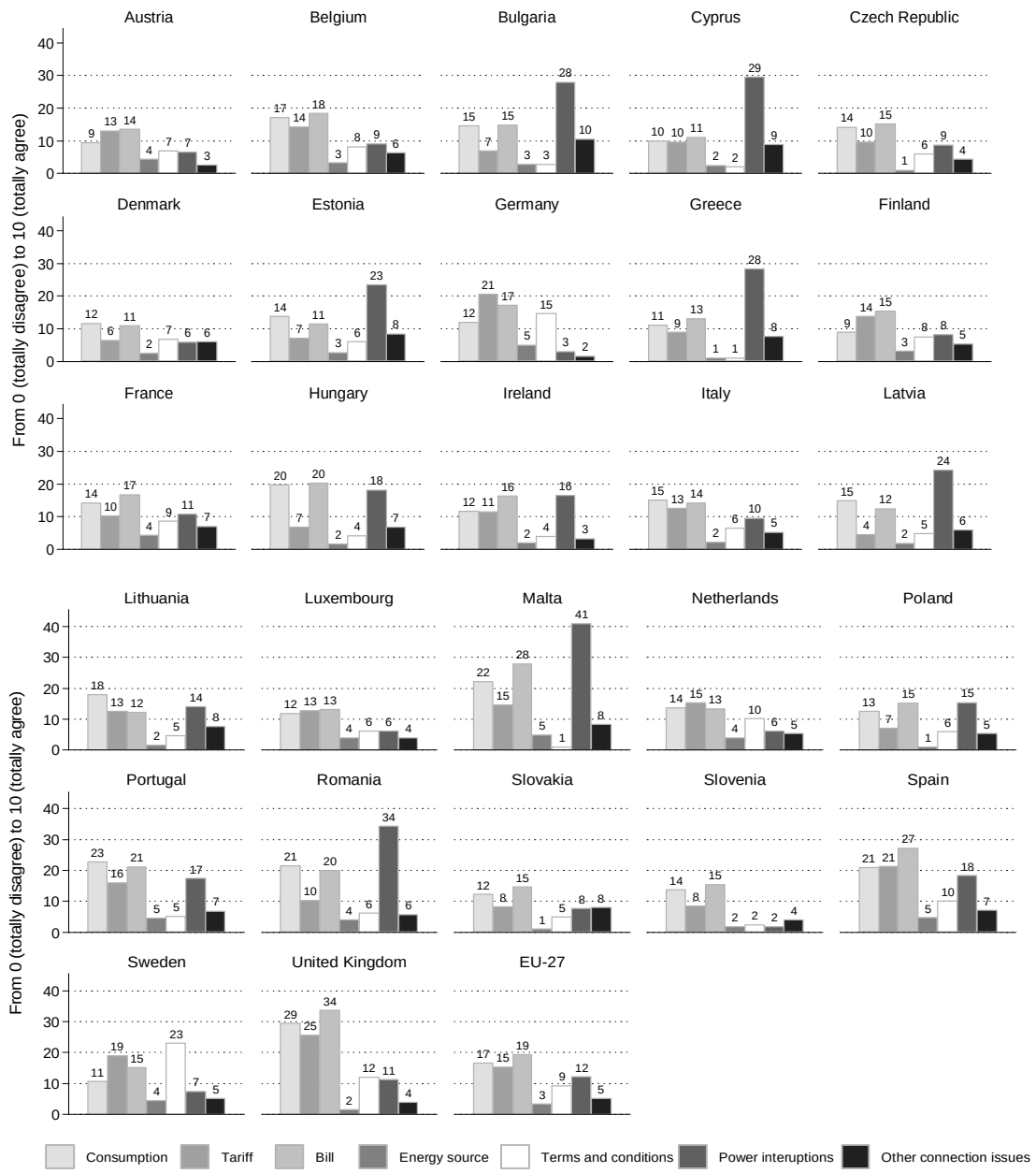
Note: Information on whether respondents have had a problem and complained refers to the 2 years prior July 2010. Information about whether respondents have asked for assistance refers to the 12 months prior to July 2010
Source: ECME Consortium general consumer survey

Consumers in Malta mostly contacted their supplier regarding power interruptions. This was the case for 41% of consumers in Malta. Consumers in Bulgaria, Cyprus, Estonia, Greece, Latvia and Romania also mostly contacted their supplier about power interruptions and, in these Member States, at least 24% of consumers contacted suppliers about power interruptions in the last year. In comparison, less than 5% of German and Slovenian consumers contacted their supplier about power interruptions within the last year.

Consumers also frequently contact their suppliers for assistance regarding their electricity consumption, their tariff or their electricity bill. Most notably 34% of consumers in the United Kingdom have contacted their supplier about billing within last year, 29% have contacted their supplier about their electricity consumption and 25% have contacted their supplier about their tariff. A large percentage of consumers in Spain, Malta, Portugal, Romania, Luxembourg and Germany have also contacted their suppliers about one of these issues in the past year.

In comparison, consumers only rarely contact their supplier regarding the source of their energy, the terms and conditions or connection issues.

Figure 112: Percentage of consumers who have contacted their supplier within the last 12 months about…



Note: Based on Q5a: In the past 12 months have you contacted your electricity provider concerning any of the following issues? EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey

4.6.1 Availability of assistance

Consumers who would like assistance may be discouraged from contacting their supplier if assistance is not easily available to them. This may, for example, be the case if it is very costly to contact suppliers or if it is difficult to reach the suppliers. In this section we consider these two issues.

Cost of contacting suppliers

The mystery shopping exercises suggest that some suppliers provide only a free phone number that consumers can call; other suppliers provide only a paying phone number for consumers; and some suppliers provide both a paying and a free phone number. Furthermore, in some cases suppliers apparently provide neither. For example in Sweden 60% of mystery shoppers indicated that they could not identify a paying or a free phone line. However, although mystery shoppers were unable to find a phone number, they may provide other contact details such as e-mail, chat, or postal address.

Generally, suppliers provide a paying phone number. This is the case for all suppliers in Belgium, Cyprus, the Czech Republic, France, Greece, Hungary, Lithuania, the Netherlands, Portugal, Romania, Slovakia and Spain. However, the cost of calling the phone number is not always clearly indicated. In particular, in Denmark, Cyprus, Hungary, Italy, Slovenia, Spain and Sweden no suppliers clearly indicated the cost associated with calling the paying phone number. On the other hand the costs were always clearly indicated in Austria, Bulgaria, the Netherlands and Portugal.

In Romania and Austria the cost of calling the paying phone number was typically clearly indicated and there was no additional cost associated with making a call to the paying phone number on top of the usual costs of phone calls. Mystery shoppers in a number of other Member States, on average, also indicated that there were no additional costs associated with making the call. However, in all of these cases the cost was not always clearly indicated by the supplier.

The average additional costs per minute associated with calling suppliers' paying phone numbers vary considerably. As mentioned above, there were no additional costs in some countries while the additional costs in Germany on average were €0.53 per minute. The results of the mystery shopping exercise show that there is a high level of variation in the additional costs of calling suppliers within Germany (for example the standard deviation of the additional costs is 0.66[65]). The average additional costs associated with calling the paying phone line were also quite high in Ireland, Lithuania, Luxembourg, Poland and the United Kingdom.

[65] The standard deviation is a statistical measure of data variation which indicates how much a data series varies from the average. A low standard deviation indicates that all data points are very close to the average and hence that there is little variation in the data, whereas a high standard deviation indicates that the data is spread out over a large range of values.

Table 27: Availability of phone numbers and costs

Country	Supplier has a free phone number for customers	Supplier has a paying phone line for customers	Share with neither a free or paying phone line	The cost involved in contacting the client centre is indicated clearly*	Additional phone costs for a call to the client centre (in € per minute)*	
					Mean	Standard Deviation
Austria	**80%**	20%	20%	**100%**	0.00	:
Belgium	0%	**100%**	0%	17%	:	:
Bulgaria	33%	**67%**	0%	**100%**	:	:
Cyprus	0%	**100%**	0%	0%	0.00	:
Czech Republic	33%	**100%**	0%	33%	0.08	0.11
Denmark	**90%**	10%	0%	0%	:	:
Estonia	40%	**60%**	0%	**67%**	:	:
Finland	46%	**54%**	15%	**71%**	0.01	0.01
France	25%	**100%**	0%	**50%**	:	:
Germany	**75%**	38%	0%	**67%**	0.53	0.66
Greece	0%	**100%**	0%	**50%**	0.03	0.00
Hungary	25%	**100%**	0%	0%	0.00	0.00
Ireland	0%	**85%**	15%	27%	0.16	0.24
Italy	**100%**	**50%**	0%	0%	:	:
Latvia	**100%**	0%	0%	n.a.	n.a.	n.a.
Lithuania	**50%**	**100%**	0%	**50%**	0.25	0.15
Luxembourg	**50%**	**50%**	25%	**50%**	0.37	:
Malta	**100%**	0%	0%	n.a.	n.a.	n.a.
Netherlands	40%	**100%**	0%	**100%**	0.05	0.06
Poland	20%	**90%**	10%	33%	0.19	0.26
Portugal	**100%**	**100%**	0%	**100%**	:	:
Romania	0%	**100%**	0%	**86%**	0.00	0.00
Slovakia	**67%**	**100%**	0%	**67%**	:	:
Slovenia	**67%**	17%	14%	0%	0.00	:
Spain	**57%**	**100%**	0%	0%	0.00	0.00
Sweden	30%	10%	**60%**	0%	0.00	:
United Kingdom	44%	**61%**	0%	27%	0.17	0.38
EU-27	50%	72%	0%	40%	0.20	:

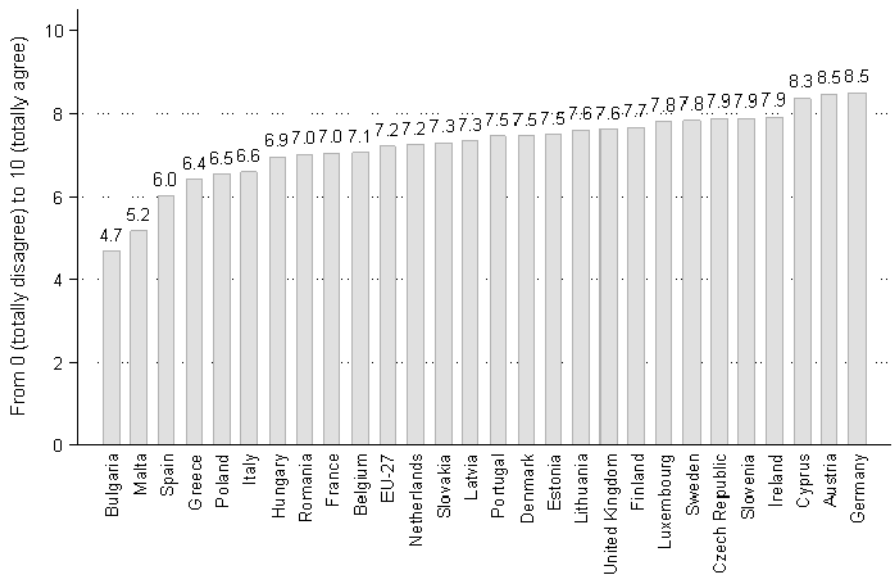
Note: *only based on responses from those mystery shoppers who indicated that there was a paying phone number. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: Mystery shopping scenario 5 undertaken by the ECME Consortium.

Reaching the suppliers

The results of the general consumer survey show that consumers who have contacted their supplier for assistance within the last 12 months generally, but not always, respond that they are able to reach their suppliers when needed (Figure 113). In particular, on a scale from 0 (totally disagree) to 10 (totally agree) of agreement with the statement 'My supplier can always be reached when needed', consumers across the EU rate the ability to reach suppliers at 7.2.

Consumers in Austria and Germany find it relatively easy to reach their suppliers and respondents provided an average score of 8.5. In comparison, consumers in Bulgaria, Malta and Spain indicate that it is quite difficult for them to reach their supplier when they need to. Recalling that Maltese consumers most frequently ask for assistance, it is worth noting that Maltese consumers apparently are not deterred from asking for assistance despite the difficulties associated with reaching their suppliers.

Figure 113: Ability to reach suppliers when needed

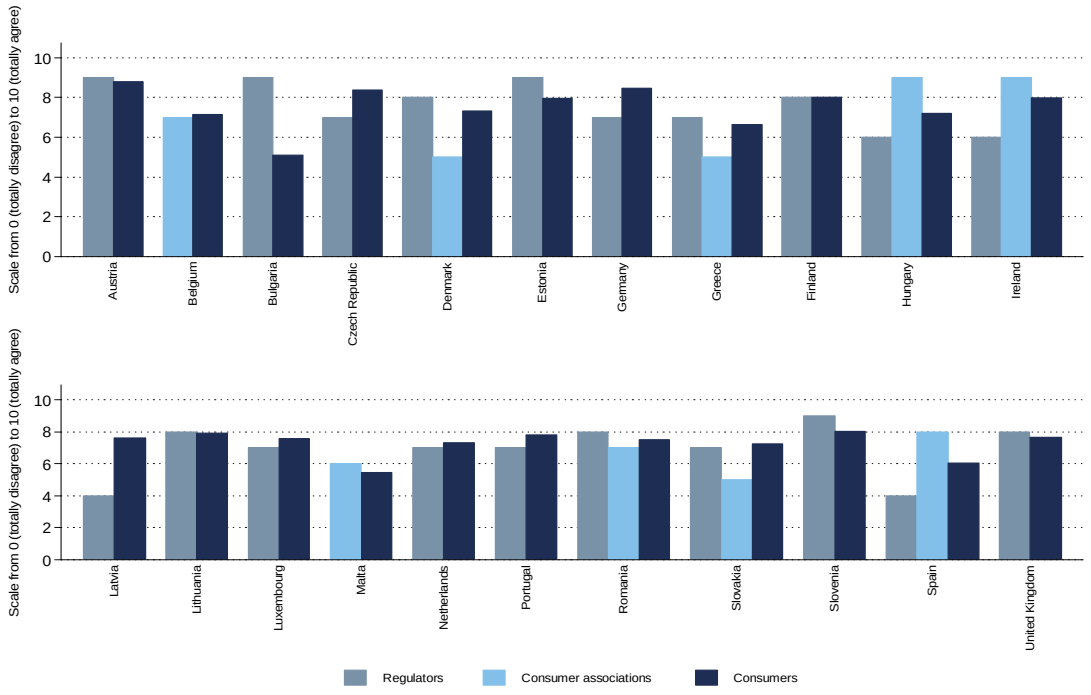


Note: Based on Q10.5 and responses from respondents who had contacted supplier for assistance: Agreement with statement: (Name of supplier) can always be reached when needed. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey

The views of stakeholders are generally well in line with those of consumers when it comes to the availability of assistance (Figure 114). However, the regulator in Bulgaria is much more optimistic about the ability to reach suppliers than consumers. The regulators in Latvia and Spain, on the other hand, are much more pessimistic about the availability of assistance than consumers.

Consumer associations in Spain indicate that it is easier to reach the supplier than reported by both consumers and the regulator. Similar conclusions hold for Hungary and Ireland. In Denmark, Greece and Slovakia the situation is the reverse and consumer associations are more pessimistic about the ability of consumers to reach suppliers than consumers themselves.

Figure 114: Stakeholder views of the ability to reach suppliers when needed



Note: Agreement with statement: Electricity suppliers can be reached when needed.
Source: ECME Consortium stakeholder and general consumer surveys

The mystery shopping exercises to some extent confirm these findings. Hungarian, Maltese and Italian mystery shoppers where less able to get in touch with their suppliers than mystery shoppers in other countries (85% or less got in contact with their supplier compared to 94% overall). However, the exercises also showed that consumers in all Member States were generally able to reach their suppliers; 95% and 99% of Bulgarian and Spanish mystery shoppers where able to reach their supplier although consumers in the survey indicated that this was not always easy.

The mystery shopping exercises also show that consumers are usually able to get in contact with existing as well as alternative suppliers and on average it requires 1 or 2 attempts to get in contact with the suppliers (Table 28). In Austria, Denmark, Ireland, and the United Kingdom it required more attempts by mystery shoppers to get in touch with alternative suppliers than with existing suppliers. In all other Member States, it required fewer attempts to get in touch with alternative suppliers than with existing suppliers. On average, it required more than 2 attempts to get in touch with existing suppliers in Romania, Malta, Poland and Cyprus.

Overall it does not seem very difficult for consumers to get in touch with suppliers; whether it is their existing supplier or alternative suppliers.

Table 28: Ability to get in contact with supplier and number of trials

Country	Able to get in contact with someone?		Number of trials	
	Existing suppliers	Alternative suppliers	Existing suppliers	Alternative suppliers
Austria	97%	**88%**	1.25	**1.28**
Belgium	93%	96%	1.53	1.37
Bulgaria	95%	n.a.	1.42	n.a.
Cyprus	99%	n.a.	2.04	n.a.
Czech Republic	96%	100%	1.20	1.05
Denmark	89%	92%	1.09	**1.11**
Estonia	91%	n.a.	1.52	n.a.
Finland	93%	95%	1.32	1.03
France	95%	**92%**	1.71	1.08
Germany	96%	100%	1.36	1.25
Greece	100%	n.a.	1.71	n.a.
Hungary	85%	86%	1.78	1.52
Ireland	94%	**71%**	1.22	**1.50**
Italy	83%	**72%**	1.56	1.53
Latvia	100%	n.a.	1.47	n.a.
Lithuania	99%	n.a.	1.26	n.a.
Luxembourg	99%	**98%**	1.33	1.33
Malta	85%	n.a.	2.08	n.a.
Netherlands	92%	**88%**	1.34	1.22
Poland	96%	98%	2.09	1.15
Portugal	87%	**74%**	1.33	1.17
Romania	100%	n.a.	2.22	n.a.
Slovakia	95%	96%	1.25	1.19
Slovenia	94%	100%	1.55	1.39
Spain	99%	**56%**	1.38	1.25
Sweden	94%	96%	1.15	n.a.
United Kingdom	95%	**60%**	1.26	**1.29**
Total	94%	83%	1.52	1.26

Note: Estimates for alternative suppliers are based an average of all alternative suppliers contacted in scenario 1. Estimates for existing suppliers are based on scenarios 2 to 5. Scenario 1 was not applicable to mystery shoppers in Bulgaria, Cyprus, Estonia, Greece, Latvia, Lithuania, Malta and Romania. Figures in bold indicate that the alternative supplier performs poorer on this dimension than the existing supplier. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium mystery shopping exercises.

4.6.2 Quality of assistance

Although consumers are able to reach their suppliers this does not necessarily imply that they receive high quality assistance. This section considers the quality of information provided to consumers in relation to:

- Billing
- Electricity consumption

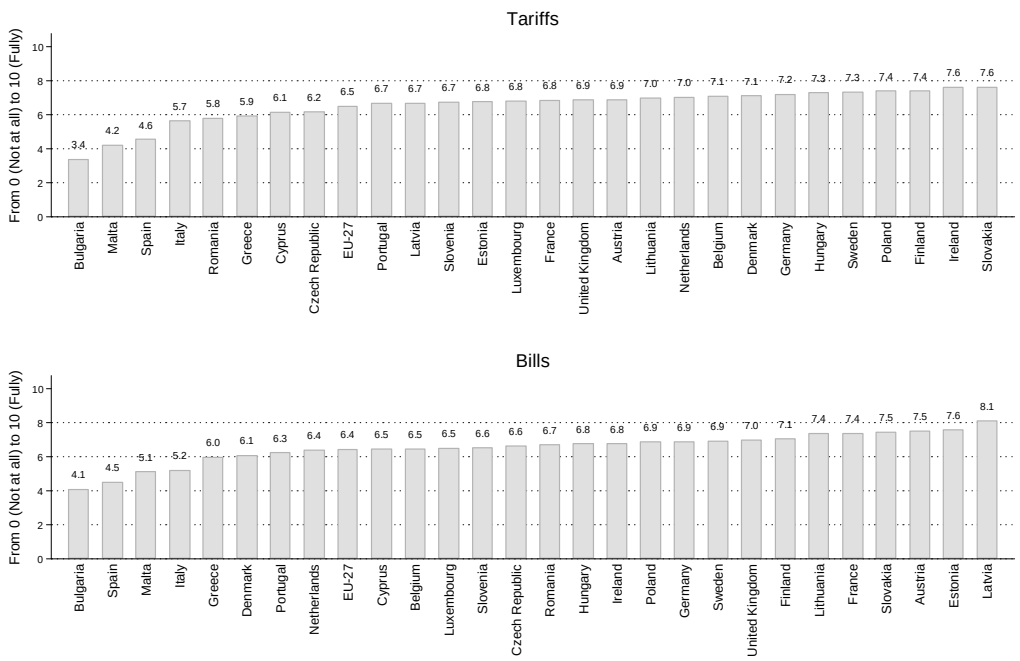
- Terms and conditions
- Power interruptions and other connection issues

Billing

When asked in the consumer survey how satisfied they were with the assistance they received in regard to bills and tariffs, consumers indicate that the responses they received from suppliers did not fully "live up" to what they wanted. On a scale from 0 (not at all) to 10 (fully), average ratings in all countries are less than 7.6 for tariff enquiries and 8.1 for billing enquiries. Consumers in Bulgaria, Malta, Spain and Italy are least satisfied with the assistance provided.

It should be noted that these results may also capture differences in the ability of suppliers to resolve complaints in a satisfactory way. If suppliers are not able to provide adequate assistance, or explanations, an enquiry may develop into a complaint, and, in such cases, it is likely that the customer will by relatively unhappy with the assistance provided. Chapter 4 on billing and payment discusses problems related to billing in further details.

Figure 115: Satisfaction with assistance



Note: Based on Q5b: To what extent would you say that the assistance/information you received lived up to what you wanted? Percentage of consumers who have contacted their supplier for assistance in these areas. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced.
EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey

Further evidence was collected in one of the mystery shopping scenarios which focused specifically on assistance provided by suppliers in relation to billing. The mystery shoppers were instructed to ask specific questions about their electricity bill and there was considerable variation

in how long it took for suppliers to provide answers to all the questions; both within Member States and between Member States.

For example, it took the Maltese supplier 5.4 days on average to provide answers and Portuguese suppliers on average took 3.5 days to provide answers. Suppliers in Bulgaria, Germany, Greece, the Netherlands, and Romania also needed, on average, more than 2 days in order to provide all the answers. In comparison the Hungarian suppliers were on average able to provide answers to all the questions in just 24 minutes (0.01 days) and the Spanish, Swedish, Czech, and Irish suppliers were also able to provide the answers in less than 0.1 days (or equivalently in less than 2.4 hours).

It is worth noting that there was a large variation in the time required to get the answers in countries like Malta, the Netherlands and Portugal. In contrast, Spanish suppliers provided fast responses in almost all cases.

Table 29: Billing explanations: time to answer the questions

Country	How long did it take to obtain the answer to all questions?	
	Mean (in days)	Standard Deviation
Austria	1.64	3.405
Belgium	0.82	2.325
Bulgaria	2.56	2.166
Cyprus	0.45	2.070
Czech Republic	0.06	0.086
Denmark	0.18	0.361
Estonia	0.20	0.281
Finland	1.81	3.287
France	0.46	1.181
Germany	2.50	3.964
Greece	2.16	2.797
Hungary	0.01	0.018
Ireland	0.07	0.171
Italy	1.35	2.727
Latvia	1.46	1.957
Lithuania	0.41	0.632
Luxembourg	2.56	2.519
Malta	5.41	4.441
Netherlands	2.98	4.404
Poland	0.44	0.651
Portugal	3.46	4.945
Romania	2.36	0.033
Slovakia	1.17	2.087
Slovenia	1.20	2.657
Spain	0.04	0.006
Sweden	0.04	0.077
United Kingdom	0.16	0.609
EU-27	1.15	:

Note: EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: Mystery shopping scenario 3 undertaken by the ECME Consortium.

It is worth noticing that in response to their questions about information on their electricity bill almost 2 in 5 mystery shoppers across the EU were proposed customised advice based on their consumption pattern and 1 in 5 mystery shoppers across the EU were spontaneously offered a cheaper tariff by their supplier. This suggests that there are generally cheaper offers available to consumers.

Being offered a cheaper deal was particularly common for mystery shoppers in the United Kingdom (38%), Germany (28%) and Italy (27%). In comparison no mystery shoppers in Malta were spontaneously offered a cheaper tariff in response to their billing questions.

Table 30: Additional advice provided in response to billing questions

Country	Was offered a cheaper deal spontaneously	Was proposed customised advice based on consumption pattern
Austria	22%	34%
Belgium	21%	19%
Bulgaria	0%	35%
Cyprus	7%	5%
Czech Republic	20%	38%
Denmark	4%	20%
Estonia	17%	54%
Finland	10%	29%
France	12%	46%
Germany	28%	32%
Greece	10%	26%
Hungary	6%	10%
Ireland	10%	44%
Italy	27%	57%
Latvia	8%	39%
Lithuania	14%	33%
Luxembourg	10%	40%
Malta	0%	18%
Netherlands	20%	32%
Poland	16%	40%
Portugal	13%	17%
Romania	16%	50%
Slovakia	4%	37%
Slovenia	12%	29%
Spain	6%	35%
Sweden	12%	18%
United Kingdom	38%	46%
Total	20%	39%

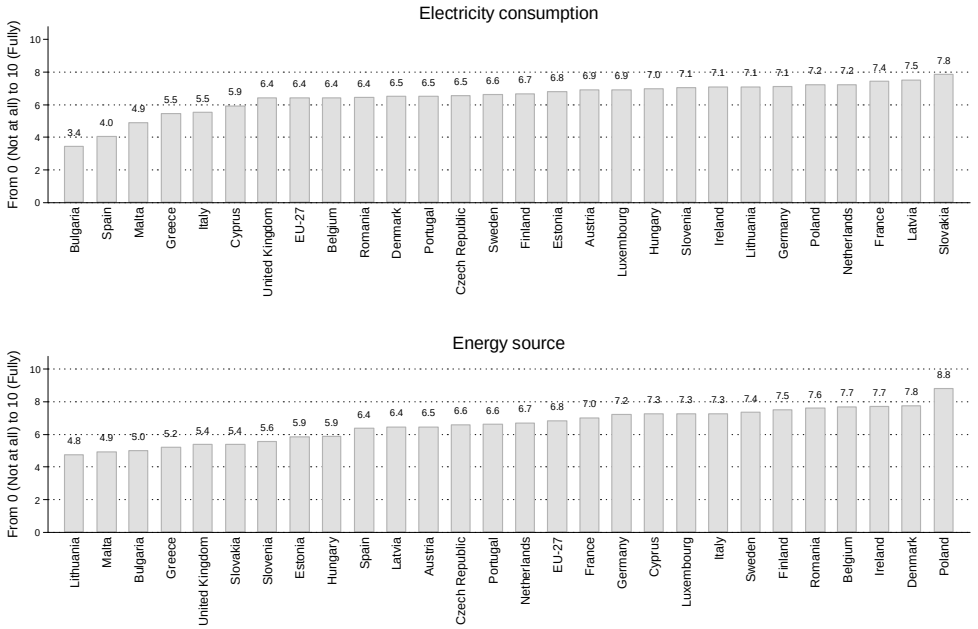
Note: EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: Mystery shopping scenario 3 undertaken by the ECME Consortium.

Electricity consumption

Consumers also do not appear to be particularly satisfied with the assistance they receive in response to inquiries about electricity consumption or which energy sources their electivity is produced from. On a scale from 0 to 10, where 10 represents a response that fully lives up to what consumers want, the average ratings for assistance related to energy consumption ranges from 3.4 to 7.8. Consumers in France, Latvia and Slovakia are most satisfied with average scores between 7.4 and 7.8. At the other extreme, consumers in Bulgaria, Spain, Malta, Greece, Italy and Cyprus are least satisfied with the assistance provided and average scores on the 10-point scale are below 6.

With respect to assistance related to enquiries about the energy source, average satisfaction scores are in the same order of magnitude although the ranking of the countries is somewhat different. With average scores below 6 in Lithuania, Malta, Bulgaria, Greece, the United Kingdom, Slovakia, Slovenia, Estonia and Hungary, consumers in these countries are the least satisfied. On the other hand, consumers in Poland are most satisfied with the assistance they receive and the average score for Poland on this parameter is 8.8.

Figure 116: Satisfaction with assistance about electricity consumption



Note: Based on Q5b: To what extent would you say that the assistance/information you received lived up to what you wanted? Percentage of consumers who have contacted their supplier for assistance in these areas. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced.
EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey

Consumers may be more satisfied if they are offered personalised assistance by suppliers. Mystery shoppers were instructed to contact their supplier asking for advice on how to reduce the amount they pay for electricity, and the exercise showed that client services sometimes try to personalise the assistance they provide either by asking for personal information which allows them to understand the needs of the consumer better or by accessing the consumer profile in their consumer information system during the conversation. Across the EU suppliers asked for personal information to better understand needs in about half of the cases and 78% of mystery shoppers reported that the client service could access their profile during the conversation.

The extent to which suppliers ask for personal information to better understand needs varied from 84% of case in France and 89% of cases in Latvia, to 27% and 28% in Spain and the United Kingdom respectively.

It is generally more common for suppliers to access the consumer profile in their consumer information system during the conversation. This may also allow the client service to provide

personalised assistance. In more than 50% of cases, in all Member States, client services accessed the consumer profile during the conversation. These figures range from 51% in Slovenia to 98% in Latvia.

Table 31: Efforts to provide personalised service

Country	Asked personal information to better understand needs	Client service could access the consumer profile live during conversation
Austria	60%	74%
Belgium	44%	73%
Bulgaria	56%	84%
Cyprus	50%	59%
Czech Republic	67%	61%
Denmark	66%	76%
Estonia	61%	**94%**
Finland	62%	**87%**
France	**84%**	**82%**
Germany	46%	**82%**
Greece	34%	52%
Hungary	53%	**84%**
Ireland	35%	**89%**
Italy	60%	71%
Latvia	**89%**	**98%**
Lithuania	44%	**76%**
Luxembourg	44%	60%
Malta	50%	64%
Netherlands	50%	74%
Poland	62%	72%
Portugal	40%	62%
Romania	32%	**82%**
Slovakia	67%	**86%**
Slovenia	40%	51%
Spain	27%	**75%**
Sweden	48%	60%
United Kingdom	28%	**89%**
EU-27	51%	**78%**

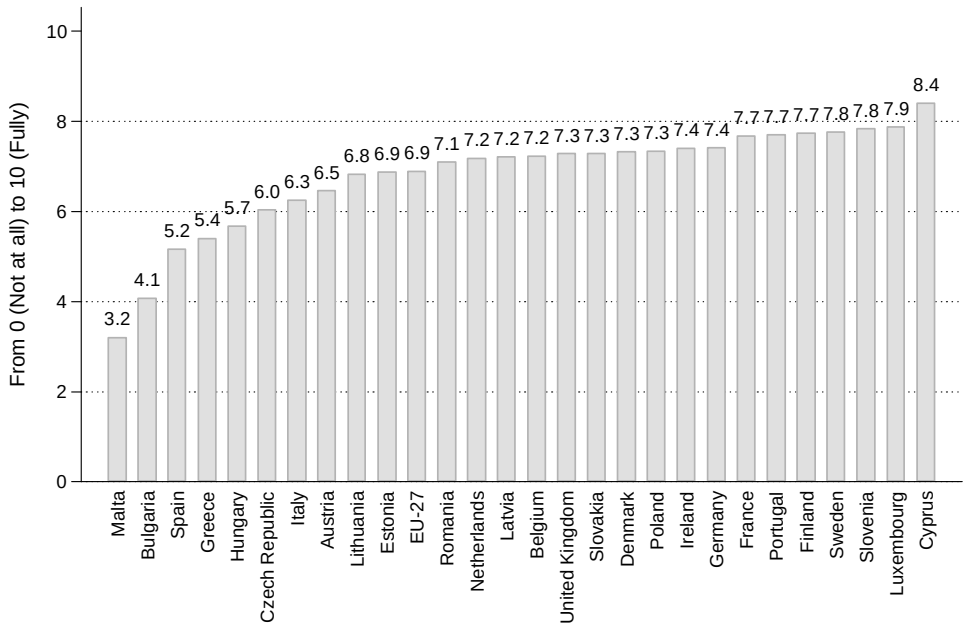
Note: EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: Mystery shopping scenario 4 undertaken by the ECME Consortium

Terms and conditions

There is a large variation in the extent to which consumers are satisfied with assistance provided in relation to terms and conditions. In particular, on a scale from 0 to 10 where 10 represents full satisfaction, the average scores for the Member States range from just 3.2 in Malta and 4.1 in Bulgaria to 8.4 in Cyprus.

It should be pointed out that the level of satisfaction with terms and conditions may not only depend on the quality of assistance provided, but also on the fairness of the terms and conditions in the contracts between suppliers and consumers.

Figure 117: Satisfaction with assistance in relation to terms and conditions



Note: Based on Q5b: To what extent would you say that the assistance/information you received lived up to what you wanted? Percentage of consumers who have contacted their supplier for assistance in these areas. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced.
EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey

One of the mystery shopping exercises provides further insights into the quality of assistance provided in relation to terms and conditions. Mystery shoppers contacted suppliers to ask for information about the termination policy. In most cases, mystery shoppers received a clear answer (overall, this was the case in 76% of the cases) and the answers provided were generally consistent with the terms and conditions (overall, this was the case in 80% of the cases, see Table 32).

It is worth noting that 96% of consumers in Luxembourg received a clear answer and the answer provided to 94% of the consumers was consistent with the terms and conditions. This might explain why consumers in Luxembourg appear to be relatively satisfied with the assistance they receive regarding terms and conditions (provided that the terms and conditions are perceived by the consumer to be fair).

At the other end of the scale, only 38% of mystery shoppers in Hungary received a clear answer, and the answer was only consistent with the terms and conditions in 54% of cases. This may explain why Hungarian consumers are among those who are least satisfied with assistance related to terms and conditions.

It should also be mentioned that the mystery shopping exercise was not undertaken in a number of Member States including Malta, Bulgaria, Greece and Cyprus because supplier switching in these countries is limited or not possible.

Table 32: Termination policy

Country	Received a clear answer on termination policy	Answer was consistent with general terms and conditions of the contract
Austria	88%	96%
Belgium	76%	74%
Czech Republic	84%	90%
Denmark	80%	78%
Finland	80%	86%
France	76%	82%
Germany	74%	76%
Hungary	38%	54%
Ireland	94%	94%
Italy	78%	76%
Luxembourg	96%	94%
Netherlands	80%	68%
Poland	64%	74%
Portugal	62%	65%
Slovakia	72%	82%
Slovenia	84%	80%
Spain	66%	84%
Sweden	86%	94%
United Kingdom	91%	89%
EU-27	76%	80%

Note: This mystery shopping exercise was not undertaken in Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Malta and Romania. EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME mystery shopping exercise 2

The mystery shopping exercise also shows that mystery shoppers obtained an answer much faster if they asked the questions over the phone than if they raised the questions in an email (Table 33). On average in the EU-27, it took mystery shoppers approximately 0.2 hours to receive an answer over the phone and 42 hours to receive an answer via e-mail. There was large variation in the numbers across countries and within countries.

- For example, Hungarian mystery shoppers had to make between 2 and 3 phone calls to get an answer and the standard deviation was 3.96 suggesting that some mystery shoppers had to make many more calls before getting an answer. Mystery shoppers in Hungary also had to wait longer for an answer via email than mystery shoppers in any other country (162 hours on average).
- In comparison consumers in France only had to wait for 5 hours on average to get a response by e-mail.

Table 33: Ease of making contact and getting an answer to switching questions

Country	Number of calls before obtaining the answer		Time to receive the answer on the phone (hours)[1]		Number of emails sent before obtaining the answer		Time to receive the answer by email (hours)[1]	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Austria	1.33	0.64	0.11	0.20	1.42	0.90	16.11	25.62
Belgium	1.34	0.83	0.24	0.90	2.67	2.57	17.77	32.89
Czech Republic	1.26	0.51	0.09	0.19	1.38	0.80	40.68	36.40
Denmark	1.14	0.36	0.08	0.21	1.10	0.30	19.87	28.89
Finland	1.04	0.79	0.27	1.03	1.24	0.52	24.64	52.19
France	2.46	4.00	0.36	1.04	1.05	0.97	4.96	12.34
Germany	1.15	0.37	0.12	0.10	1.14	0.36	75.12	77.35
Hungary	2.82	3.96	0.15	0.15	1.39	0.57	161.9	62.64
Ireland	1.09	0.28	0.16	0.59	1.50	0.84	48.00	33.94
Italy	1.68	0.94	0.12	0.18	1.58	1.54	60.27	68.00
Luxembourg	1.25	0.53	0.10	0.21	1.07	0.26	19.05	27.21
Netherlands	1.11	0.31	0.06	0.04	1.71	2.20	27.91	34.75
Poland	2.09	2.81	0.48	2.09	1.25	0.64	34.77	36.68
Portugal	0.33	0.68	0.05	0.06	1.54	0.83	43.80	35.81
Slovakia	1.13	0.43	0.04	0.05	1.68	1.96	51.89	39.51
Slovenia	1.76	1.71	0.20	0.85	1.62	1.07	28.83	26.25
Spain	1.34	0.63	0.35	1.48	.	.	.	.
Sweden	0.91	0.29	1.22	3.35	4.89	8.02	5.96	8.99
United Kingdom	1.14	0.40	0.07	0.12	1.17	0.41	25.80	21.80
EU-27	1.53	:	0.22	:	1.40	:	42.29	:

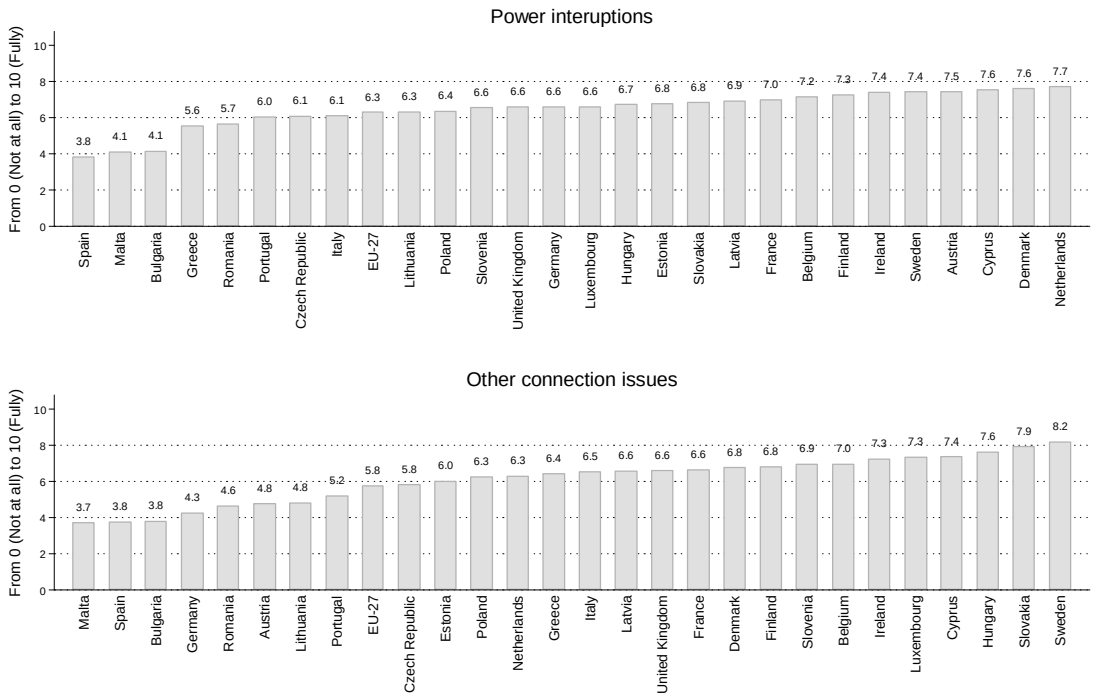
Note: [1.] Calculated based only on responses from those who said that they had received an answer to their questions.
Approximately 50 mystery shopping exercises were undertaken per Member State. EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights. This mystery shopping exercise was not undertaken in Estonia, Latvia, Lithuania, Bulgaria, Cyprus, Greece, and Romania.
Source: ECME Consortium analysis of data from mystery shopping exercises.

Other areas

Consumers who require assistance in relation to power interruptions or connection issues are also not very satisfied with the assistance they receive. For power interruptions the average rating on a 0 to 10 point scale, where 10 represents full satisfaction, is between 3.8 and 7.7. Consumers in Spain, Malta and Bulgaria are considerably less satisfied than consumers in other Member States (average scores below 5). Consumers in Greece and Romania also provide average scores below 6. Consumers in Cyprus, Denmark and the Netherlands are those most satisfied with the assistance they receive in relation to power interruptions. As discussed in Chapter 6 problems related to power interruptions are common and perceived a relatively serious by consumers in some countries, in particular in Malta, Portugal, Romania and Greece, while not being a problem in other countries (Germany and the Netherlands).

Bulgarian, Maltese and Spanish consumers are also the least satisfied with assistance related to connection issues. It is also worth noting that consumers in Austria and Germany are relatively dissatisfied with assistance in relation to connection issues. Consumers in Hungary, Sweden and Slovakia are most satisfied with the assistance they receive.

Figure 118: Satisfaction with assistance related to power interuptions or connection issues



Note: Based on Q5b: To what extent would you say that the assistance/information you received lived up to what you wanted? Percentage of consumers who have contacted their supplier for assistance in these areas. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced.
EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consortium general consumer survey

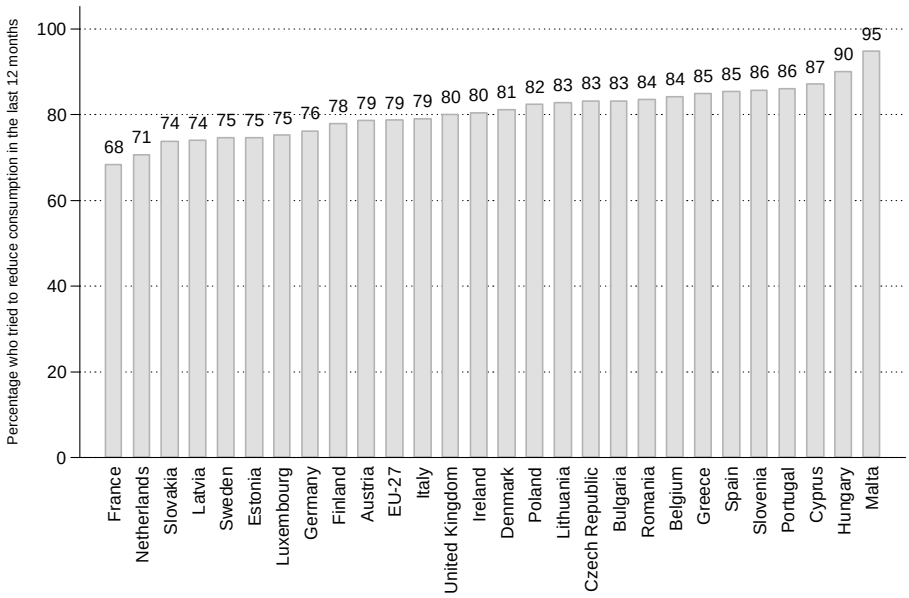
4.7 Attitudes to energy consumption and energy products

Having discussed consumer satisfaction, consumer awareness and consumer experiences in retail electricity markets, this section analyses consumer attitude towards energy consumption.

Attitudes may be deduced from actions taken by consumers to reduce energy consumption. Evidence from the consumer survey suggests that 79% of consumers across the EU have actively tried to reduce energy consumption within the last year (Figure 119).

In Malta 95% of consumers tried to reduce energy consumption and this is a higher share than in any other Member State. In contrast only 68% of French consumers tried to reduce energy consumption last year.

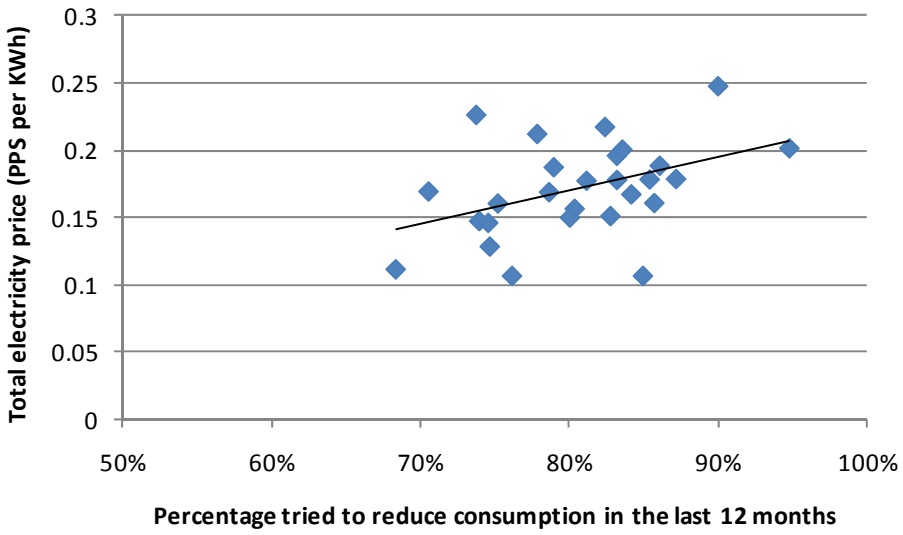
Figure 119: Percentage who have tried to reduce electricity consumption in the last 12 months



Note: Based on Q6: In the last 12 months have you tried to reduce your electricity consumption at home?
Percentage of consumers who have contacted their supplier for assistance in these areas. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced.
EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: ECME Consumer survey

Consumers may be motivated to reduce electricity consumption for general environmental reasons or because the price that the consumer faces is high relative to the general price level. Figure 120 shows that price matters as on average a larger share of consumers try to reduce consumption in countries where the total price of electricity (including taxes) was high in the second half of 2009.

Figure 120: Scatter plot of percentage trying to reduce consumption and the average total electricity price in PPS in 2009S2



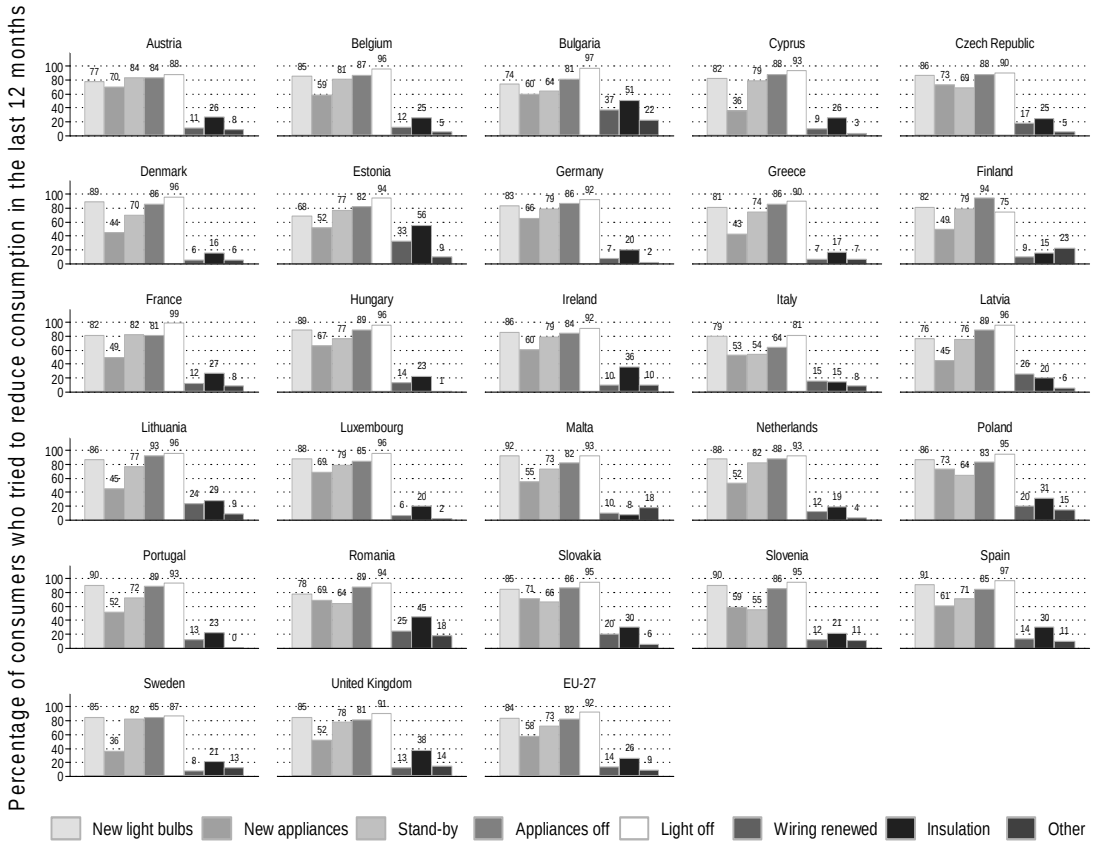
Note: The total electricity price is the price in PPP for 2009s2 with all taxes included for band DC: 2 500 kWh < Consumption < 5 000 kWh. The price for Belgium is from 2008.
Source: EMCE based on data from Eurostat and the consumer survey

According to the results of the consumer survey, most consumers who tried to reduce consumption have tried to save electricity by switching off lights (92% across the EU) and appliances (82% across the EU) or by purchasing energy saving light bulbs (84% across the EU). This conclusion holds across all EU Member States (Figure 121) and probably reflects the fact that these behavioural changes are relatively easy to implement and involve relatively little effort and costs.

Slightly fewer consumers have tried to reduce electricity consumption by reducing stand-by time for appliances or purchasing energy efficient appliances. This may be because slightly more effort and costs are involved with these activities. However, despite the slightly higher costs, 73% and 58% of consumers respectively across the EU have undertaken these activities within the last 12 months.

When it comes to big investments associated with home insulation and renewal of electric wiring, fewer respondents overall indicate that they have tried to reduce electricity consumption through these means within the last 12 month. This may both be because the costs involved are high and because these methods are longer term investments that do not require ongoing activity by consumers. In particular, 25% of consumers in the EU have had their home insulated and 14% have had their home rewired in the last 12 months. Nevertheless, it is worth noting that the share of consumers who have had their home insulated within the last 12 months is actually quite high in some countries. In particular, 56%, 51% and 45% of consumers in Estonia, Bulgaria and Romania respectively have had their home insulated within the last year. In Austria, Belgium, Cyprus, the Czech Republic, France, Ireland, Lithuania, Poland, Slovakia, Spain and the United Kingdom the figures are also above 25%. This suggests that consumers are actually quite serious about reducing energy consumption.

Figure 121: Energy saving activities undertaken by consumers



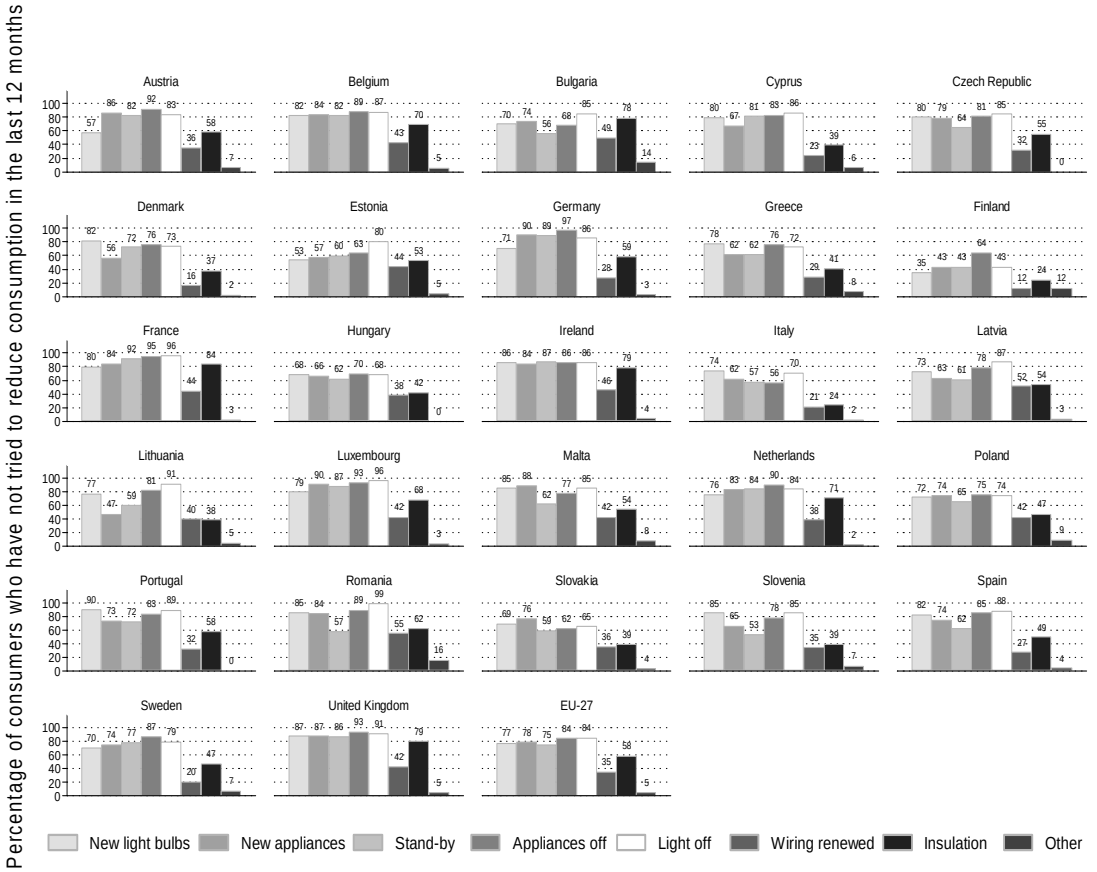
Note: Based on Q7a: What have you done to reduce your electricity consumption at home in the last 12 months. Percentage of consumers who tried to reduce electricity consumption. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of consumers who have tried to reduce electricity consumption in the last 12 months is provided in Table 123. In all countries the relevant sample size for this question is more than 340 respondents.
EU-27 average calculated using 2010 Eurostat population figures as weights.
Source: EMCE Consortium based on data from the consumer survey

Energy efficient light bulbs and appliances, and reduction of the time that light and appliances are on or on stand-by are generally perceived to be quite useful tools for reducing electricity consumption. In comparison, consumers in the different Member States generally are of the view that new wiring is much less useful in terms of reducing electricity consumption.

The extent to which consumers think that home insulation is useful varies. This is not surprising as home insulation would mainly be expected to be effective in reducing electricity consumption if consumers use electricity for heating, and the extent to which electricity for heating is used, varies.

It is worth noticing that consumers in some countries generally rate the usefulness of the different energy saving activities much lower than in other countries. Most notably, consumers in Finland are much more pessimistic about the usefulness of the different activities than, for example, consumers in the United Kingdom and Ireland.

Figure 122: Percieved usefulness of energy saving activities in terms of reducing electricity consumption



Note: Based on Q7b: Which of the following do you think would be most useful to reduce electricity consumption? Multiple answers allowed. EU-27 average calculated using 2010 Eurostat population figures as weights. Percentage of consumers who did not try to reduce electricity consumption. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The number of consumers who have tried to reduce electricity consumption in the last 12 months is provided in Table 123. In Malta the relevant sample for this question is less than 50 respondents.

Source: ECME based on data from Eurostat and the consumer survey

5 Billing and payment

5.1 Background

In most Member States, billing is regulated and, in many the regulator is responsible for enforcement of the regulation (see Annex 1 providing an overview of the regulatory environment). In many cases, the regulations aim to make the bill more transparent and understandable. In some case, the regulation is very prescriptive in terms of what information the bill must provide.

The frequency at which bills are to be sent to consumers also varies. Some Member States require monthly billing while other Member States only require annual billing.

In addition to the Member State level regulation, the Second Citizens Energy Forum (London, 29-30 September 2009) endorsed billing recommendations developed by the European Commission. The recommendations include a specific list of items to be included in bills.

The present chapter focuses on:

- Billing and payment practices
- The information provided in the electricity bill
- The information provided in the reconciliation bill
- How easy it is for consumers to obtain information about their account
- The types of billing and payment problems encountered by consumers

5.2 Billing and payment practices

The key billing and payment practices for which information was sought in the follow-up on consumer survey on billing and payment relate to:

- The mean by which the bill is sent to the consumer
- The frequency of the billing
- The use of estimated versus actual consumption in the billing and the frequency of the reconciliation bill,
- The modes that consumer can use to effect the payment of the bill

The survey responses to these four aspects are first reviewed separately.

Next, the present section reviews to what extent differences in each of these four factors can explain reported differences in the awareness of the volume of electricity consumed, the amount they have to pay for the electricity and the general understanding of the information provided on the bill.

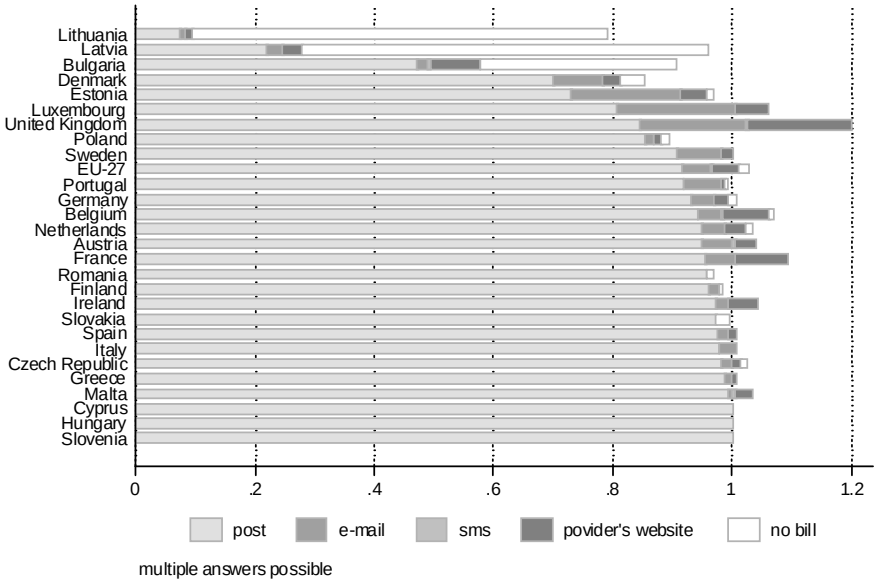
5.2.1 Mean by which the bill is sent to the consumer

According to the consumer survey results, in all Member States where bills are being issued, the vast majority of consumers receive their electricity bills by post.

- Across the EU, 92% of consumers received their bill by post; 5% received their bill by e-mail; 4% received it via their supplier's website; less than 1% received it by SMS; and 2% did not receive a bill.
- In Cyprus, Hungary and Slovenia, 100% of electricity bills are received via the post.
- Moreover in all Member States except Lithuania, Latvia and Bulgaria, over 70% of those surveyed received bills by post.
- In Lithuania, Latvia and Bulgaria to a lesser extent, many consumers do not receive a bill. However, when they do receive a bill, it is generally sent by mail.

The use of alternative communications means for sending a bill is very limited. The highest proportion of customers receiving a bill by e-mail is found in the UK. But, even there, less than 20% of consumers receive electricity bills in this manner. Only a few other Member States show some limited volume of bills sent by e-mail (Belgium, Estonia, France, Ireland and Luxembourg).

Figure 123: Means of sending the electricity bills



Note: QB1. How do you receive your electricity bill?
It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

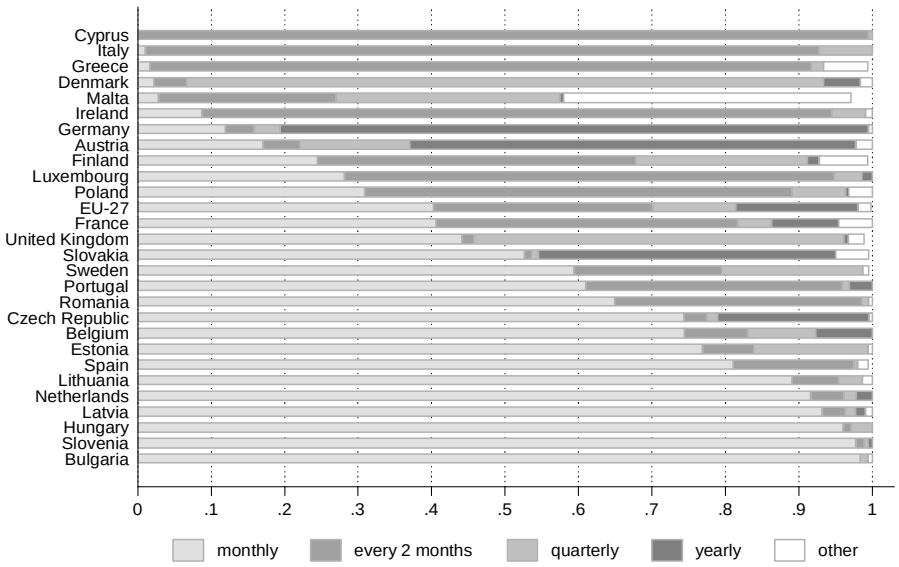
5.2.2 Billing frequency

The billing frequency varies a great deal across Member States, although monthly billing appears the most prevalent mode overall.

- Across all Member States, 40% of consumers receive monthly electricity bill; 30% receive bi-monthly bills; 11% receive quarterly bills; and 17% receive bills on an annual basis.
- In 14 Member States, more than 50% of respondents to the consumer survey receive their electricity bill on a monthly basis. In Bulgaria, Hungary, Slovenia, this figure stands at more than 95%. The pattern of billing frequency of those consumers not being billed on a monthly basis in these Member States varies. But, a billing frequency of every two or three months being the most common. Annual billing among these 14 Member States is only very common in Slovakia and the Czech Republic.
- The second and third most common billing frequencies across the other EU Member States are bi-monthly or quarterly. In Cyprus, Italy, Greece and Ireland, over 90% of consumers receive an electricity bill every 2 months and in the UK about 50% of consumers receive their electricity bill on a quarterly basis.
- The only Member States where the majority of consumers receive their bills on annual basis are Germany and, to a lesser extent, Austria.

Overall, one frequency tends to dominate in each Member State and across Member States the monthly and bi-monthly frequencies are the most common. Quarterly and annual billing is only predominant in a few Member States.

Figure 124: Billing frequency



Note: QB3. a) Which of the following billing frequency applies to you?
It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

5.2.3 Use of estimated versus actual consumption in the billing and frequency of reconciliation bill

Survey participants were asked whether the amount charged on their regular bills is calculated on the basis of their actual consumption or is an estimation based on previous consumption. Survey respondents were also told that the latter case meant that they receive periodically a reconciliation bill which takes into account what they have already paid and their actual consumption.

Both methods are observed in all Member States.

However, the use of actual consumption is the dominant method (i.e. covering more than 50% of consumers) in only 11 Member States (Bulgaria, Cyprus, Estonia, Italy, Ireland, Latvia, Lithuania, Malta, Spain, Sweden, United Kingdom) and, across the EU, 46% of consumers receive bills based on actual consumption.

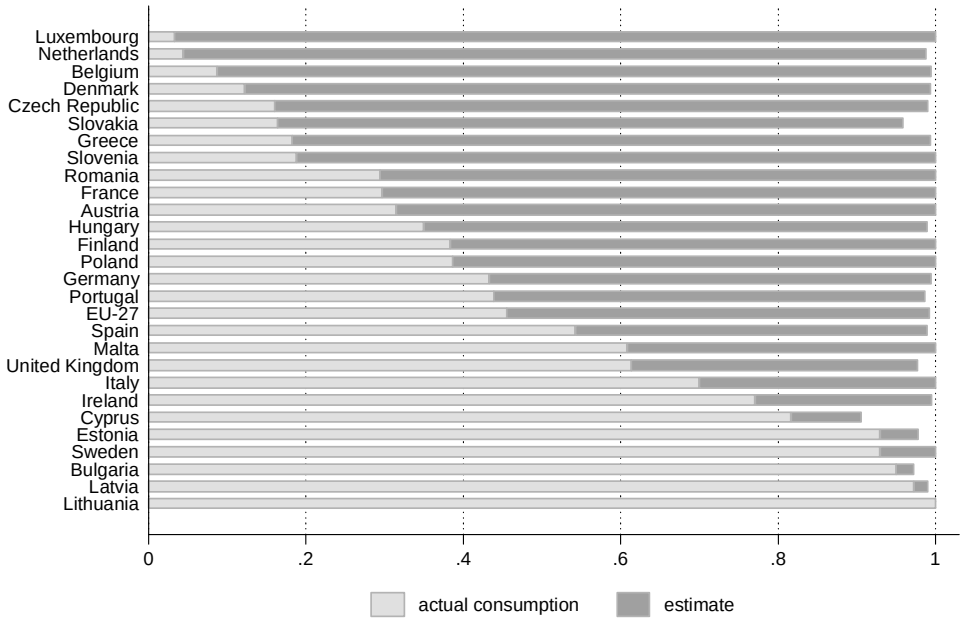
In order for bills to be based on actual consumption meter readings must be taken at the same frequency as bills are provided. As discussed in Annex 1 describing the regulatory environment, meter readings may be undertaken either by consumers, DSOs, suppliers or independent metering operators.

It should be noted that the roll out of smart-meters is not required for bills to be based on actual consumption. However, the consumer focus groups on smart-metering highlighted that one of the

advantages of smart-metering is that meter readings can be done remotely and does not require action on the part of the consumer.

Among the 16 Member States where bills based on actual consumption are least prevalent, the use of the estimated consumption is the dominant method. In fact, in 10 Member States, 75% or more of the respondents indicated that their electricity bills were based on estimates. For the EU as a whole, 54% of consumers receive bills based on estimated consumption.

Figure 125: Use of estimated vs actual consumption in the billing



Note: QB3. b) Is the amount charged on your regular bills calculated on the basis of your actual consumption or an estimation based on previous consumption. This means that you periodically receive a reconciliation (credit balance) bill which takes into account what you already paid and your actual consumption?
It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

In the majority of Member States (17 in total), the most common frequency for the issue of a reconciliation bills is annual and overall 65% of consumers who receive reconciliation bills receive them annually.

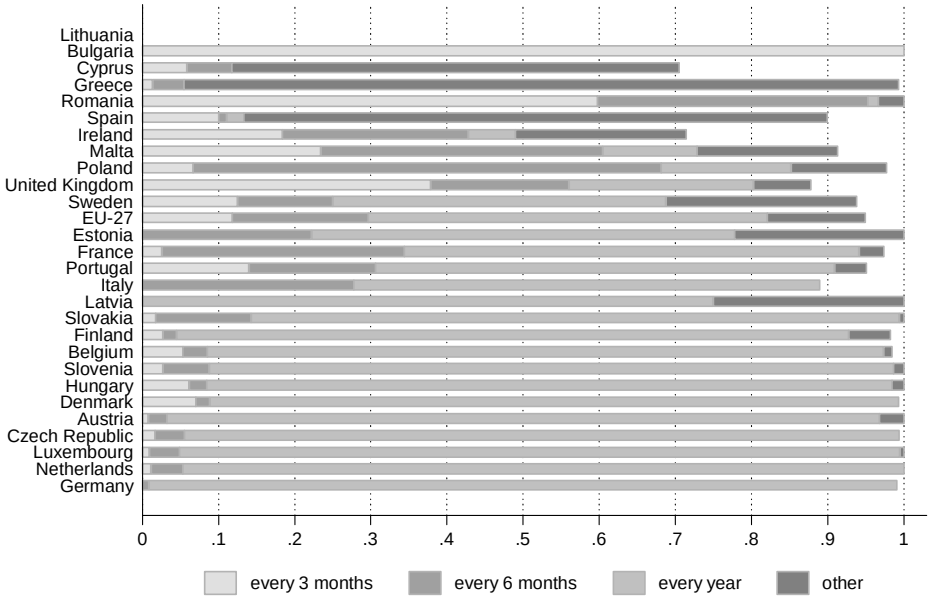
A quarterly frequency is observed as being the dominant frequency only in Bulgaria and to a lesser extent in Romania. Across the EU, 12% of consumers who receive reconciliation bills receive them quarterly.

In Poland and Malta, the half-yearly frequency is the most common and across all Member States 18% of consumers who get reconciliation bills receive them every 6 months.

As with bills based on actual consumption, reconciliation bills require meter readings at the same frequency as reconciliation bills are provided. This, for example, means that in Bulgaria where

reconciliation bills are provided quarterly, meters must be read on a quarterly basis either by consumers, DSOs or suppliers.

Figure 126: Frequency of reconciliation bills

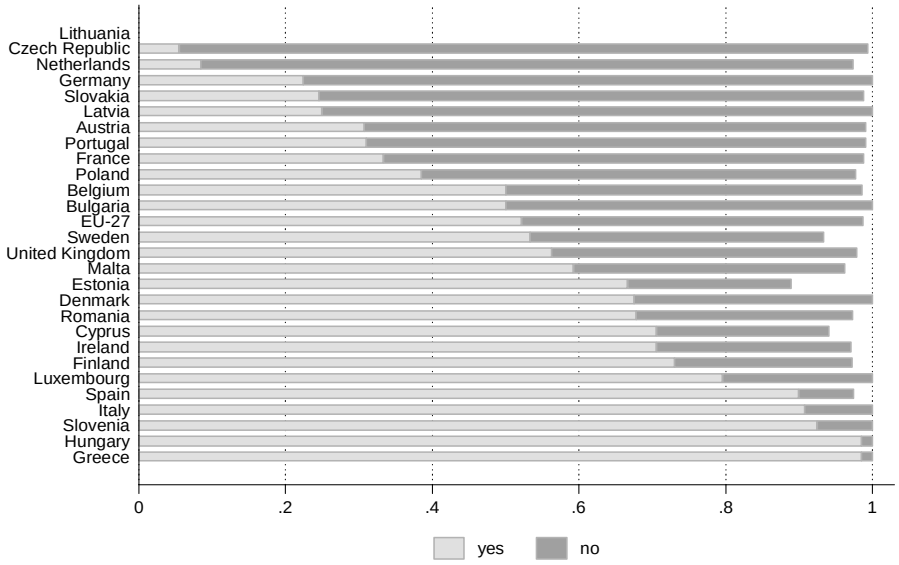


Note: QB4. How often do you receive a reconciliation bill?
Percentage of consumers who receive reconciliation bills. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who receive reconciliation bills is provided in Table 124. In Bulgaria, Spain, Latvia, Lithuania, Cyprus and Sweden the relevant sample consists of less than 20 respondents.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

In many Member States, many customers receive regular bills in addition to reconciliation bills, although this is not universal anywhere. Overall, 52% of consumers in EU who receive reconciliation bills also receive regular bills.

However, in Greece and Hungary over 95% of consumers reported receiving a regular bill. In contrasts, in the Czech Republic and the Netherlands less than 10% did.

Figure 127: Regular bills received in addition to reconciliation bills

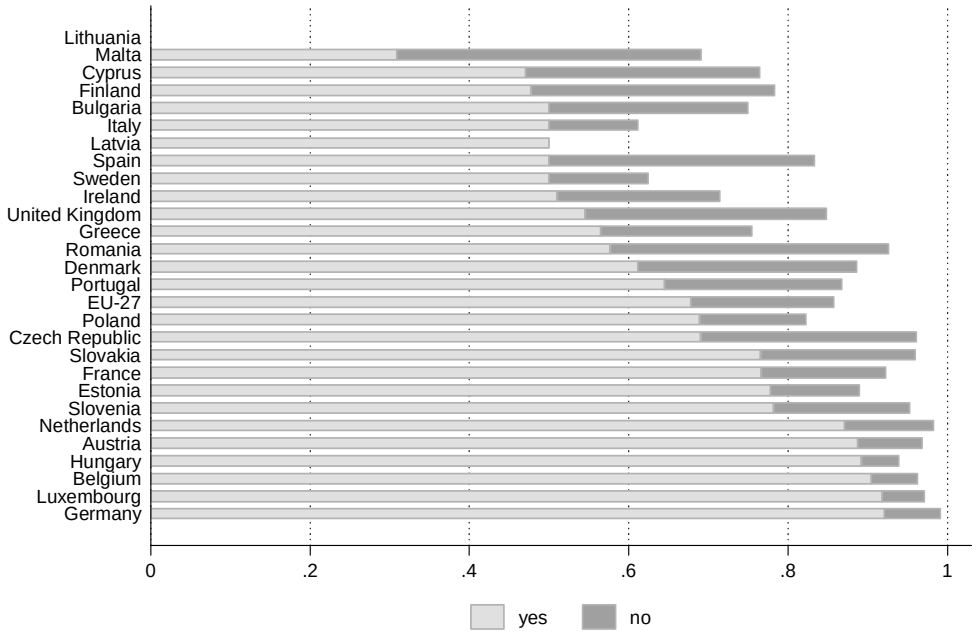


Note: QB4b.Besides a reconciliation bill, do you also receive a regular bill?
Percentage of consumers who receive reconciliation bills. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who receive reconciliation bills is provided in Table 124. In Bulgaria, Spain, Latvia, Lithuania, Cyprus and Sweden the relevant sample consists of less than 20 respondents.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

In most Member States, more than half of the respondents to the consumer survey report that their regular instalments have changed in accordance with their actual consumption following their last reconciliation bill. Across the EU the corresponding figure is 68%.

However, in a number of Member States, a relatively large proportion of consumers don't know if their payment did actually change.

Figure 128: Change in regular payments after reconciliation bill



Note: QB6 b) Has your monthly instalment been adapted in accordance to your consumption after your last reconciliation bill?
Percentage of consumers who receive reconciliation bills. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who receive reconciliation bills is provided in Table 124. In Bulgaria, Spain, Latvia, Lithuania, Cyprus and Sweden the relevant sample consists of less than 20 respondents.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

5.2.4 Payment modes

The modes with which consumers pay for their electricity varies between cheque, cash, a bank transfer, a direct debit or credit/debit cards.

Moreover, the proportion of consumers within each Member State that pay with each mode varies substantially across the EU.

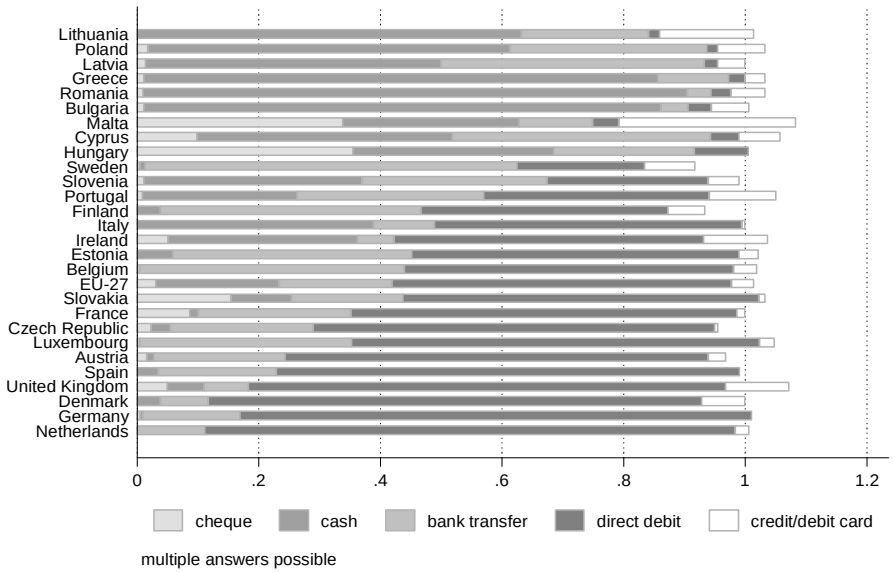
Cash payment for electricity is very widespread in parts of Central Europe as well as in Cyprus, Greece, Ireland and Italy. In Greece and Romania, over 80% of consumers pay for electricity with cash.

Direct debit is the preferred mean of payment in most other Member States, and is the predominant mode of payment across the EU, with over 50% of consumers in 15 Member States paying for their electricity by this mean.

Bank transfers are also a popular option, notably in Belgium, Estonia, Finland and Sweden where over 40% of consumers pay their electricity bill in such a manner.

Overall, 56% of EU electricity consumers pay by direct debit; 20% pay by cash; 19% pay using bank transfers; 4% pay using their credit or debit card; and 3% pay by cheque.

Figure 129: Means of payment



Note: QB2. How do you pay your electricity bill?
It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

5.2.5 Impact on consumer awareness

As noted earlier, a point of particular interest from a policy perspective is whether any differences in the different billing and payment characteristics described above impacts on consumer awareness of the volume of electricity consumed and the amount paid, and consumers' views on the usefulness of the information provided in the bill.

To that a number of cross-tabulations were run at the level of the survey respondent (and not at the level of the Member State). This highlights differences between consumers with different types of billing across the EU rather than focusing on cross-country differences in consumer awareness.

Frequency of billing

Overall, less frequent billing does not result is a systematically lower awareness of the amount of electricity consumed or the amount paid. Nor does it impact on consumers' understanding of the information provided on the bills.

Use of actual versus estimated consumption

In contrast, the use of estimated consumption does reduce consumers' awareness of the volume of electricity consumed and the consumers' understanding of the bill. However, it has only a very small impact on consumers' awareness of the amount paid.

Table 34: Billing and payment characteristics and consumer awareness

		Percentage who are well aware of the volume of electricity consumed	Percentage who are well aware of amount paid for electricity	Percentage who find it easy to understand information on bill
Billing frequency				
	Monthly	66%	84%	62%
	Every 2 months	54%	82%	62%
	Quarterly	60%	73%	58%
	Yearly	68%	80%	61%
	Other	55%	75%	62%
Use of actual vs. estimated consumption in the bill				
	Actual	66%	83%	67%
	Estimated	59%	80%	56%
Reception of regular bills in addition to the reconciliation bill				
	Yes	57%	81%	55%
	No	62%	80%	57%
Awareness of whether payments changed after the reconciliation bill				
	Yes	60%	81%	57%
	No	47%	71%	56%
Payment means used				
	Cash	65%	84%	64%
	Bank transfer	64%	84%	64%
	Direct debit/standing order	59%	79%	59%

Note: Responses are provided on a scale from 0 to 10. Responses of 8,9 and 10 are coded as 'well aware' and 'easy'.
Source: ECME consortium consumer and billing & payment survey

Reception of regular bills in addition to the reconciliation bill

The reception of regular bills in addition to the reconciliation bill does not contribute to increase consumers' awareness or understanding of the bill.

Awareness of changes in amount due following the issue of the reconciliation bill

The survey results show clearly that consumers who are not aware whether the amount they have to pay for their electricity consumption are also less aware of the amount of electricity they consume, the overall amount they have to pay and find the information on the bill less easy to understand.

Payment mean

Finally, consumers who have chosen an automatic payment mean (direct debit or standing order) which does not require them to even cursorily look at their bill are clearly less aware of their electricity consumption and somewhat less aware of the amount they have to pay.

5.3 Information provided on the electricity bill

Following the brief review of consumers' views on a number of key features of the billing and payment process, the present sub-section aims to:

- establish what information is actually included in the consumers' electricity bill in the different Member States; and
- assess how easy it is for consumers to find and understand the information provided on the bill.

To that end, consumers were asked to respond to a follow-on survey with a copy of their electricity bill in front of them and report how easy it was to find and understand certain pieces of information.

More precisely, survey respondents were asked to indicate how easy it was to find and understand the following elements on their bill, which correspond approximately to the recommended list of billing information included in the recommendations endorsed by the Second Citizens' Energy Forum[66]:

- The name of the supplier
- The contact details of the supplier
- The amount to be paid
- Whether the amount is calculated on actual meter reading or estimated
- The actual consumption during the billing period if the bill was based on actual consumption
- The type of tariff applied
- The amount of any fixed charges
- The price per kWh
- The standing charge element if relevant
- The price breakdown into distribution costs, taxes, etc.
- Special offers, discounts, reductions offered by the supplier
- The billing period
- The deadline for payment
- The penalties in case of late payment

[66] The list of information for regular bills and reconciliations bills endorsed by the Second Citizens' Energy Forum is available at http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/429&format=HTML&aged=0&language=EN&guiLanguage=fr

- Information about the methods of payments
- Information about how to obtain the bill in an alternative format
- Information about how the consumer will have to pay with the next bill
- Information about on-line payment facilities
- The date of the next bill
- Information on how to access the consumer's account/consumption (e.g., on line, through a helpline, etc.)
- The duration of the contract
- The deadline for informing the supplier of the consumer's wish to switch supplier
- Information related to switching
- Information on how to contact the electricity supplier in case of questions or complaints
- The name of a third party where the consumer can address a complaint
- Information on how to save energy
- The source of the electricity used by the consumer

Below, we review at a high level the survey results concerning these different pieces of information, focusing on the share of survey respondents in each Member State who reported that was very easy or relatively easy to find and understand a certain piece of information.

The detailed Member State results for each question are provided in Annex 4.

The first observation is that the easiness to find and understand a specific piece of information varies greatly according to the type of information.

The summary information provided in Table 34 shows that:

- Only the *amount due*, the *supplier name* and the *billing period* were on found easily or fairly easily on the bill by *90% of more* of survey respondents on average across the EU27. As will be seen latter, there are a few Member States where a much smaller share of respondents indicated that it was easy or fairly to find and understand the information. However, the relatively small standard deviation indicates that, in general, the Member States are clustered around the EU27 average.

- Other important pieces of information such as the *supplier contact details*, the *payment details*, the *complaint procedures* and the *electricity consumption* were on average across easy or fairly easy to find and understand for only *between 80% and 90%* of survey respondents. Moreover, the standard deviation is much higher suggesting a wider dispersion on Member States around the EU average.

- Information about whether the bill was based on *actual or estimated consumption*, the *price breakdown* into taxes, distribution and transport charges, etc, the *amount of fixed charges*, the *methods of payment* that can be used, the *price per kWh*, the *type of tariff* the respondent is on, whether *online payment* can be made and how to *access the account* was viewed as being easy or fairly easy to find and understand by only 50% to 80% of survey respondents. Moreover, the data suggest that the actual outcomes are highly varied across Member States.

- Only *25% to 50%* of respondents reported that it was easy or fairly easy to find and understand information on the bill on *help with payment issues*, the *standing charge element*, the *date of the next bill*, *alternative fill formats, the amount on next bill*, the *penalty for late payment* and the *energy source.* The data again suggest a substantial degree of dispersion of around the EU average.

- Finally, *less than 25%* of survey respondents found it easy or fairly easy to identify and understand information of the bill relating to *energy saving*, the *duration of contract*, the *name of a third-party* to contact in case of problems, *special offers*, etc., the *notice period if switching* and *switching information*. While dispersion of the results at the Member States level remains important, it is somewhat less than for the two previous two sets of information pieces.

Table 35: Shares of survey respondents who reported that the information was very easy or fairly eas y to find on the bill and to understand - EU27

Information	EU27 average	Standard deviation around EU27 average
Amount due	0.95	0.04
Supplier name	0.94	0.05
Billing period	0.90	0.06
Supplier contact details	0.89	0.07
Payment deadline	0.84	0.14
Complaint procedures	0.81	0.13
Consumption in period	0.80	0.15
Actual/estimated bill	0.74	0.11
Price breakdown	0.67	0.17
Amount of fixed charges	0.66	0.12
Methods of payment	0.64	0.17
Price per kWh	0.63	0.16
Type of tariff	0.61	0.12
Online payment	0.58	0.12
Access to account	0.55	0.14
Help with payment issues	0.48	0.17
Standing charge element	0.39	0.18
Date of next bill	0.38	0.20
Alternative fill formats	0.36	0.14
Amount on next bill	0.35	0.23
Penalty for late payment	0.32	0.16
Energy source	0.28	0.16
Energy saving information	0.24	0.14
Duration of contract	0.21	0.12
Name of third-party	0.21	0.15
Special offers etc.	0.19	0.11
Notice period if switching	0.13	0.09
Switching information	0.09	0.07

Source: ECME consortium consumer and billing & payment survey

It should be noted that awareness of switching, complaining and consumption is likely to be particularly important for consumers to be able to play an active part in the market.

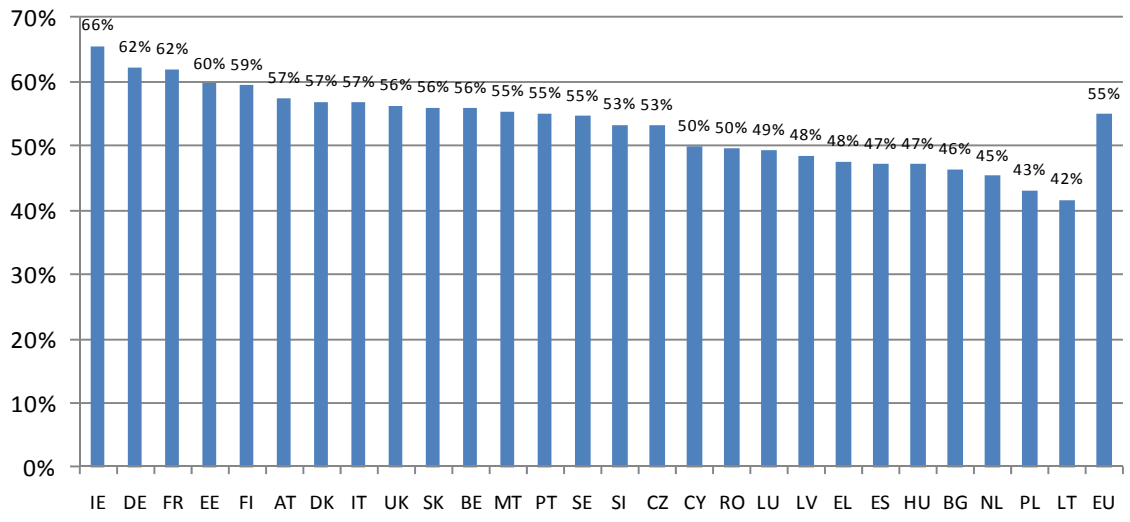
However, the analysis shows that information on electricity bills related to switching is generally lacking or too difficult to understand. Similarly, bills rarely contain the name of a third party organisation that consumers can complain to. Furthermore, bills do not always contain supplier contact details, information about complaint procedures and information about consumption in an easily understandable way.

A review of the Member State-specific information provided at Table 36 shows that consumers have systematically more problems in finding information in some Member States than in others.

This point is highlighted in a number of different ways.

First, the average share of survey respondents found it easy or fairly easy to find and understand each of the 28 information items is computed for each Member States (Figure 130).

Figure 130: Average share across all information items of survey respondents who found it easy to find and understand information on the bill (share of total number of survey respondents)



Note: It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
EU average weighted using Eurostat 2010 population figures as weights.
Source: ECME consortium consumer and billing & payment survey

Ireland stands out as the Member State in which, on average across the 28 pieces of information listed earlier, the largest share of survey respondents found it or fairly easy to find and understand information. Germany and France are the only two other Member States where more than 60% of survey respondents are of the same view. Interestingly, there are 11 Member States were less than 50% of survey respondents stated that this was the case.

Table 36: Percentage of consumers who said it was easy or fairly easy to find and understand…

	Supplier name	Supplier contact details	Amount due	Actual/estimated bill	Consumption in period	Type of tariff	Amount of fixed charges	Price per kWh	Standing charge element	Price breakdown	Special offers etc.	Billing period	Payment deadline	Penalty for late payment	Methods of payment	Alternative fill formats	Amount on next bill	Online payment	Help with payment issues	Date of next bill	Access to account	Duration of contract	Notice period if switching	Switching information	Complaint procedures	Name of third-party	Energy saving information	Energy source
AT	91%	93%	95%	73%	89%	64%	62%	51%	51%	72%	33%	95%	72%	20%	61%	24%	80%	60%	55%	53%	47%	21%	14%	16%	92%	26%	32%	63%
BE	97%	97%	98%	55%	72%	45%	49%	35%	39%	55%	24%	92%	93%	47%	67%	25%	63%	60%	47%	47%	68%	45%	35%	18%	93%	34%	22%	40%
BG	87%	82%	97%	62%	83%	66%	59%	69%	17%	66%	3%	88%	82%	66%	62%	27%	14%	50%	21%	48%	50%	3%	1%	1%	70%	8%	5%	10%
CY	99%	95%	96%	57%	86%	61%	70%	69%	30%	80%	10%	93%	91%	31%	69%	27%	4%	55%	51%	8%	58%	4%	8%	2%	88%	10%	27%	19%
CZ	87%	87%	91%	72%	66%	51%	81%	36%	26%	45%	11%	83%	91%	28%	77%	43%	60%	68%	53%	55%	64%	40%	9%	9%	83%	21%	26%	26%
DK	96%	93%	92%	83%	90%	44%	67%	68%	26%	78%	16%	94%	89%	26%	52%	33%	63%	59%	67%	66%	66%	27%	18%	16%	83%	9%	38%	33%
EE	93%	91%	96%	73%	92%	79%	68%	76%	79%	79%	10%	93%	94%	57%	78%	65%	50%	76%	51%	54%	59%	24%	7%	3%	62%	20%	16%	25%
FI	99%	93%	99%	87%	93%	68%	74%	75%	65%	85%	24%	92%	99%	59%	63%	42%	34%	77%	68%	59%	44%	19%	10%	5%	81%	5%	8%	35%
FR	99%	96%	99%	79%	82%	74%	75%	78%	49%	81%	24%	93%	84%	22%	69%	44%	32%	53%	37%	91%	80%	41%	36%	5%	95%	44%	29%	43%
DE	98%	98%	95%	90%	88%	69%	74%	86%	64%	83%	25%	97%	85%	20%	76%	20%	82%	61%	57%	57%	54%	28%	20%	12%	86%	34%	25%	57%
EL	97%	74%	92%	58%	76%	43%	78%	44%	24%	68%	10%	92%	94%	35%	80%	31%	7%	65%	37%	49%	38%	9%	5%	2%	54%	7%	27%	35%
HU	98%	94%	98%	54%	89%	45%	54%	67%	39%	68%	10%	93%	95%	21%	39%	17%	17%	44%	44%	23%	80%	7%	3%	3%	92%	4%	9%	12%
IE	99%	95%	99%	82%	88%	76%	89%	76%	81%	91%	43%	99%	90%	22%	88%	63%	34%	66%	69%	22%	67%	19%	21%	20%	99%	48%	39%	51%
IT	98%	95%	98%	77%	73%	58%	82%	60%	50%	69%	27%	96%	99%	46%	80%	62%	20%	51%	32%	32%	40%	21%	19%	19%	87%	29%	44%	26%
LV	94%	70%	90%	89%	93%	70%	63%	80%	37%	26%	9%	84%	70%	41%	56%	33%	27%	50%	44%	39%	37%	24%	13%	7%	61%	16%	20%	14%
LT	97%	81%	96%	94%	97%	85%	46%	84%	16%	16%	7%	87%	81%	22%	31%	22%	12%	27%	19%	24%	27%	9%	3%	4%	69%	6%	4%	1%
LU	96%	92%	98%	73%	29%	52%	42%	39%	23%	58%	27%	95%	75%	25%	70%	30%	57%	57%	44%	46%	49%	13%	7%	5%	89%	29%	24%	38%
MT	83%	84%	94%	84%	84%	53%	78%	52%	36%	75%	33%	88%	79%	52%	94%	56%	24%	78%	74%	13%	48%	13%	9%	6%	86%	33%	24%	18%
NL	83%	78%	83%	74%	50%	57%	57%	35%	39%	61%	13%	70%	65%	4%	43%	30%	57%	39%	26%	48%	61%	35%	26%	17%	57%	13%	17%	30%

Table 36: Percentage of consumers who said it was easy or fairly easy to find and understand…

	Supplier name	Supplier contact details	Amount due	Actual/estimated bill	Consumption in period	Type of tariff	Amount of fixed charges	Price per kWh	Standing charge element	Price breakdown	Special offers etc.	Billing period	Payment deadline	Penalty for late payment	Methods of payment	Alternative fill formats	Amount on next bill	Online payment	Help with payment issues	Date of next bill	Access to account	Duration of contract	Notice period if switching	Switching information	Complaint procedures	Name of third-party	Energy saving information	Energy source
PL	92%	86%	97%	58%	67%	52%	63%	53%	28%	55%	5%	76%	96%	27%	40%	15%	35%	53%	27%	34%	35%	9%	4%	3%	61%	19%	7%	8%
PT	96%	92%	98%	76%	75%	64%	65%	59%	45%	84%	19%	90%	89%	30%	67%	36%	19%	69%	44%	21%	62%	14%	4%	3%	87%	15%	61%	56%
RO	97%	91%	98%	74%	85%	54%	71%	69%	25%	60%	7%	93%	90%	50%	74%	31%	15%	51%	53%	22%	40%	20%	6%	4%	76%	12%	11%	9%
SK	82%	91%	90%	71%	78%	62%	71%	55%	20%	61%	15%	86%	80%	36%	78%	45%	70%	77%	72%	53%	69%	29%	14%	13%	84%	20%	23%	24%
SI	97%	94%	99%	71%	82%	72%	55%	66%	50%	69%	20%	94%	98%	26%	50%	35%	13%	54%	73%	15%	74%	8%	10%	10%	80%	9%	48%	21%
ES	97%	81%	98%	65%	83%	43%	68%	66%	14%	73%	19%	88%	63%	8%	28%	35%	19%	58%	19%	18%	57%	31%	13%	20%	85%	11%	26%	34%
SE	98%	94%	99%	81%	94%	75%	76%	84%	37%	74%	10%	95%	97%	40%	70%	33%	11%	71%	35%	14%	48%	33%	18%	12%	91%	10%	8%	23%
UK	95%	95%	93%	87%	81%	63%	57%	68%	44%	69%	46%	87%	40%	13%	64%	54%	39%	48%	65%	28%	68%	18%	20%	18%	96%	68%	37%	15%

Note: Darker shades of blue indicate that a larger percentage of respondents indicated that the information was easy to find and understand.
It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
Source: ECME consortium consumer and billing & payment survey

One may argue that this overall indicator is too broad as that one should focus on information that is more closely related to the bill at hand.

Therefore, three alternative indicators have been constructed.

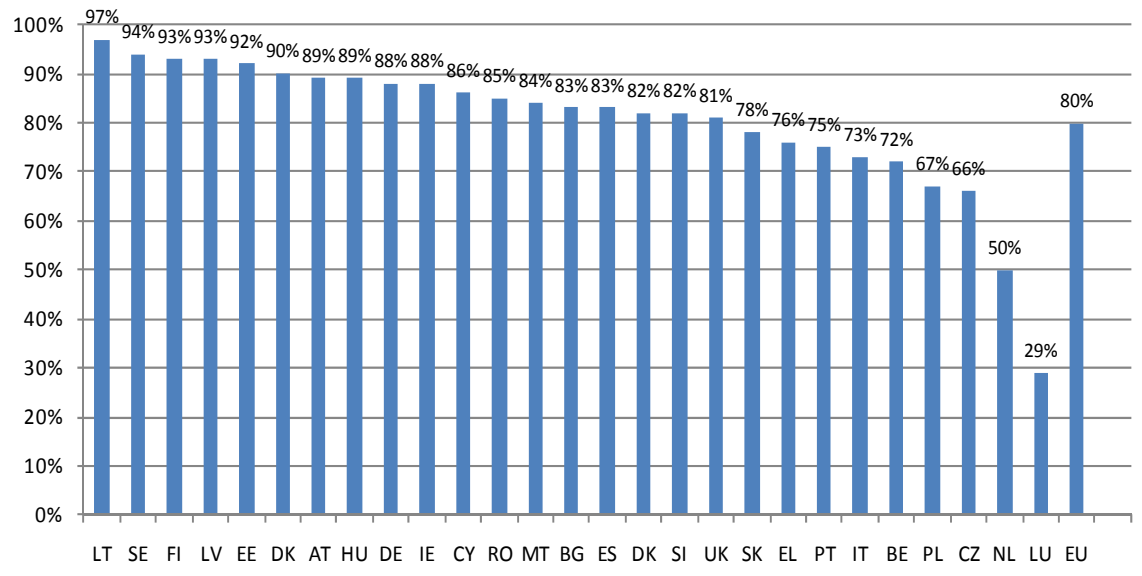
The first focuses on the electricity consumption only

The second focuses on the immediate payment issue faced by the consumer when he/she receives a bill and the pieces of information included in the indicator are the supplier name, the supplier contact details, the amount due, information on whether the bill is based on actual or estimated consumption, the payment deadline and the penalty for late payment.

Finally, the third indicator includes the following pieces of information: type of tariff, the amount of fixed charges , the price per kWh, the standing charge element, the price breakdown and the billing period.

While information on electricity consumption is generally easily or fairly easily found in most Member States, there are a few Member States where less than 3/4 of survey respondents are able to do so when they look at their bill, namely Belgium, Czech Republic, Italy, Luxembourg, Netherlands and Poland (Figure 131).

Figure 131: Average share of survey respondents who found it easy to find and understand electricity consumption information on the bill (share of total number of survey respondents)

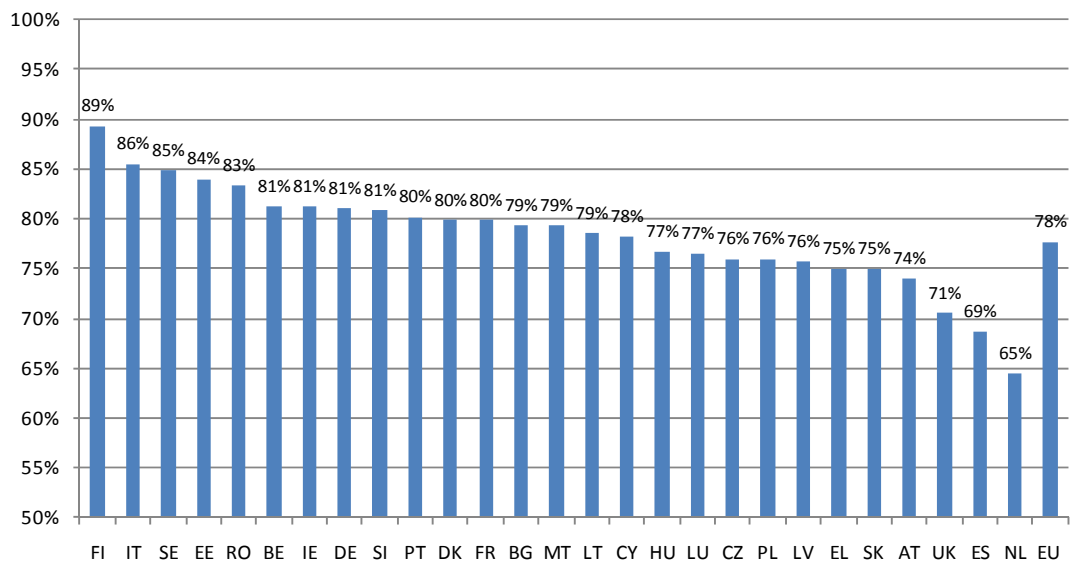


Note: It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
EU average weighted using Eurostat 2010 population figures as weights.
Source: ECME consortium consumer and billing & payment survey

The survey results suggest that finding and understanding information on the key aspects of the bill (namely supplier name, the supplier contact details, the amount due, information on whether

the bill is based on actual or estimated consumption, the payment deadline and the penalty for late payment) is somewhat more difficult as only less than 90% of survey respondents indicate that it was easy or fairly to find and understand such information in the top performing Member State, Finland. Again, there are a few Member States where less than 3/4 of survey respondents were of that view, namely Austria, Netherlands, Spain and United Kingdom (Figure 132).

Figure 132: Average share across key payment information items of survey respondents who found it easy to find and understand information on the bill (share of total number of survey respondents)

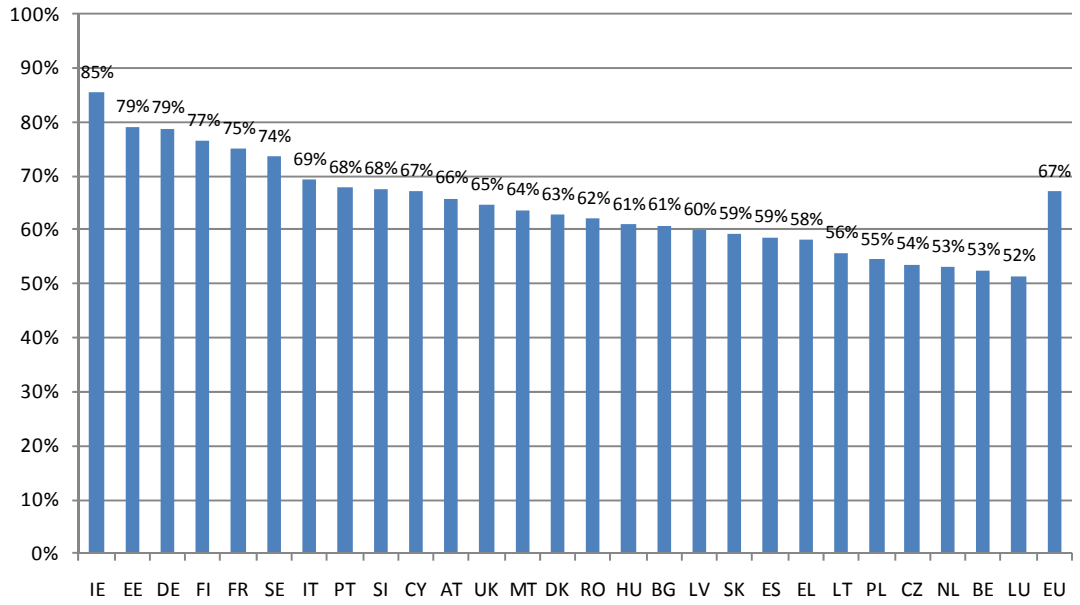


Note: Key payment information includes supplier name, the supplier contact details, the amount due, information on whether the bill is based on actual or estimated consumption, the payment deadline and the penalty for late payment.
It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium consumer and billing & payment survey

Finally, with regards to information on the main contract characteristics, Irish survey respondents were by far the most numerous in finding it easy or fairly easy to identify and find the relevant information (type of tariff, the amount of fixed charges, the price per kWh, the standing charge element, the price breakdown and the billing period).

However, in many Member States (Belgium, Bulgaria, Denmark, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Luxembourg, Netherlands, Poland, Romania, Slovakia, United Kingdom) less than 2/3 of survey respondents were able to do so.

Figure 133: Average share across key contract information items of survey respondents who found it easy to find and understand information on the bill (share of total number of survey respondents)



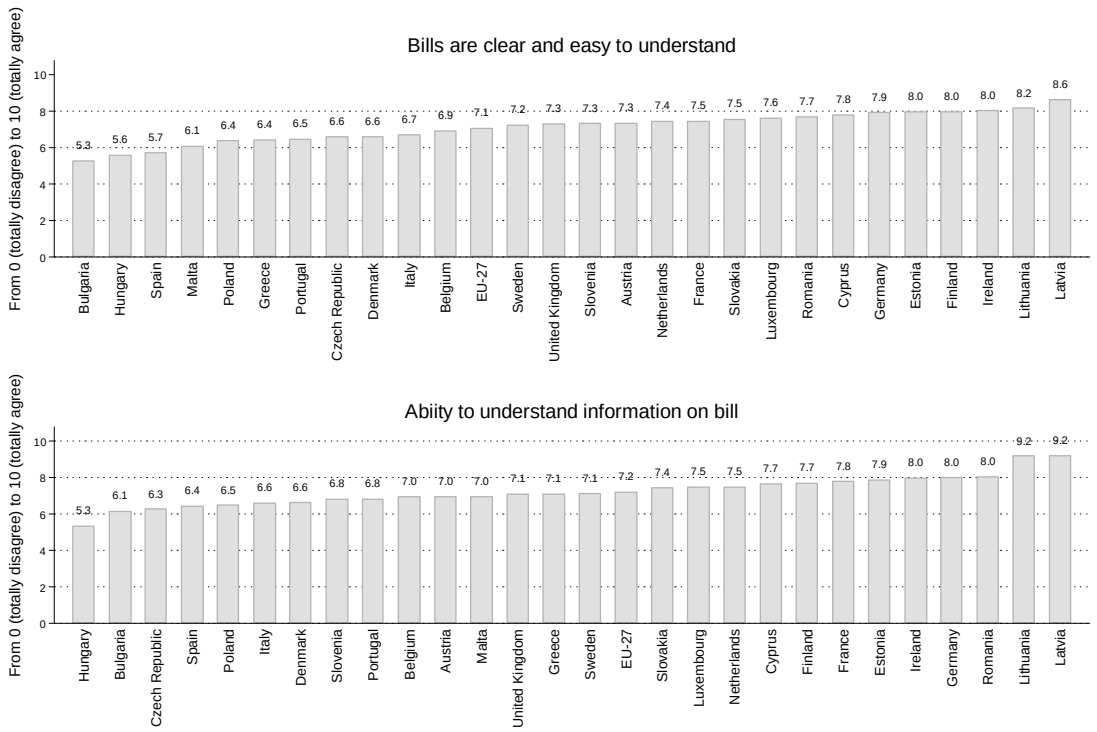
Note: type of tariff, the amount of fixed charges, the price per kWh, the standing charge element, the price breakdown and the billing period.
It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium consumer and billing & payment survey

The results of the general consumer survey also show that the assessment by survey respondents of whether a) bills are clear and easy to understand and b) the information on the bill is easy to understand varies greatly across Member States (see Figure 134).

Finally there is a slight tendency for consumers to feel better informed when more information is available and easily understandable on the bill (Figure 135).

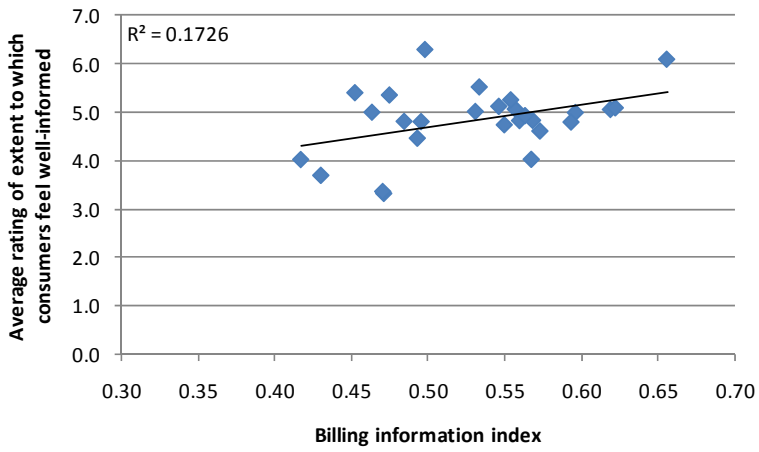
However, it is worth noticing that the relationship is not very strong statistically. In particular, consumers in Member States with a relatively high level of information on the bill (measured as a billing information index value of between 0.55 and 0.65) do not necessarily feel better informed about the electricity market than consumers in Member States with an index value of between 0.45 and 0.55.

Figure 134: Overall consumer views on bills



Note: Q12_4: Bills of (provider) are clear and easy to understand. Q3_3: I understand the information provided on my electricity bill. EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consumer survey

Figure 135: Billing information index vs. extent to which consumers feel generally informed about the market



Note: The billing index is calculated as the average percentage of respondents who indicated that the 28 possible components of the bill were very easy or fairly easy to find and understand. Higher values indicate that more different types
Source: ECME consortium analysis of data from billing and payment survey

5.4 Information provided on the reconciliation bill

When consumers receive bills based on estimates, at some point throughout the year, and perhaps on several occasions each year, they will receive a reconciliation bill. This is a periodic settlement of the payment balance that is based on the actual amount of electricity that they have used against what they have already paid based on estimates. As a result of these reconciliation bills, consumers may have to pay more money or they may be due for a refund or credits. Consumers were asked further questions regarding the reconciliation bills that they receive, in order to identify how easy it is to find and understand the relevant information which it provides.

It should be noted that there were no responses from either Latvia or Lithuania, in regards to questions on reconciliation bills. This is due to the different billing system that exists in those Member States and as such there is no need for reconciliation bills.

Detailed Member State survey results are provided at Annex 4 and a summary at EU level is provided in Table 37.

Table 37: Shares of survey respondents who reported that the information was very easy or fairly eas y to find on the reconciliation bill and to understand - EU27

Information	EU27 average	Standard deviation around EU27 average
Indentify as reconciliation bill	0.75	0.16
Debit/credit balance	0.73	0.21
Actual meter reading details	0.70	0.12
Amount paid already	0.62	0.24
Recalculation of regular instalments	0.44	0.22
Consumption compared to previous years	0.41	0.24
Evolution of consumption during the year	0.37	0.19

Source: ECME consortium consumer and billing & payment survey

Identification

A natural starting point in the discussion of the ease of understanding a reconciliation bill, is to first clarify the ease with which consumers identify such a bill as a reconciliation bill and not as an ordinary bill. In the vast majority of Member States, most consumers identified this fact with ease and across the EU 75% of consumers who received a reconciliation bill were able to easily identify and understand whether it was a reconciliation bill.

However, there were Member States in which consumers struggled more than others to come to this conclusion. For example, in Spain, less than 50% of people reported that they found this either very or fairly easy.

Balance and amount paid already

Two other features of reconciliation bills that were clear to most survey respondents were the amount already paid and the debit or credit balance. These are two of the most important aspects of a reconciliation bill and 73% and 62% of consumers receiving a reconciliation bill, respectively, said that it was easy to find and understand this information.

In four Member States, Cyprus, Spain, Romania, and Bulgaria at least 50% of consumers failed to find the total amount that they had paid so far during the year. This was not replicated in responses to the question on debit and credit balances, although in Estonia and Spain again at least 50% of consumers could not find these details either. These were 2 rare cases though, with all other Member States having at least 50% of consumers finding and understanding details of their debit or credit balance either very or fairly easily.

Actual meter reading

The inclusion of actual meter reading details appears to be done, generally, in a clear and easy to understand way. Across the EU, 70% of consumers found this information either very or fairly easy to understand, although Slovene consumers found it the most difficult to understand, with 40% not finding it at all. A rather striking set of results came from Bulgaria, where consumers either found the information very easy to understand or failed to find the actual meter reading details at all.

Recalculation of regular bill

Information was a lot less clear, across the EU, when it came to the matter of whether their regular instalments would be recalculated. Only 44% of respondents across the EU were able to easily find and understand information about whether regular payments would be recalculated.

In 8 Member States, at least 50% of consumers failed to find any such information, with at least 10% not finding this information in all Member States except the Netherlands and the United Kingdom.

Evolution of electricity consumption year-over-year and through the year

The predominant response across the EU was that consumers failed to find the relevant information on their reconciliation bill. In some Member States, such as Belgium, the Netherlands and Denmark, information regarding each of these degrees of evolution of consumer consumption were easy to understand, with the majority of consumers in these Member States rating it as either very or fairly easy.

On the other hand, in Greece and Romania, over 80% of consumers could not find information regarding their consumption patterns over previous year or over the current year.

5.5 Obtaining information about the account

There is considerable variation in consumer's access to information about their personal account (Table 38 overleaf). In Malta none of the mystery shoppers were able to access information about their account via a phone service or the supplier's website and in Austria, Belgium, Luxembourg less than 50% were able to access their account online or through a phone service. This contrasts with the Czech Republic and Latvia where all mystery shoppers were able to access information about their account; regardless of whether they tried to access the account through the supplier's website or through a phone service.

Suppliers in some Member States appear to rely mostly on telephone services and a larger share of mystery shoppers was able to access their personal account via a phone service than via the

internet in Cyprus, France, Greece, Lithuania, the Netherlands, Portugal, Romania, Spain and the United Kingdom. Furthermore, mystery shoppers in Cyprus, Greece, Romania, Spain and Portugal were *only* able to access their account through a telephone service and only in Cyprus and Portugal were all mystery shoppers able to access the account through a phone service.

In contrast, mystery shoppers in Denmark and Estonia were only able to access information about their account through their supplier's website and not through a telephone service. This means that although the information is in principle accessible, it may not be accessible to all consumers and in particular not consumers without internet access.

Table 38: Access to personal account

Member State	Able to find personal situation on supplier's website	Able to access personal account via a phone service
Austria	40%	40%
Belgium	17%	0%
Bulgaria	**100%**	**67%**
Cyprus	0%	**100%**
Czech Republic	**100%**	**100%**
Denmark	**90%**	0%
Estonia	**100%**	0%
Finland	**54%**	31%
France	**75%**	**100%**
Germany	**75%**	25%
Greece	0%	**50%**
Hungary	**100%**	**75%**
Ireland	**54%**	**85%**
Italy	**67%**	33%
Latvia	**100%**	**100%**
Lithuania	**50%**	**100%**
Luxembourg	25%	25%
Malta	0%	0%
Netherlands	40%	**80%**
Poland	**50%**	30%
Portugal	0%	**100%**
Romania	0%	**71%**
Slovakia	**100%**	**67%**
Slovenia	**50%**	**50%**
Spain	0%	**57%**
Sweden	**60%**	20%
United Kingdom	**83%**	**94%**
EU-27	**58%**	**58%**

Note: One mystery shopping exercise was undertaken for each of the main suppliers. Bold indicates that at least 50% where able to access their account. EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: Mystery shopping scenario 5 undertaken by the ECME Consortium.

5.6 Obtaining assistance related to understanding the electricity bill

Mystery shoppers asking for clarification about the billing where almost always provided an explanation of how the consumption was calculated, the type of tariff that applied and the payment schedule.

- In particular, more than 90% of mystery shoppers in Greece, Sweden, Spain, Romania and Slovenia were provided with an explanation of the calculation of consumption.
- Poland was the only Member State where less than 50% were given an explanation of the consumption calculation
- In addition, more than 90% of consumers in Ireland, Italy, Romania, Slovenia ant the United Kingdom were provided with an explanation of which tariff applied, the same was only true for 55% of consumers in Lithuania and 64% of consumers in Malta and Greece.
- More than 90% of consumers in France, Greece, Latvia, Romania and the United Kingdom were provided with an explanation of the payment schedule.
- In contrast, only 58% of consumers in the Netherlands were provided with this information.

Consumers were also quite frequently provided with an explanation of the different components present in the final price (more than 50% in all Member States and in more than 71% of the cases overall), of the different payment methods (more than 32% in all Member States and in 67% of the cases overall) and of the circumstances under which the price can increase or decrease (more than 34% in all Member States and in more than 57% of all mystery shopping exercises).

Mystery shoppers where sometimes explained the principles of day/night tariffs and the availability of a green tariff and the large variation in the results for these questions may be due to the fact that day/night tariffs and green tariffs may not be available in all Member States or to all consumers.

Consumers were very rarely sent a guide or leaflet explaining the bill. Overall only 13% of all mystery shoppers received such a leaflet and no mystery shoppers in Spain and Romania were provided with a leaflet. However, 62% of the mystery shoppers in Luxembourg were.

Table 39: Explanations of billing and payment

Member State	Was explained the consumption calculation	Was explained the type of tariff applied	Was explained the different components present in the final price	Was explained under which conditions the price can increase/ decrease	Was sent a guide/ leaflet explaining the bill	Was explained the schedule of payment	Was explained the various modes of payment	Was explained the day/night tariff principles	Was proposed information about availability of a green tariff
Austria	**80%**	**80%**	60%	58%	16%	68%	56%	50%	48%
Belgium	**68%**	68%	57%	42%	4%	68%	58%	53%	66%
Bulgaria	71%	67%	73%	49%	14%	**84%**	69%	73%	2%
Cyprus	**82%**	**76%**	**82%**	69%	5%	62%	**87%**	**78%**	5%
Czech Republic	**86%**	**94%**	**76%**	74%	26%	**86%**	**86%**	**84%**	44%
Denmark	**88%**	74%	70%	58%	12%	62%	32%	38%	60%
Estonia	70%	**80%**	72%	50%	30%	67%	**80%**	65%	35%
Finland	**83%**	**69%**	71%	62%	15%	**81%**	46%	69%	46%
France	**76%**	**84%**	68%	68%	16%	**92%**	**84%**	**86%**	30%
Germany	**80%**	**78%**	70%	34%	20%	60%	40%	36%	48%
Greece	**98%**	64%	**90%**	38%	2%	**92%**	**88%**	**92%**	0%
Hungary	**68%**	66%	58%	46%	16%	66%	66%	62%	42%
Ireland	**86%**	**94%**	**82%**	**76%**	16%	**86%**	**88%**	76%	10%
Italy	**82%**	**92%**	**80%**	69%	12%	61%	67%	86%	41%
Latvia	65%	**78%**	51%	53%	18%	**90%**	78%	39%	6%
Lithuania	69%	55%	57%	51%	6%	73%	**90%**	61%	0%
Luxembourg	**84%**	**86%**	**84%**	70%	62%	**84%**	74%	72%	62%
Malta	64%	64%	58%	42%	16%	60%	58%	52%	48%
Netherlands	72%	**76%**	68%	56%	18%	58%	52%	66%	66%
Poland	46%	70%	54%	54%	10%	60%	64%	56%	44%
Portugal	62%	70%	57%	62%	4%	62%	58%	58%	8%

Table 39: Explanations of billing and payment

Member State	Was explained the consumption calculation	Was explained the type of tariff applied	Was explained the different components present in the final price	Was explained under which conditions the price can increase/ decrease	Was sent a guide/ leaflet explaining the bill	Was explained the schedule of payment	Was explained the various modes of payment	Was explained the day/night tariff principles	Was proposed information about availability of a green tariff
Romania	**96%**	**92%**	**82%**	66%	0%	**94%**	**90%**	64%	26%
Slovakia	**84%**	**88%**	**84%**	**76%**	24%	**88%**	71%	55%	22%
Slovenia	**96%**	**96%**	**92%**	73%	35%	**75%**	69%	**94%**	63%
Spain	**94%**	**88%**	65%	57%	0%	**75%**	67%	53%	27%
Sweden	**90%**	74%	**84%**	66%	18%	**88%**	**84%**	28%	28%
United Kingdom	**89%**	**95%**	**82%**	66%	14%	**95%**	79%	41%	43%
EU-27	**80%**	**83%**	71%	57%	13%	**75%**	67%	60%	38%

Note: Bold indicates that at least 75% of mystery shoppers where provided with the explanations. EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: Mystery shopping scenario 3 undertaken by the ECME Consortium.

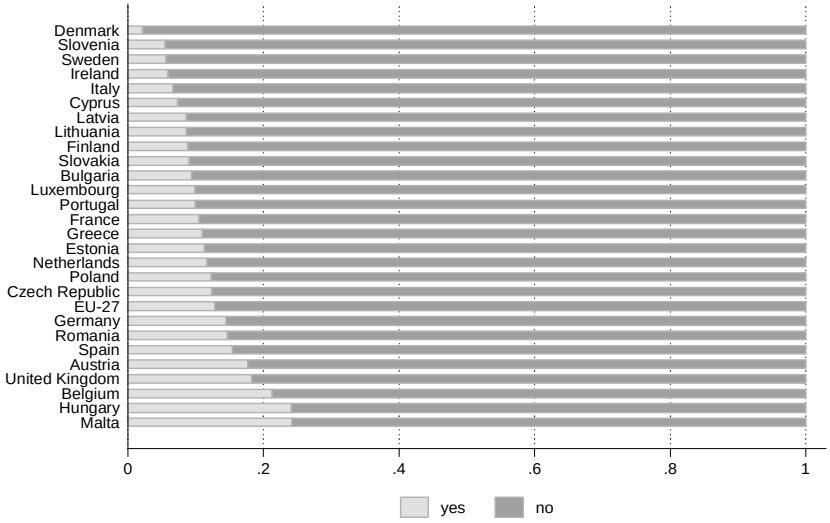
5.7 Billing and payment enquiries and problems

Generally across the EU, 13% of consumers have contacted their supplier in the past 2 years regarding the payment of their bill.

In Belgium, Malta and Hungary more than 20% of consumers have done so and in many cases between 10% and 20% of consumers have contacted their supplier regarding billing and payment in the last 2 years (see Figure 136).

The fact that a sizable number of consumers in some countries have had to contact their supplier about billing and payment issues, suggest that billing and payment processes could be improved.

Figure 136: Contacts with provider regarding bill in the last 2 years



Note: QB12 In the last two years have you contacted your provider for any problem regarding the payment of your bill?
It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. However, in all countries the relevant sample size for this question is more than 180 respondents. The relevant sample size i.e. the total sample for the billing and payment survey is provided in Table 124.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

Cause for complaint and questions

The causes for enquiries and complaints can give some indication as to which areas of billing and payment can be improved. The 3 most common reasons for consumers to contact suppliers about billing and payment issues are (see Table 40):

- an incorrect charge on their bill (18% of requests for assistance across the EU);
- an incorrect meter reading (12% across the EU); and,
- having had to pay a higher price than anticipated (15% across the EU).

It should also be mentioned that 6% of EU consumers contacted their supplier because they did not understand information on their bill.

Table 40: Reasons for contacting suppliers about billing and payment (percentage of complaints/questions by Member State)

	Total charge on bill was not correct	Incorrect meter reading	Personal details were not correct	Had not received a bill	Wanted to pay bill in several instalments or have an extended deadline for payment	Had not received the reimbursement you were entitled to	Had not received a reduction you were entitled to	Had to pay a higher price than anticipated	Had to pay a high reminder fee	Continued to receive bills after switching to another provider	Had to pay a high contract termination fee	Couldn't change payment method	Wanted to get a better tariff	Didn't understand something related to bill or payment	Had a high credit/debit balance	Were billed for a service you didn't subscribe to	Other
AT	3%	20%	9%	3%	3%	6%	3%	11%	0%	0%	0%	0%	6%	11%	3%	0%	23%
BE	13%	13%	2%	5%	12%	0%	0%	10%	5%	0%	0%	2%	2%	5%	8%	3%	20%
BG	11%	22%	6%	6%	17%	6%	0%	0%	6%	0%	0%	6%	0%	6%	0%	0%	17%
CY	21%	14%	0%	14%	7%	0%	0%	7%	7%	0%	0%	0%	0%	0%	0%	0%	29%
CZ	17%	10%	0%	3%	0%	3%	0%	10%	0%	0%	0%	0%	0%	0%	7%	0%	48%
DK	0%	0%	0%	40%	0%	20%	0%	0%	20%	0%	0%	0%	0%	0%	0%	20%	0%
EE	9%	23%	0%	0%	5%	0%	0%	5%	0%	0%	0%	5%	0%	5%	0%	0%	50%
DE	0%	7%	3%	0%	0%	7%	0%	28%	3%	0%	0%	0%	0%	10%	0%	0%	41%
GR	25%	20%	5%	0%	15%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	25%
FI	6%	0%	0%	6%	31%	0%	0%	6%	0%	0%	0%	0%	0%	6%	0%	0%	44%
FR	13%	8%	5%	0%	15%	3%	0%	18%	0%	0%	3%	3%	5%	8%	8%	0%	13%
HU	35%	5%	2%	5%	9%	2%	0%	9%	2%	0%	0%	0%	0%	5%	7%	0%	18%
IE	31%	23%	0%	8%	8%	0%	0%	8%	0%	0%	0%	0%	0%	0%	8%	8%	8%
IT	29%	21%	0%	14%	0%	0%	0%	7%	0%	0%	0%	0%	7%	7%	7%	0%	7%
LV	16%	37%	0%	0%	5%	0%	0%	16%	0%	0%	0%	0%	0%	5%	0%	5%	16%
LT	11%	21%	0%	0%	16%	5%	0%	16%	0%	0%	11%	5%	0%	11%	0%	0%	5%
LU	0%	9%	0%	9%	9%	5%	0%	14%	0%	0%	0%	5%	5%	9%	5%	0%	32%
MT	21%	9%	2%	7%	0%	4%	0%	14%	0%	0%	0%	0%	0%	9%	0%	2%	32%
NL	16%	4%	4%	4%	0%	0%	0%	24%	0%	0%	4%	4%	0%	8%	4%	0%	28%
PL	25%	14%	0%	18%	7%	0%	4%	7%	0%	0%	0%	4%	4%	4%	0%	0%	14%

Table 40: Reasons for contacting suppliers about billing and payment (percentage of complaints/questions by Member State)

	Total charge on bill was not correct	Incorrect meter reading	Personal details were not correct	Had not received a bill	Wanted to pay bill in several instalments or have an extended deadline for payment	Had not received the reimbursement you were entitled to	Had not received a reduction you were entitled to	Had to pay a higher price than anticipated	Had to pay a high reminder fee	Continued to receive bills after switching to another provider	Had to pay a high contract termination fee	Couldn't change payment method	Wanted to get a better tariff	Didn't understand something related to bill or payment	Had a high credit/debit balance	Were billed for a service you didn't subscribe to	Other
PT	22%	26%	0%	4%	9%	4%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	22%
RO	19%	16%	3%	3%	0%	0%	0%	0%	0%	0%	0%	0%	6%	10%	3%	0%	39%
SK	10%	0%	5%	5%	0%	5%	0%	14%	5%	0%	0%	0%	0%	14%	0%	0%	43%
SI	50%	40%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
ES	38%	13%	3%	3%	0%	0%	0%	9%	3%	0%	0%	3%	0%	3%	3%	0%	22%
SE	15%	8%	0%	8%	15%	0%	0%	0%	0%	0%	0%	0%	0%	15%	0%	0%	38%
UK	18%	12%	0%	6%	3%	0%	3%	24%	0%	0%	0%	0%	0%	0%	9%	0%	26%
EU	18%	12%	2%	6%	5%	2%	1%	15%	1%	0%	1%	1%	2%	6%	4%	0%	24%

Note: QB13.Thinking of the last time you contacted your provider about your bill or payment, what was the question or problem?
Percentage of contacts made per Member State. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced.. The relevant sample size i.e. number of respondents who have contacted their supplier with billing and payment problems or questions is provided in Table 124. The relevant sample is less than 10 in Denmark and less than 20 in Cyprus, Bulgaria, Ireland, Italy, Latvia, Lithuania, Slovenia and Sweden.
Darker red shadings are associated with a larger percentage of problems in that area. Darkest red shading given to values of 40% or more; the second darkest shading is given to values of 20% or more but less than 40%; the third darkest shading is given to values of 10% or more but less than 20% and the lightest red shading is given to values of 5% or more but less than 10%.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

Response to consumer questions/complaints

After having contacted the supplier, assistance was generally given by electricity suppliers to consumers, across the EU. In particular, 76% of consumers in the EU who contacted their supplier were given assistance.

Only in France and Bulgaria did over 50% of consumers report that they did not receive assistance the last time that they contacted the customer service of their supplier, with just under 80% of French consumers stating that this was the case.

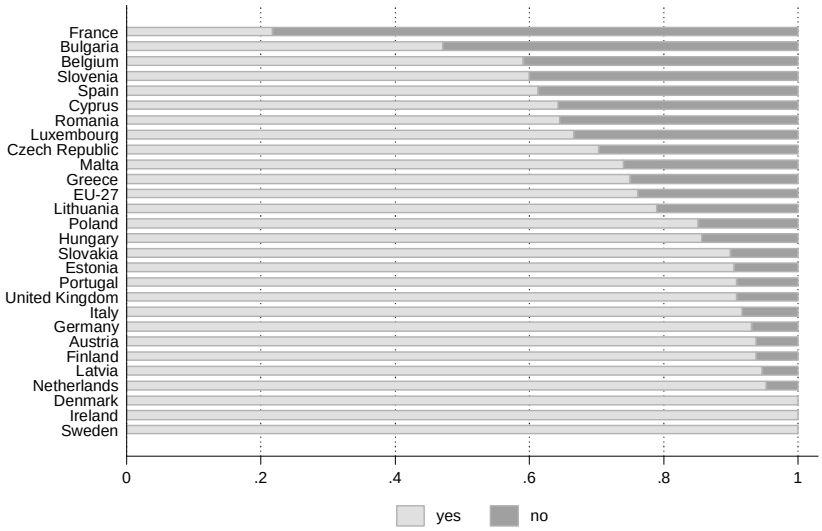
The pattern is completely different in many other Member States across the EU, especially in Sweden, Ireland and Denmark, where all consumers received assistance the last time that they contacted the customer service of their supplier.

On the matter of the level of satisfaction with the answer or solution offered by their provider, the 3 Member States whose consumers all stated that they received assistance after having asked a question or complained, Sweden, Ireland and Denmark are all in the bottom half of Member States in terms of the proportion of consumers that deemed the solution that they received as very satisfactory.

However, in both Ireland and Sweden, there are a very low proportion of consumers who were not at all satisfied with the solution offered to them by their provider, in regards to their last problem. However, the same is not true in Denmark, where 50% of consumers reported as having been not at all satisfied with their solution.

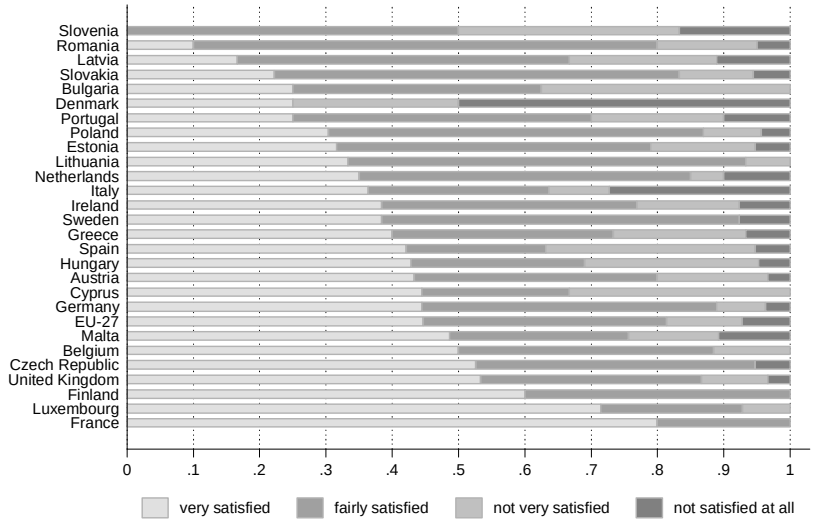
Overall though, most consumers across the EU are relatively satisfied with the solution offered by their provider to their last problem. In particular, 45% said that they were very satisfied, 37% said that they were fairly satisfied, 11% indicated that they were not very satisfied and 7% said that they were not satisfied at all.

Figure 137: Assistance given after contact with customer service



Note: QB14. a) Did you receive assistance the last time you contacted the customer service of your provider?
Percentage of contacts made per Member State. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced.. The relevant sample size i.e. number of respondents who have contacted their supplier with billing and payment problems or questions is provided in Table 124. The relevant sample is less than 10 in Denmark and less than 20 in Cyprus, Bulgaria, Ireland, Italy, Latvia, Lithuania, Slovenia and Sweden.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

Figure 138: Satisfaction with solution offered by provider in response to problem raised



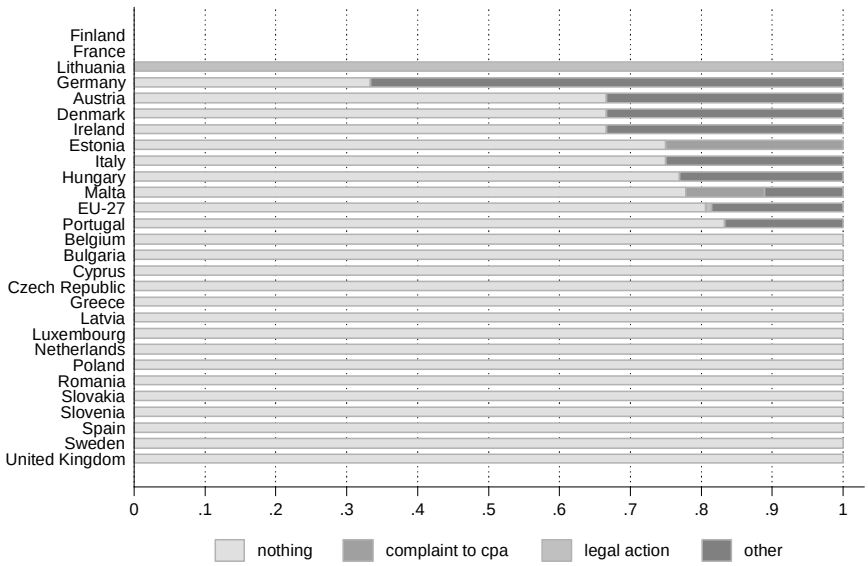
Note: QB14.b) How satisfied were you with the solution offered by your provider?
Percentage of consumers who were given assistance. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced.. The relevant sample size i.e. number of respondents who have contacted their supplier with billing and payment problems or questions is provided in Table 124. The relevant sample is less than 10 in Bulgaria, Denmark, France and Slovenia.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

Further action

The majority of consumers who were not very satisfied or not satisfied at all with the answer or solution offered by their supplier, did not take any further action after talking to their supplier about the billing and payment related issue There were 15 Member States in which no consumers reported taking their matter further.

However, there are some consumers who decided to take their matter up with either a consumer protection authority or decided to take legal action. All Lithuanian consumers who were dissatisfied with the solution offered by their supplier complained to the consumer protection agency and in Germany a large proportion of consumers decided to follow up their complaint by taking some other form of action.

Figure 139: Further action in relation to problem raised with provider



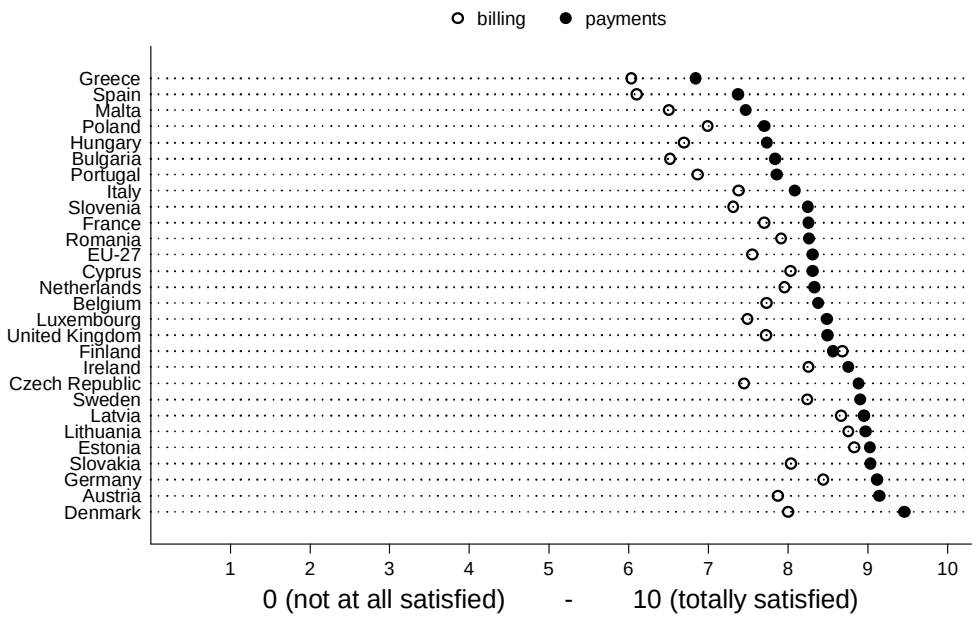
Note: QB15. Did you take further actions to solve your problem/question? CPA = consumer protection agency.
Only asked to consumers who were 'not very satisfied' or 'not satisfied at all' with the solution offered. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size is provided in Table 124 and is less than 13 I all countries.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

5.8 Consumer satisfaction with bills and payment methods

Finally, it is worth noting that overall, consumers are fairly satisfied with the billing and payment methods offered by providers in their Member State.

However, there is still room for improvement particularly in the area of billing as payment methods are almost always seen in a more favourable light than billing methods.

Figure 140: Satisfaction with billing & payment methods



Note: QB11. How satisfied are you with (name of supplier)'s billing & payment methods in general? I do not mean the price you have to pay for your electricity consumption.
EU average calculated as weighted average using Eurostat 2010 population figures as weights.
Source: ECME consortium billing & payment survey

6 Problems, complaints, complaint handling and enforcement

This chapter focuses on problems experienced by consumers, complaints, complaint handling and enforcement actions. In particular the chapter analyses:

- the incidence and type of problems experienced by consumers in the retail electricity market;
- problems related to unfair commercial practices;
- problems related to switching;
- complaint procedures in place;
- complaint behaviour;
- complaints to third-parties; and
- enforcement actions to protect the interests of consumers.

The chapter concludes with a comparison of consumer conditions in the retail electricity sector with other sectors.

6.1 Incidence and types of problems experienced by consumers

This section first assesses the incidence of problems experienced by consumers in the last 2 years in the retail electricity market in EU-27 and then analyses what these problems were related to and whether the responses provided by consumers correspond to what stakeholders see as the most serious problems.

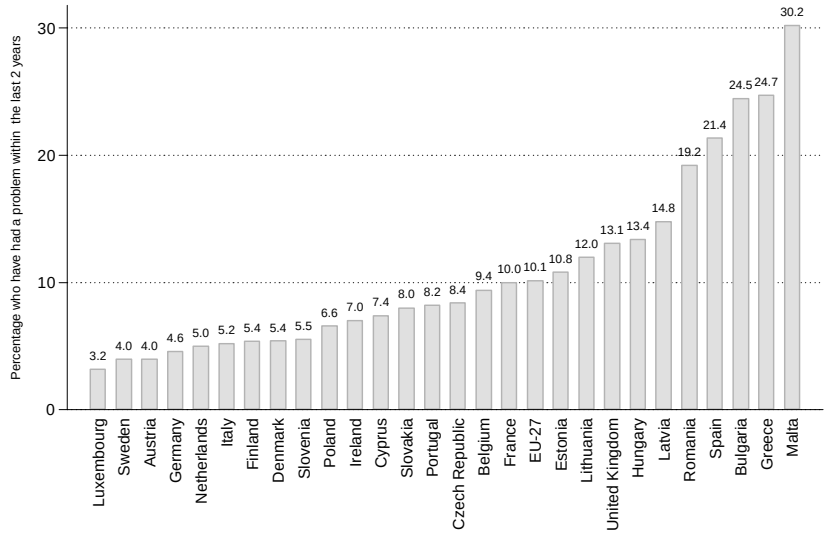
6.1.1 Incidence of problems

One in ten consumers in the EU has had one or more problems with their supplier in the last 2 years (Figure 141).

In Romania, Spain, Bulgaria, Greece and Malta more than 19% of consumers have experienced a problem in the last 2 years, and most notably, almost a third of consumers in Malta have had problems with their supplier. In contrast, 5% or less of consumers had experienced a problem with their supplier in Denmark, Finland, Italy, the Netherlands, Germany, Austria, Sweden and Luxembourg.

It should be noted that these results are based on a subjective assessment and that consumers in different Member States may have different views on when something constitutes a problem. This may explain some of the cross-Member State differences that we observe. But, we would nevertheless expect the responses to give an indication of the order of magnitude of problems experienced by consumers in different Member States.

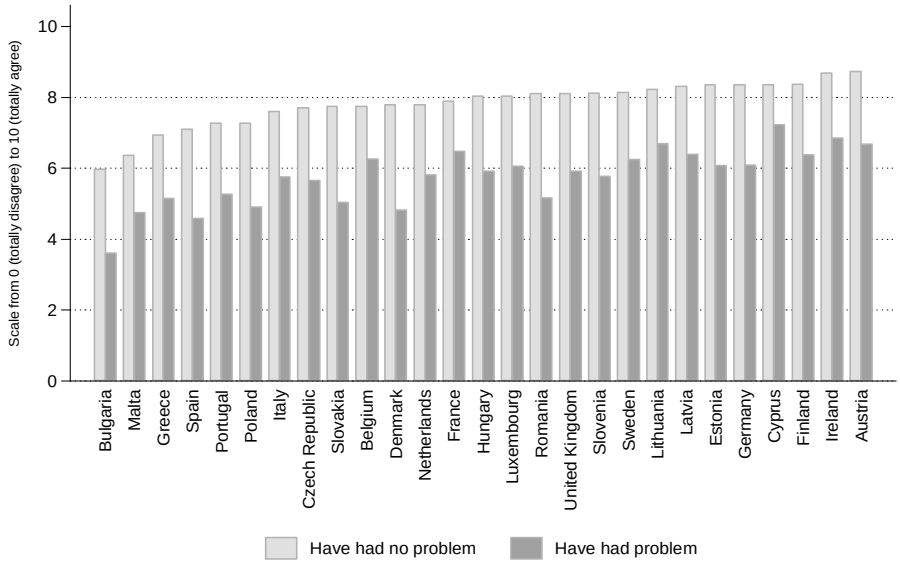
Figure 141: Incidence of problems with suppliers



Note: Based on Q16: 'Have you experienced any problems with (name of supplier) in the past 2 years?'
EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium analysis of data from consumer survey

Consumers who have experienced one or more problems with their electricity provider in the last 2 years also perceive the overall quality of services as lower than consumers who have not experienced a problem (Figure 142). This conclusion holds in all Member States.

Figure 142: Percived overall quality of service for those who have had a problem in the last 2 years and those who have not had a problem in the last 2 years



Note: The overall quality of services is defined as agreement with statement: '(Name of supplier) offer overall a high quality service'.
Source: ECME Consortium analysis of data from consumer survey

6.1.2 Types of problems experienced by consumers

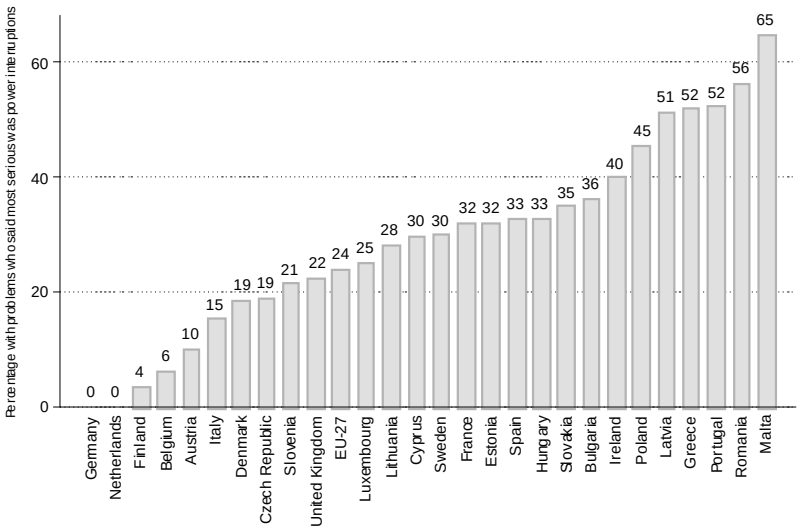
Respondents to the general consumer survey were asked to indicate what the most serious problem they had experienced in the last 2 years was related to (Table 41). Overall, the two most commonly reported problems were power interruptions and problems with prices. These problems were experienced by 24% and 19% of consumers, respectively at EU-27 level.

Power interruptions were the most serious problem experienced for the largest or second largest share of consumers in 21 out of the 27 Member States. Of those 21 Member States, Greece, Hungary, Ireland, Lithuania and Malta all had the largest share of consumers reporting power interruptions as their most serious problem, with the second largest share reporting pricing problems as their most serious. Most notably, 65% of consumers in Malta said that power interruptions was the most serious problem they faced, with 11% stating pricing was their most serious problem.

Similarly, the largest share of consumers reported power interruptions Estonia, Ireland, Latvia, Poland, Slovakia and Spain as problem, but instead 'other' was reported by the second largest share of customers. In Denmark the largest share of consumers (19%) said that power interruptions were the most serious problem they had experienced and, on top of that, the second largest share of consumers (15%) said that lack of notification for power interruptions was the most serious problem experienced.

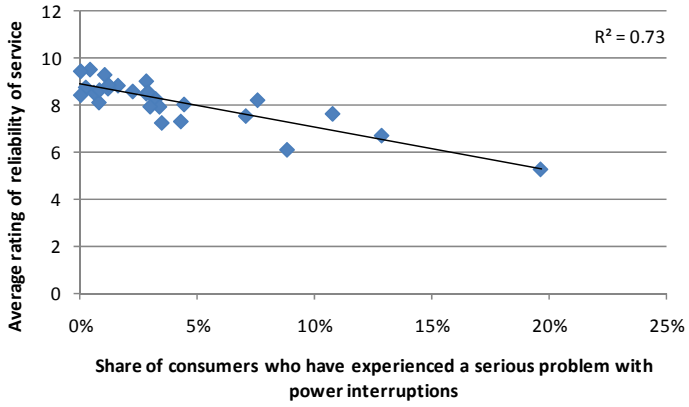
At the other end of the scale, no consumers in Germany and the Netherlands reported power interruptions as the most serious problem they had experienced in the last 2 years (Figure 143). As would be expected there is a clear negative association between the share of consumers who have experienced a serious problem with power interruptions and consumers' perception of the reliability of service (Figure 144).

Figure 143: Percentage who said the most serious problem in the last 2 years was a power interruption (percentage of those who experienced a problem)



Note: Based on Q17: thinking about the most serious problem that you have experienced in the last two years, what was it about? Percentage of those who experienced a problem. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who experienced a problem is provided in Table 123.
EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium analysis of data from consumer survey

Figure 144: Average rating of reliability of service vs. share of consumers have had serious problems with power interruptions

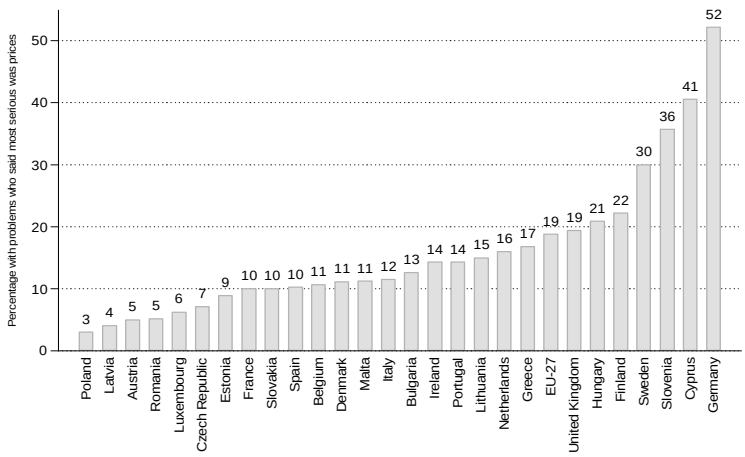


Note: The share of consumers who have experienced a serious problem with power interruptions is calculated as the share of consumers who have experienced a problem in the last 2 years multiplied by the share of consumers who have experienced a problem and indicate that the most serious problem was a problem with power interruptions. Reliability of service is rated on a scale from 0 to 10 where 10 represents a highly reliable service.
Source: ECME Consortium analysis of data from consumer survey

Problems with electricity prices (e.g. too high, not indicated or wrongly advertised prices) were also relatively common; particularly in Germany where 52% of the consumers who had experienced a problem in the last 2 years indicated that the most serious problem was problems with prices. Problems with prices were also the most serious problem experienced by 41%, 36%

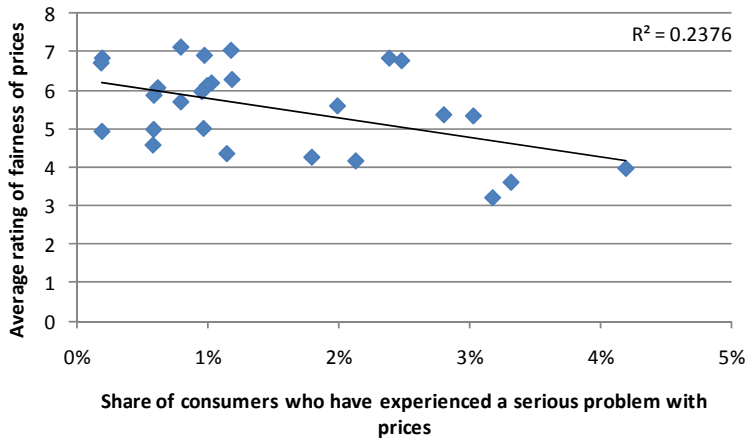
and 20%, respectively of consumers, in Sweden, Slovenia and Cyprus. There is a clear tendency that prices are perceived as fairer in Member States where a relatively low share of consumers have experienced problems with prices (Figure 145).

Figure 145: Percentage who said the most serious problem in the last 2 years was a problem with prices (percentage of those who experienced a problem)



Note: Based on Q17: thinking about the most serious problem that you have experienced in the last two years, what was it about? Price problems refer to e.g. too high prices, wrong advertised price, not indicated price.
Percentage of those who experienced a problem. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who experienced a problem is provided in Table 123.
EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium analysis of data from consumer survey

Figure 146: Average rating of fairness of prices vs. share of consumers have had serious problems with prices



Note: The share of consumers who have experienced a serious problem with prices is calculated as the share of consumers who have experienced a problem in the last 2 years multiplied by the share of consumers who have experienced a problem and indicate that the most serious problem was a problem with prices. Fairness of prices is rated on a scale from 0 to 10 where 10 represents a highly fair prices.
Source: ECME Consortium analysis of data from consumer survey

Another problem that was reported in consumer responses was customer service. Furthermore, the largest share of consumers in Belgium, Italy and Luxembourg saw inaccurate estimates of consumption as their most serious problem. Also, in Austria, infrequent meter readings was mentioned as the second largest share of serious problems for consumers, while in Denmark and the Netherlands 11% and 12% of consumers, respectively indicated that the most serious problem was related to the terms and conditions.

There were a number of problems that only a very small share of consumers had a serious issue with. For example, selling methods and time to get connected did not appear to be very serious problems for consumers in all Member States.

Notably, in 6 Member States (Austria, Czech Republic, Finland, Italy, the Netherlands and the United Kingdom) the largest share of consumers stated 'other' as their most serious problem in the last two years. This suggests that the response options were not exhaustive in identifying the most serious problems faced by consumers, as a significant share of the consumers in many of the Member States stated 'other' as a response

Table 41: Problems reported by consumers (percentage of consumers who had problems)

Member State	Customer service	Terms and conditions	Selling methods	Prices	Power interruptions	Gaps between bills	Inaccurate estimates of consumption	Infrequent meter readings	Payment methods	Difficulty paying the bill or re-negotiating contract	Absence of notification for interruption	Time to get connected	Other
Austria	15%	0%	5%	5%	10%	10%	10%	15%	5%	5%	0%	0%	20%
Belgium	11%	2%	2%	11%	6%	11%	26%	4%	2%	6%	0%	0%	19%
Bulgaria	14%	2%	3%	13%	36%	2%	5%	5%	2%	2%	5%	0%	12%
Cyprus	5%	0%	0%	41%	30%	0%	5%	0%	5%	3%	3%	0%	8%
Czech Republic	14%	0%	0%	7%	19%	0%	7%	2%	0%	0%	5%	2%	43%
Denmark	7%	11%	7%	11%	19%	7%	7%	0%	0%	4%	15%	0%	11%
Estonia	9%	4%	0%	9%	32%	0%	9%	4%	2%	2%	4%	0%	27%
Finland	4%	7%	0%	22%	4%	4%	19%	4%	0%	4%	0%	0%	33%
France	16%	4%	2%	10%	32%	0%	16%	2%	0%	0%	2%	6%	10%
Germany	9%	9%	0%	52%	0%	0%	9%	0%	9%	0%	0%	0%	13%
Greece	6%	0%	1%	17%	52%	0%	6%	0%	1%	3%	1%	2%	11%
Hungary	13%	1%	1%	21%	33%	0%	4%	4%	1%	1%	0%	0%	18%
Ireland	3%	3%	0%	14%	40%	0%	9%	6%	9%	0%	0%	3%	14%
Italy	8%	8%	0%	12%	15%	4%	19%	4%	8%	4%	0%	0%	19%
Latvia	8%	4%	0%	4%	51%	1%	8%	0%	0%	4%	4%	3%	12%
Lithuania	15%	2%	5%	15%	28%	0%	13%	0%	2%	5%	2%	2%	12%
Luxembourg	19%	0%	0%	6%	25%	0%	25%	6%	0%	0%	6%	0%	13%
Malta	4%	0%	1%	11%	65%	1%	5%	1%	0%	1%	1%	1%	9%
Netherlands	16%	12%	4%	16%	0%	8%	4%	0%	8%	0%	8%	0%	24%
Poland	3%	6%	0%	3%	45%	0%	15%	0%	0%	3%	3%	3%	18%
Portugal	7%	0%	0%	14%	52%	0%	17%	5%	0%	0%	0%	0%	5%
Romania	14%	2%	1%	5%	56%	1%	11%	1%	3%	0%	1%	1%	3%
Slovakia	13%	8%	0%	10%	35%	0%	5%	5%	0%	8%	3%	0%	15%
Slovenia	25%	0%	4%	36%	21%	0%	7%	0%	0%	4%	0%	0%	4%
Spain	5%	6%	0%	10%	33%	3%	13%	7%	0%	4%	3%	1%	16%
Sweden	15%	0%	0%	30%	30%	5%	10%	0%	5%	0%	0%	0%	5%
United Kingdom	7%	0%	0%	19%	22%	1%	12%	0%	9%	3%	0%	0%	25%
EU-27	10%	5%	1%	19%	24%	2%	13%	2%	4%	2%	2%	1%	16%

Note: Based on Q17: 'thinking about the most serious problem that you have experienced in the last two years, what was it about?'. The relevant sample size i.e. the number of respondents who experienced a problem is provided in Table 123. EU-27 average is weighted using 2010 Eurostat population figures as weights.

Source: ECME Consortium consumer survey

6.1.3 Stakeholder perceptions of the most serious problems experienced by consumers

Regulators, consumer protection agencies, national ombudsmen and consumer associations where asked to provider their views on the seriousness of problems in the same areas as those considered by consumers. Figure 147 and Figure 148 show which problems these stakeholders on average considered the most serious problems and the least serious compared to the average for that Member State. Bars to the left of the vertical axis indicate problems that were viewed by stakeholders as more serious than the average and bars to the right of the vertical axis indicate problems that stakeholders considered less serious than the average.

By far, the problem listed by the most consumers as their most serious problem was power interruptions. However, when stakeholders were asked the question of how serious they viewed certain problems within the retail electricity sector, only Romanian and Latvian stakeholders listed power interruptions as the most serious problems experienced by consumers.

A further difference between the responses from consumers and stakeholders concerns the seriousness of bad customer service within the retail electricity market. In several Member States, these problems were the most or second most common type of problems reported by consumers as the most serious problem they had experienced.

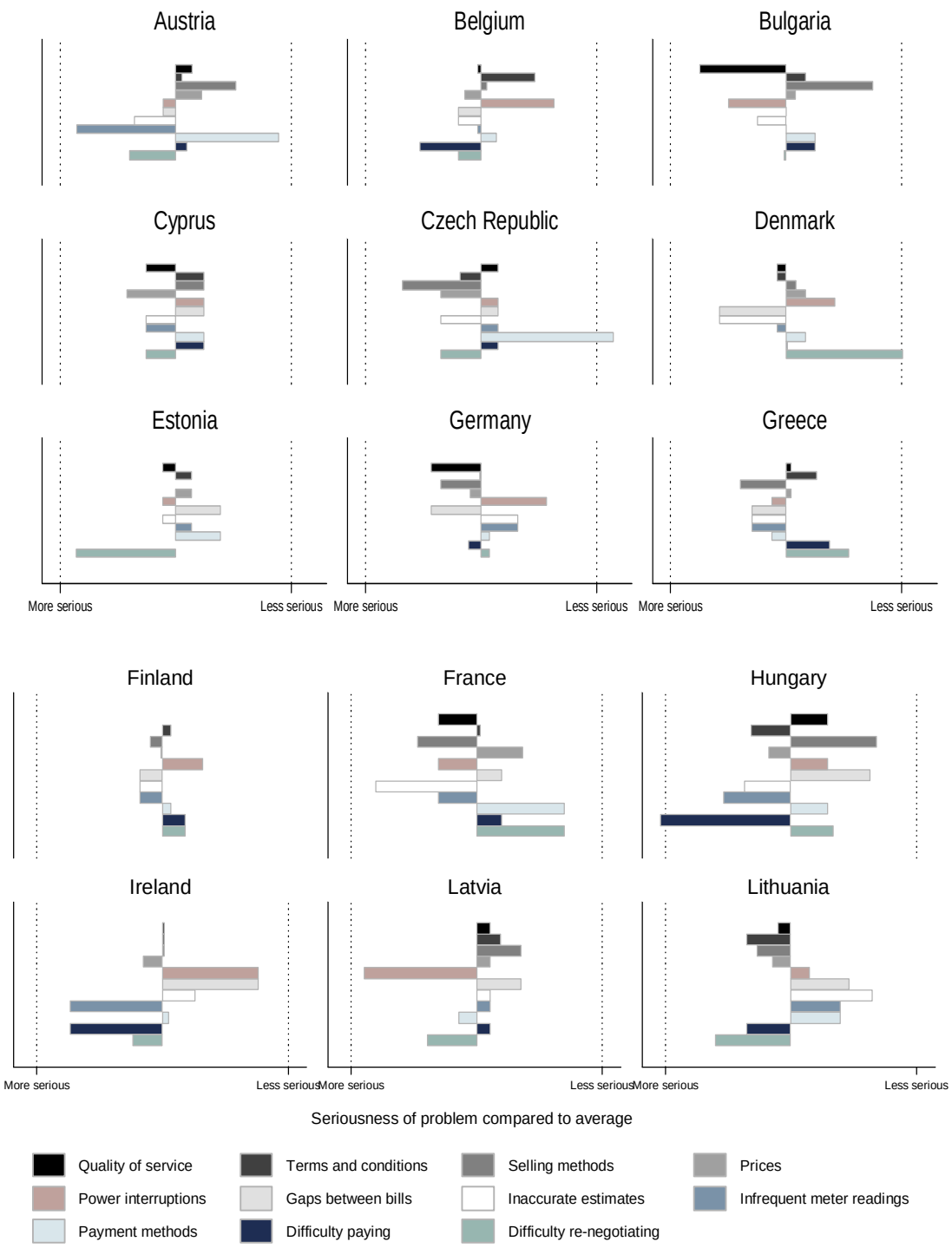
However, only Bulgarian stakeholders viewed the issue of quality of service as being a very serious issue and hence were in line with the view of Bulgarian consumers. Stakeholders in the United Kingdom, Spain and Germany also viewed problems with the quality of customer service as a relatively serious problem. However, in these Member States consumers rarely indicate that this was the most serious problem experienced.

Issues relating to prices (e.g. too high, wrongly advertised, not indicated) were another common problem reported by consumers. However, only the Czech and Cypriot stakeholders rated this issue as being fairly serious.

There were, however, also similarities between the problems viewed as serious by consumers and those viewed as serious by stakeholders. For example, stakeholders and consumers in Austria identified infrequent meter readings as a serious problem. Similarly, both stakeholders and consumers in France and Spain indicated that problems related to inaccurate estimates were relatively serious. Both consumers and stakeholders also indicated that problems with gaps between bills and estimated bills were relatively serious in Denmark, although stakeholders appeared to consider these more serious than consumers. Contrary to consumers, stakeholders in Sweden, Ireland, Hungary and the Netherlands viewed infrequent meter readings as a serious problem.

The Hungarian and Irish stakeholders viewed problems related to payment difficulties as relatively serious problems but this was not mirrored in the responses by consumers. Similarly, the responses by consumers do not indicate that problems related to difficulties renegotiating contracts were often a serious problem in Estonia. However, stakeholders generally viewed problems in this area as relatively serious.

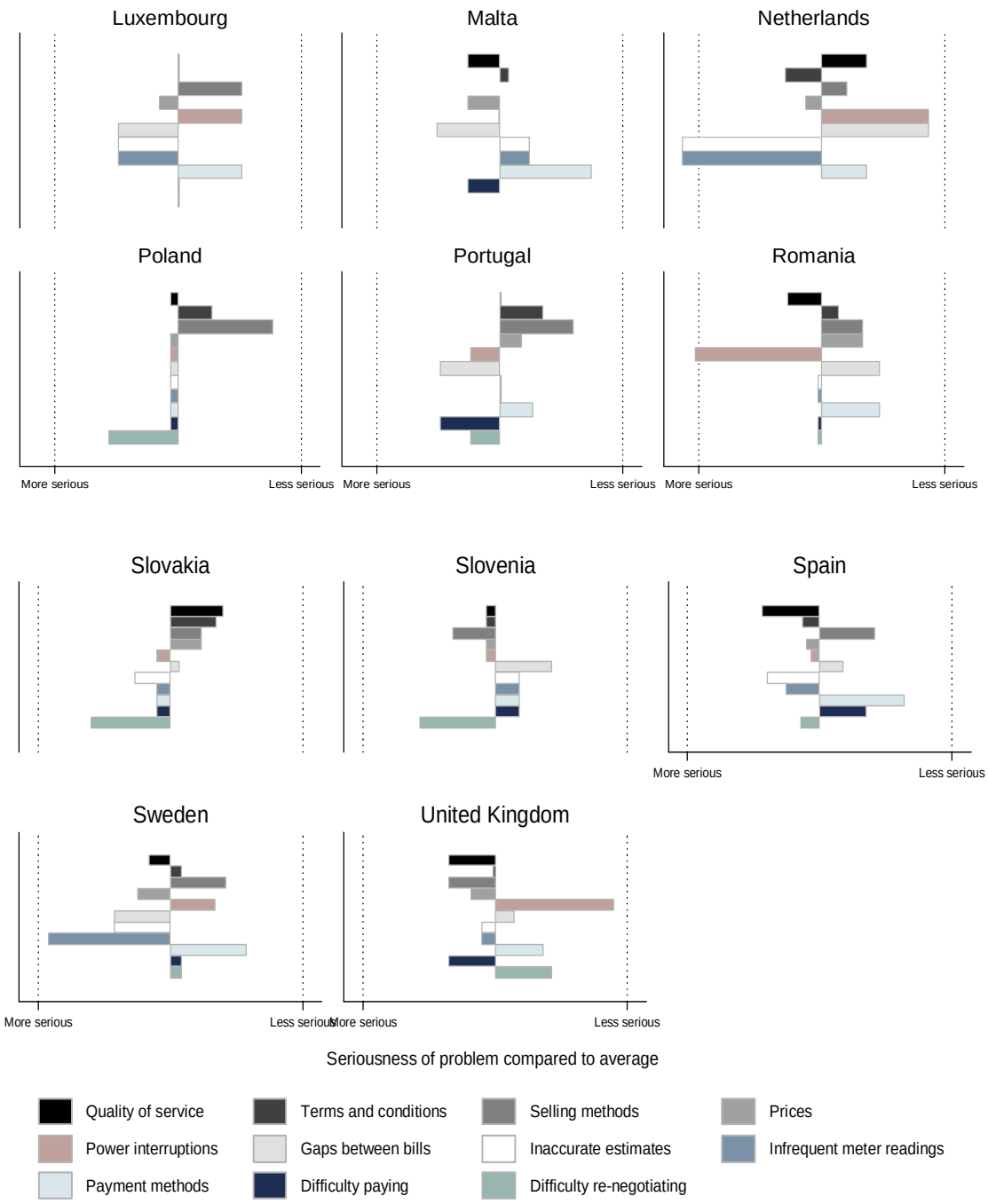
Figure 147: Stakeholder views on the most serious problems (Austria – Lithuania)



Note: The seriousness of the problem in the view of stakeholders is calculated as the average across all stakeholders and expressed in deviation from the total average over all stakeholders and problems. This is done in order to rescale the responses to make identification of the most and least serious problem in each Member State possible. No response from any of the Italian stakeholders contacted as part of the survey.

Source: ECME Consortium analysis of date from stakeholder survey

Figure 148: Stakeholder views on the most serious problems (Luxembourg – United Kingdom)



Note: The seriousness of the problem in the view of stakeholders is calculated as the average across all stakeholders and expressed in deviation from the total average over all stakeholders and problems. This is done in order to rescale the responses to make identification of the most and least serious problem in each Member State possible. No response from any of the Italian stakeholders contacted as part of the survey.

Source: ECME Consortium analysis of date from stakeholder survey

6.1.4 Possible reasons for diverging views

A possible explanation for the diverging views of stakeholders and consumers in the area of which problems are most serious could be that problems related to power interruptions, prices and the quality of customer services are more adequately dealt with by suppliers and, as a result, not viewed as being as serious as other types of problems.

However, results from the consumer survey do not support this hypothesis.

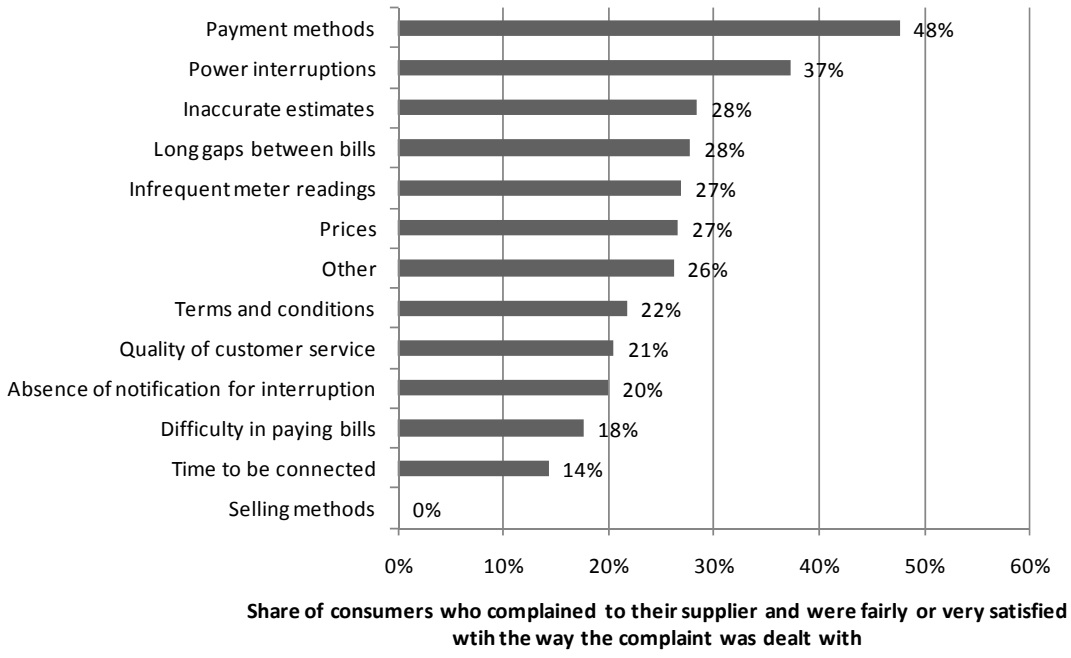
Respondents who complained to their suppliers about problems with power interruptions, on average, were very or fairly satisfied with the way which the complaint is dealt with in 37% of the cases. However, the equivalent figure for pricing problems was only 27% and, thus, lower than for many other types of problems (Figure 149).Therefore, it does not appear to be the case that complaints related to power interruptions and pricing are better dealt with by suppliers.

If a proportion[67] of dissatisfied consumers, subsequently address their complaint to third-party organisations, there appears to be no reason why stakeholders should not be aware that relatively many consumers across the EU consider problems related to power interruptions and prices to be the most serious problems they have had.

Another possible explanation for the diverging results may be that stakeholders take into account the relative seriousness of each problem and place less emphasis on the number of people who experience the problems as serious. It is possible that pricing problems and problems related to power interruptions are frequently occurring problems compared to other types of problems and that this, and not the seriousness of the problems, is the reason why these problems are often reported by consumers as the most serious problem they have experienced.

[67] The same proportion regardless of the type of problem.

Figure 149: Satisfaction with complaint handling by type of problem for consumers who complained to their supplier



Note: Responses are non-weighted. Percentage of consumers who made a complaint.
Source: ECME Consortium analysis of date from stakeholder survey

6.2 Problems related to unfair commercial practices

This section focuses specifically on quality problems related to unfair commercial practices. The section considers the extent of problems in the area, the seriousness of problems in the area and the types of problems experienced.

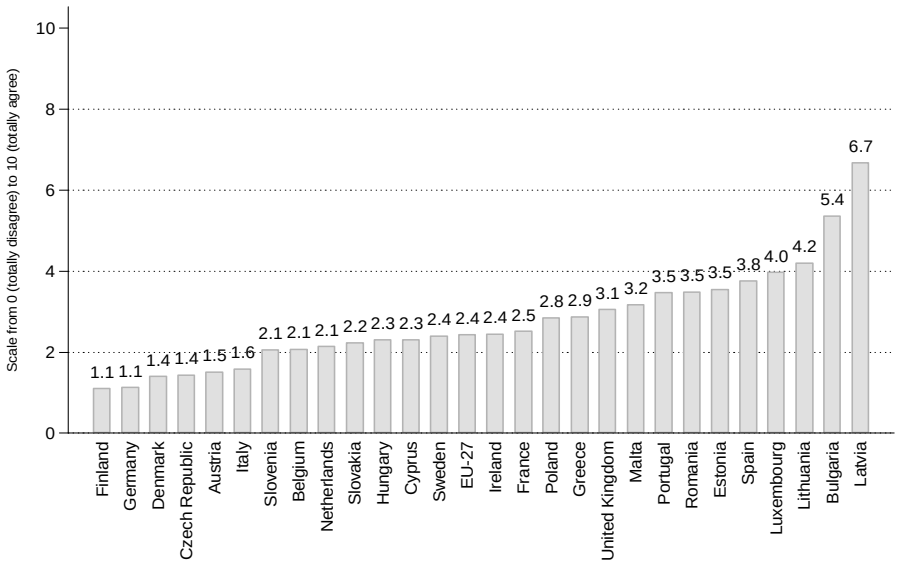
6.2.1 Extent of problems with unfair commercial practices

In general, consumers have felt relatively low degrees of pressure into signing a contract with a provider (Figure 150).

- However, consumers in Bulgaria and Latvia have more often been subject to aggressive practices than consumers in other Member States and consumers in these Member States on average rate their agreement with the statement 'I have felt pressurised to sign a contact with a provider' at 5.4 and 6.7 respectively on a scale from 0 (totally disagree) to 10 (totally agree).

- At the other end of the scale consumers in Finland and Germany generally disagree strongly with the statement that they have felt pressure to sign a contract, with average scores of 1.1.

Figure 150: Extent to which consumers felt pressurised into signing a contact with a supplier



Note: Based on Q9.2: Agreement with statement: 'I have felt pressurised to sign a contract with a provider'. EU-27 average calculated as a weighted average using 2010 Eurostat population figures as weights.
Source: ECME Consortium analysis of data from consumer survey

To shed further light on the extent of unfair commercial practices, mystery shoppers who contacted existing and alternative suppliers to enquire about switching or cheaper offers were asked whether they experienced misleading selling attitudes such as call backs or unfair arguments. Mostly this was not the case and, overall, only 6% of mystery shoppers experienced misleading selling practices from exiting or alternative suppliers.

However, more than 10% of mystery shoppers in Denmark, Ireland, the Netherlands, Poland, Spain and Sweden experienced misleading selling attitudes from alternative suppliers and more than 10% of mystery shoppers in the Czech Republic Hungary, Poland and Sweden experienced misleading selling practices from their existing supplier.

Table 42: Did you experience misleading attitude?

Member State	Alternative suppliers	Existing suppliers
Austria	2%	6%
Belgium	6%	7%
Czech Republic	2%	14%
Denmark	10%	0%
Finland	5%	2%
France	0%	4%
Germany	6%	6%
Hungary	8%	10%
Ireland	12%	6%
Italy	2%	0%
Luxembourg	2%	0%
Netherlands	14%	8%
Poland	18%	12%
Portugal	0%	2%
Slovakia	0%	0%
Slovenia	0%	5%
Spain	10%	4%
Sweden	10%	10%
United Kingdom	4%	7%
EU-27	6%	6%

Note: Approximately 50 mystery shopping tests were undertaken per Member State. The mystery shopping exercise was not undertaken in Bulgaria, Cyprus, Estonia, Greece, Latvia, Lithuania, Malta and Romania. EU-27 averages are weighted using 2010 Eurostat population figures.

Source: ECME Consortium analysis of data from mystery shopping

The results from the consumer survey and the mystery shopping exercise would thus tend to indicated that problems related to unfair commercial practices are relatively rare. This view is generally shared by regulators, and all the regulators who responded to the specific survey question indicated that unfair commercial practices are either *rare* or *not very common* (Table 43).

However, typically, consumer protection authorities, consumer associations and national ombudsmen indicated that problems related to unfair commercial practices were more common.

- For example in Austria, Finland, Germany and Lithuania the consumer protection indicated that unfair commercial practices are *not very common* whereas the regulators indicated that unfair commercial practices are *rare*.
- Similarly, in Bulgaria and Ireland the regulators said that unfair commercial practices are *rare* whereas the consumer protection authority and consumer association, respectively, said that unfair commercial practices are *common*.
- In Belgium, France and Slovakia all stakeholders who responded to the question agreed that unfair commercial practices are *common*.

- As the only stakeholders, the consumer associations in Denmark and the United Kingdom[68] were of the view that unfair commercial practices are *very common*.

Table 43: Stakeholder views of the extent of unfair commercial practices

Member State	Regulator	Consumer protection authority	Consumer association	National ombudsman
Austria	Rare	Not very common	:	:
Belgium	:	Common	Common	Common
Bulgaria	Not very common	Common	:	:
Cyprus	:	Not very common	:	:
Czech Republic	Not very common	:	:	:
Denmark	Rare	:	Very common	:
Estonia	:	Rare	:	:
Finland	Rare	Not very common	:	:
France	:	:	:	Common
Germany	Rare	Not very common	:	:
Greece	:	Rare	Not very common	:
Hungary	:	Not very common	Not very common	:
Ireland	Not very common	:	Common	:
Italy		:	:	:
Latvia	Rare	:	:	:
Lithuania	Rare	Not very common	:	:
Luxembourg	Rare	:	:	:
Malta	:	:	Not very common	:
Netherlands	Not very common	:	:	:
Poland	:	Rare	:	:
Portugal	Not very common	Rare	:	:
Romania	Not very common	:	Rare	:
Slovakia	:	Common	Common	:
Slovenia	Not very common	Rare		:
Spain	:	1	2	:
Sweden	:	Rare	:	Not very common
United Kingdom	Not very common	:	Very common	:

Note: 1) in Spain 2 consumer protection authorities said 'Rare', 5 said 'Common' and 2 said 'Very common'. 2) 1 consumer association said 'Very common' and another said 'Common'.

Source: ECME Consortium analysis of data from stakeholder survey

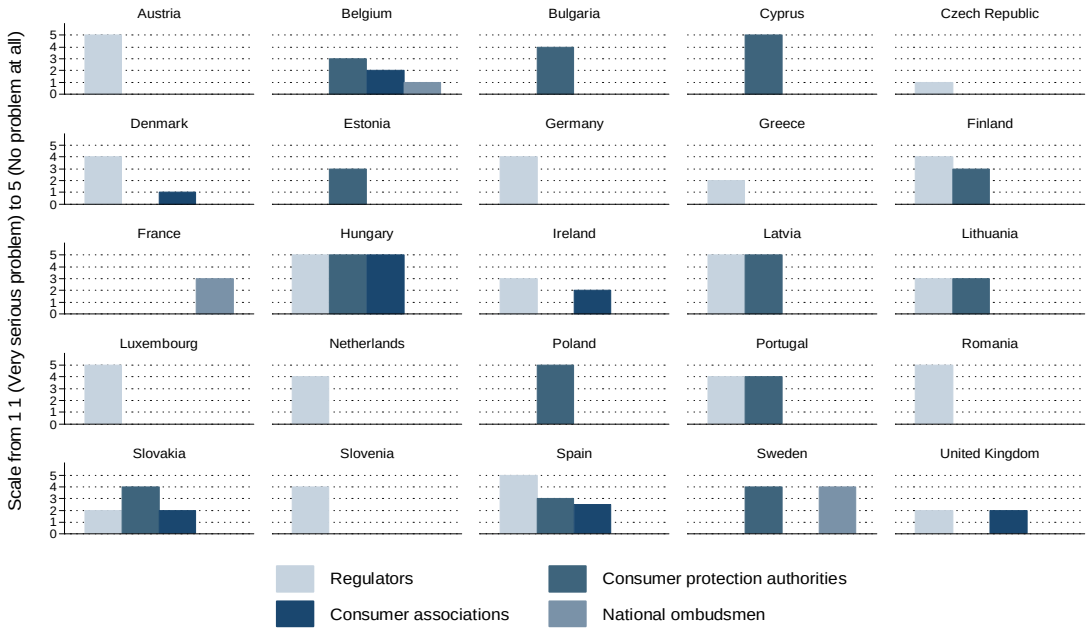
[68] According to the National Association of Citizens Advice Bureaux (2002): 'The fuel picture', 20% of all evidence reports submitted by Citizens Advice Bureaux were related to concerns about sales practices used by energy suppliers.

6.2.2 Seriousness of problems with unfair commercial practices

In the stakeholder survey undertaken for this study, stakeholders were asked to rate the seriousness of problems with *under pressure selling practices* on a scale from 1 (very serious problem) to 5 (not a problem at all).

- Regulators and consumer protection authorities were generally of the view that the problems were relatively minor, if at all existing, with regulators from Austria, Hungary, Luxembourg, Latvia, Romania and Spain and consumer protection agencies from Cyprus, Hungary, Latvia, and Poland viewing this as not being a problem at all (Figure 151).
- However, this feeling was not shared by all regulators with the Czech regulator believing that the issue of under pressure selling is a very serious problem in the Czech Republic and the regulator in Greece and the United Kingdom also rating under pressure selling as a relatively serious problem.
- Varied responses were provided by consumer associations with regards this question and, in Hungary, the consumer association agreed with the regulator and consumer protection authority and provided a score of 5 (not a problem at all).
- In contrast, the Danish consumer association views under pressure selling as a very serious problem and much more of a problem than the Danish regulator.
- All other consumers associations rate under pressure selling as a problem but not a very serious one (ratings were 2 or 3).
- The Belgian national ombudsman was the most critical of this practice, viewing it as a very serious issue, whereas in France and Sweden, the national ombudsman viewed the issue with less worrisome.

Figure 151: Stakeholder rating of seriousness of problems with 'under pressure' selling practices



Note: Rating of seriousness of problems with 'Selling methods: under pressure'. The Estonian, French, and Bulgarian regulators, the Austrian, German, and two of the Spanish consumer protection agencies responded 'Don't know' as did the consumer association in Romania. For the Spanish and Lithuanian consumer protection agencies multiple responses were received and the average was taken over all the received responses in that category.
Source: ECME Consortium stakeholder survey

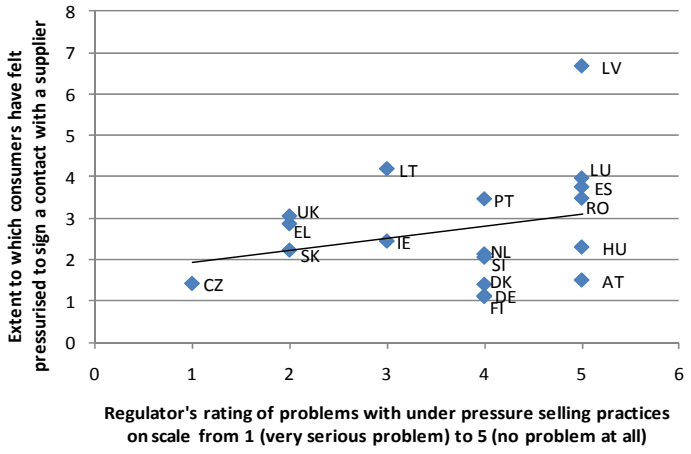
When one compares consumers' and regulators' perception of the problems related to under pressure selling practices, one would be expected that regulators' rating of the quality of selling practices would be negatively related to consumers' rating of the extent to which they have felt pressurised to sign a contract with a supplier.

However, this is not observed (Figure 152).

- For example in the Czech Republic regulators perceive problems with under pressure selling practices as very serious but consumers, on average, indicate that they have not felt pressurised to sign a contract with a supplier.

- In contrast in Latvia, consumers on average rate the extent to which they have felt pressurised to signing a contract relatively high but regulators indicate that there are no problems at all with under pressure selling. It should be mentioned that consumers in Latvia have very limited possibility to switch supplier and this may explain why consumers generally indicate that they have felt pressurised to sign a contract.

Figure 152: Relationship between consumer experiences with under pressure selling practices and regulators' perceptions of problems with under pressure selling practices



Note: Regulator perception of quality of selling practices is based on rating of 'under pressure' selling. Extent to which consumers have felt pressurised to signing a contract is rated on a scale from 1 to 10 (where 10 represent high degree of under pressure selling). Regulators' rating of problems with under pressure selling practices is measures on a scale from 1 to 5 (where 5 represent no problems with under pressure selling).

Source: ECME Consortium analysis of data from stakeholder survey and general consumer survey

All stakeholder groups, in general, view problems related to *multi-pack selling* as relatively minor (Figure 153) and only the Greek and Czech regulators, the German and Lithuanian consumer protection authorities, Slovakian consumer association and the France national ombudsman rate the problem at 2 or below on a scale from 1 (very serious problem) to 5 (not a problem at all). Once again, several regulators said that this was not a problem at all as did 4 consumer protection authorities and the Hungarian consumer association.

Similarly, stakeholder perceptions of *bogus selling practices* also seem fairly positive (Figure 154), with very few responses seeing it as a serious problem, and the majority of responses being between 3 and 5.

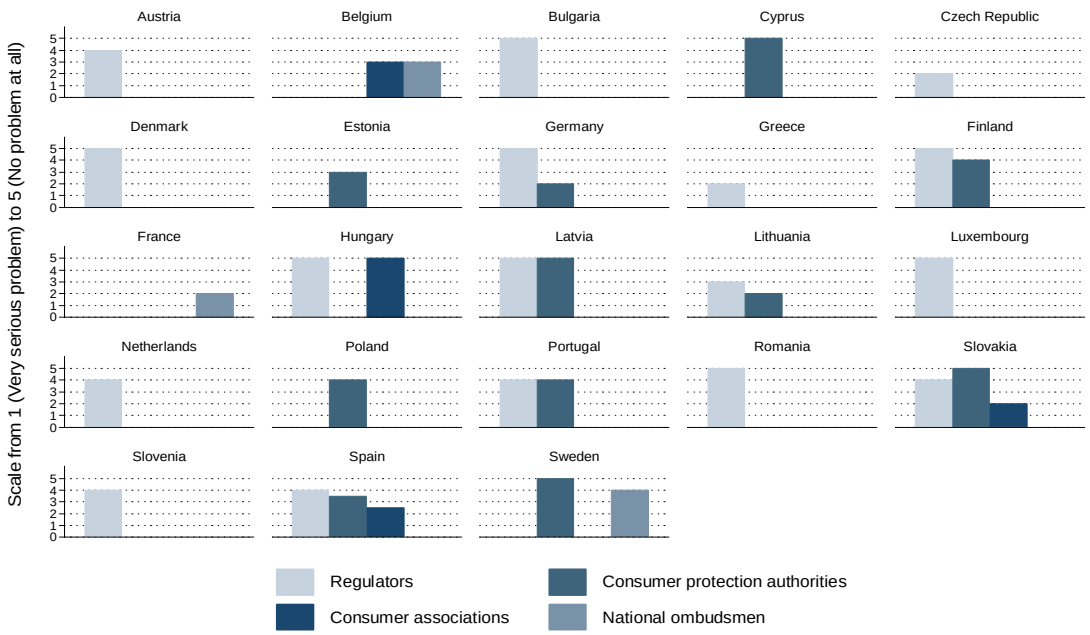
- Only the Czech, Greek, Slovakian and UK regulators provide a score of 2 or less, and the Slovak and UK consumer association view the problems as being equally serious.
- However, in Latvia, particularly, the regulator and consumer protection authority agree that bogus selling as not an issue at all both giving a rating of 5.
- The Austrian, Danish, Finnish, Hungarian, Portuguese and Romanian regulator along with the Cypriot and Polish consumer protection authority also did not view bogus selling as a problem at all.

It is worth noting that United Kingdom stakeholders generally consider problems with unfair commercial practices relatively serious and, in late 2009, the UK regulator introduced new regulation aimed at improving the sales process. Furthermore in September 2010, the regulator

launched investigations of four electricity suppliers due to concerns over whether the new rules were being followed.[69]

In the Netherlands a 'don't call me' register was opened as a follow-up to pressure selling practices in retail energy. Companies are not allowed to call consumers who are in the register.

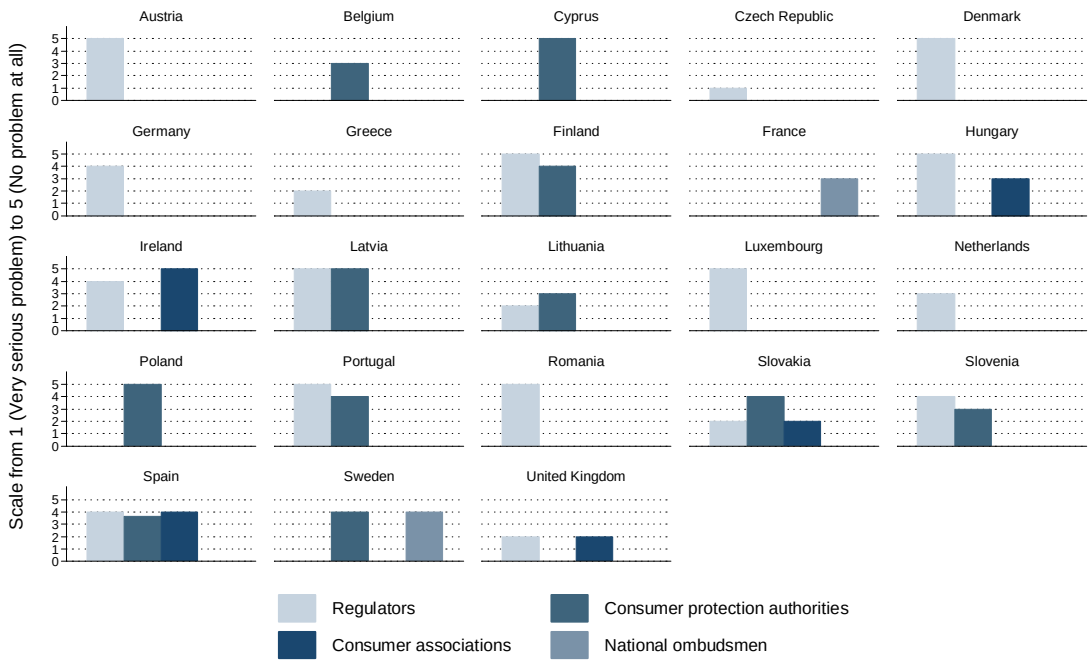
Figure 153: Stakeholder rating of seriousness of problems with 'multi-packs'



Note: Rating of seriousness of problems with 'Selling methods: multi-packs'. The Estonian, French, Irish and UK regulators, the Austrian, Belgian, Hungarian and two of the Spanish consumer protection agencies responded 'Don't know' as did the consumer association in Denmark, Ireland, Romania and the UK. For the Spanish and Lithuanian consumer protection agencies multiple responses were received and the average was taken over all the received responses in that category.
Source: ECME Consortium stakeholder survey

[69] http://www.bbc.co.uk/news/business-11150541

Figure 154: Stakeholder preception of problems with 'bogus selling' practices



Note: Rating of seriousness of problems with 'Selling methods: bogus selling'. The French, Estonian and Bulgarian regulators, the Austrian, Estonian, German, Hungarian and two of the Spanish consumer protection agencies responded 'Don't know' as did the consumer association in Belgium, Denmark, and Romania and the national ombudsman in Belgium. For the Spanish and Lithuanian consumer protection agencies multiple responses were received and the average was taken over all the received responses in that category.

Source: ECME Consortium stakeholder survey

6.2.3 Unfair commercial practices used

In the stakeholder questionnaire, stakeholders (consumer associations, consumer protection authorities, national ombudsman and regulators) were also asked to list the most common unfair commercial practices in the retail electricity sector. These responses covered a wide spectrum of activities from the cutting off of electricity supply all the way through to applying pressure to customers over the phone in relation to renewal of contracts. Due to the extremely varied nature of these responses, and in order to identify any patterns or common themes within the responses, these responses were grouped into 10 topics that encompasses all of the unfair commercial practices reported in the survey responses. These are:

- **Misleading advertising and information**
- **Poor estimates** – e.g. mixed up meter readings
- **False information about green energy** – e.g. false information about the nature of electricity
- **Payment and billing issues** – e.g. incomprehensible bill
- **Unfair penalties** – e.g. when cancelling contract
- **Misleading or unscrupulous sales tactics** – e.g. targeting old people who do not have enough information
- **Quality of supply issues** – e.g. power interruptions, lack of notice for power interruptions

- **Switching issues** – e.g. unwanted switching of supplier
- **Tariff, contract and pricing issues** – e.g. unclear tariff conditions

The most widespread response to the question of common unfair commercial practices, in terms of being noted in the most Member States, relates to the group concerning tariff, contract and pricing issues. A response of this nature was noted by stakeholders in 14 of the 21 Member States that gave answers on this question. This is quite a broad category covering many responses of different nature ranging from unfair conditions of tariff application to unclear contract terms.

Another common response revolved around misleading or unscrupulous sales tactics, being quoted in 57% of the Member States that listed common unfair practices. These ranged from targeting the elderly through to applying a great deal of pressure over the phone in order to try and make a sale.

Of the other categories, only abuse of power (43%) and misleading advertising (33%) were mentioned in more than 20% of those Member States that listed common unfair practices. Some suppliers do appear to use the fact that they are in an extremely strong position unfairly to the detriment of consumers, whilst false and misleading advertising is also relatively prevalent.

Responses from stakeholders in 19% of the Member States listed unfair commercial practices concerning switching, penalties and payment, invoicing and billing issues as being common in the retail electricity sector. Whilst only 14% noted concerns in relation to activities associated with lying about green electricity, poor estimates and quality of supply, which therefore appear to be less rife across the EU.

Table 44: Most common unfair commercial practices in the retail electricity sector

Member State	Stakeholder type	Quality of supply	Misleading advertising/ information	Poor estimates	False information about green energy	Payment/ billing	Unfair penalties	Misleading/ unscrupulous sales tactics	Switching	Tariffs/ contract/ pricing
Austria	Consumer protection authority									✓
Belgium	Consumer association				✓			✓		✓
	Consumer protection authority					✓	✓	✓		✓
	National ombudsman		✓					✓		✓
Bulgaria	Regulator	✓		✓			✓			
Czech Republic	Regulator							✓		✓
Denmark	Consumer association				✓			✓		✓
	Regulator		✓					✓		✓
Finland	Consumer protection authority							✓		
	Regulator									✓
France	National ombudsman	✓						✓		
Germany	Consumer protection authority	✓	✓							✓
	Regulator							✓	✓	✓
Greece	Consumer association									✓
Hungary	Consumer association	✓		✓		✓				✓
	Regulator									✓
Ireland	Consumer association							✓	✓	
	Regulator							✓		
Lithuania	Consumer protection authority						✓			✓
	Regulator						✓			✓
Malta	Consumer association	✓								
Netherlands	Regulator							✓	✓	✓
Portugal	Regulator	✓	✓							
Romania	Regulator	✓								
Slovakia	Consumer association		✓			✓		✓		✓
	Consumer protection authority							✓		✓
	Regulator	✓						✓		✓
Slovenia	Regulator									✓

Spain	Consumer association	✓		✓	✓	✓	✓			✓
	Consumer protection authority	✓	✓	✓				✓		✓
Sweden	Consumer protection authority							✓		
United Kingdom	Consumer association	✓						✓	✓	✓
	Regulator	✓	✓					✓		✓

Note: Blue shading indicates that the stakeholder listed a common unfair commercial practice that fell into the relevant category.
Source: EMCE stakeholder surveys

6.3 Problems related to switching

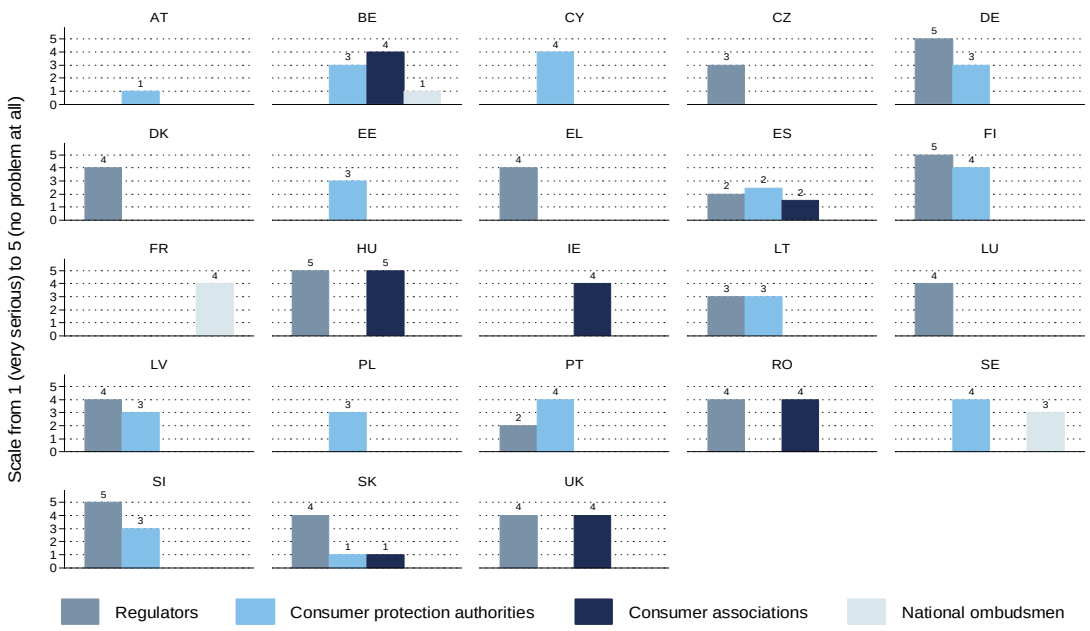
Stakeholders (regulators, consumer protection agencies and consumer associations) were asked to assess the seriousness of problems related to the difficulty of switching tariff with the same supplier and, switching to a different supplier. The responses give an indication of the extent to which stakeholders think that there are barriers to switching.

In most countries problems related to difficulties in switching tariff with the same supplier were not considered particularly serious by stakeholders, and most stakeholders rate the seriousness between 3 and 5 on a scale from 1 (very serious) to 5 (not a problem at all) (Figure 155).

For the most part, countries' regulators, consumer protection authorities and consumer associations agreed on the seriousness of problems related to switching tariffs at the current supplier in their country.

- Belgium is an exception where the national ombudsmen thought the problems were very serious, while the consumer protection authority and consumer association thought the level of seriousness was less so (3 and 4 respectively).
- In Slovakia, there was also a large disparity between the views of the consumer bodies and the regulator, with the regulator believing that the seriousness was minimal (4), whilst both the consumer protection authority and the consumer association believed the problem with switching tariffs was very serious (both giving a value of 1).

Figure 155: Seriousness of problems with switching tariff at current supplier



Note: Seriousness of problems related to: 'Difficulty in switching tariff at the current supplier'. The regulators in Austria, Bulgaria, France, Estonia, Ireland and the Netherlands, the consumer protection authority in Hungary and the consumer association in Denmark said 'Don't know'.

Source: ECME Consortium analysis of data from stakeholder surveys

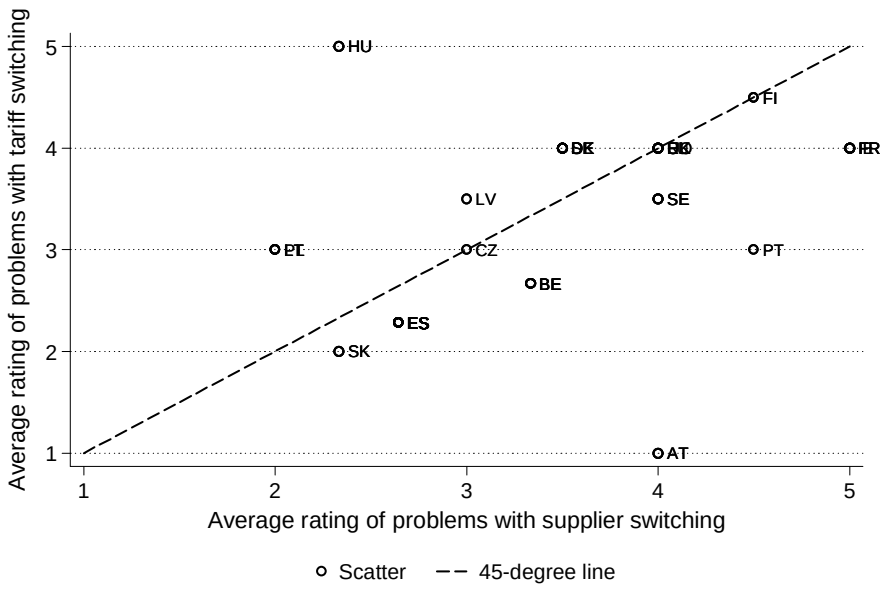
With regard to the difficulties in switching supplier, again many countries' regulators, consumer protection authorities and consumer associations agreed on the level of seriousness and rated it between 3 and 5 on the 5-point scale (Figure 155). However, in the case of Hungary, Slovakia and Spain, differences in opinion exist and the regulators believe there is little or no problem at all with switching supplier (4 or 5) compared to the consumer protection authorities and consumer associations believing the problem with switching supplier is very serious (1 or 2).

- Overall difficulties with supplier switching were perceived as most serious in Latvia, Poland Hungary, Slovakia and Spain.
- Problems with difficulties in switching supplier were perceived as least serious in Finland, Portugal, France and Ireland.

Surprisingly, stakeholders in many Member States, on average, consider difficulties related to switching tariff at the same supplier at least as serious as difficulties with supplier switching. This is illustrated by most points being on or below the 45-degree line inFigure 156 .

- For example in Austria, problems related to switching tariff with the same supplier are rated as very serious (1 on the 5-point scale), while difficulties with switching supplier was only rated 4.
- However, in Hungary, Latvia, Denmark, Germany, Lithuania, Poland and Slovenia stakeholders, on average, considered problems related to supplier switching more severe.

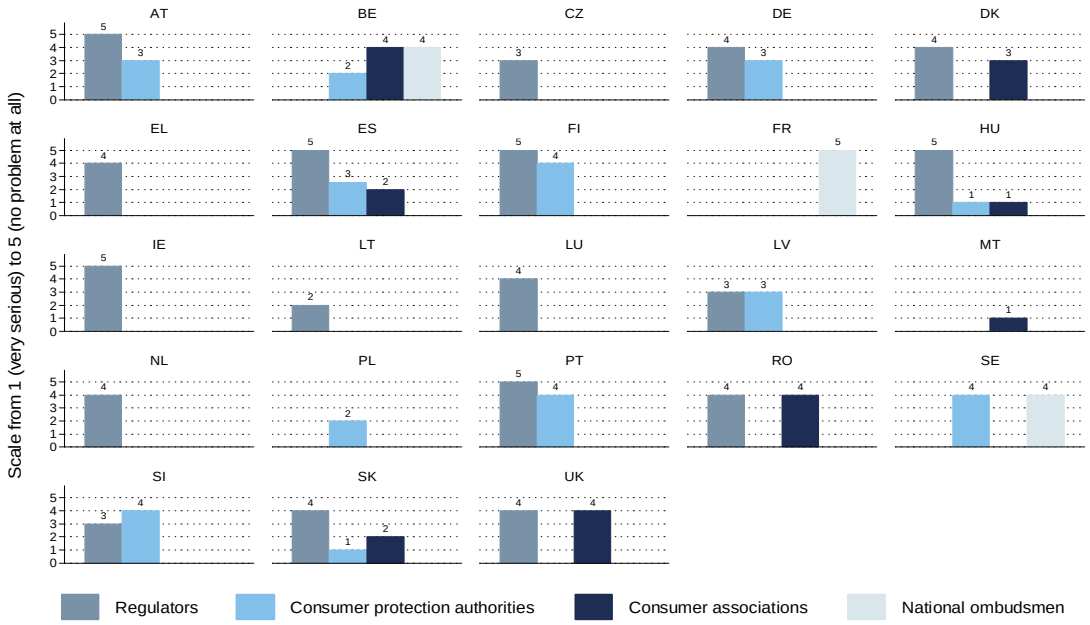
Figure 156: Seriousness of difficulties with supplier swtiching vs. seriousness of difficulties with tariff switching



Note: Seriousness of difficulties rated on a scale from 1 (very serious problem) to 5 (not a problem at all). Does not include responses from Bulgaria, Cyprus, Estonia, Malta, the Netherlands, and Italy due to missing or insufficient responses. Average of stakeholder response for each country..

Source: ECME Consortium analysis of data from stakeholder survey

Figure 157: Seriousness of problems with switching supplier



Note: Seriousness of problems related to: 'Difficulty in switching supplier'. The regulators in France, Belgium and Estonia, the consumer protection authority in Estonia and the consumer association in Ireland said 'Don't know'.
Source: ECME Consortium analysis of data from stakeholder surveys

6.4 Complaint procedures

Consumers who experience a problem may submit a complaint either to the supplier or a third party. Before considering complaint behaviour in the electricity retail markets across EU-27, this section discusses complaint procedures in place from when the complaint is first submitted until it is resolved; whether by the supplier or by a third party. In addition, this section provides an overview of regulation related to suppliers' complaint handling procedures, the role of company-specific ombudsmen and complaint response times reported by suppliers and different complaint resolution bodies.

6.4.1 Complaint procedures in place

In the majority of Member States, there is a standard complaints procedure (Figure 158). Often, the consumer will first complain to the customer service department of their supplier. In some cases the complaint is resolved straight away. However, in other cases, the solution may be unsatisfactory or not resolved before a certain time limit and the consumer can then submit a **formal** complaint to their supplier or to the company-specific ombudsman if the supplier has one. Again, the complaint may or may not be resolved at this stage. If it is still unresolved, the consumer then has two choices: give up trying to solve the issue or complain to another institution such as a regulator, consumer protection authority or other party such as a national body with independent ombudsman services, for example an energy ombudsman.

In many Member States, the consumer protection authority deals with general complaints about contracts, billing and misleading advertisement and in many Member States the regulator is also

responsible for complaint handling and in some cases dispute settlement in the area of electricity supply.

Furthermore, Member States such as Belgium, France, and the United Kingdom have energy ombudsmen in place. Similarly, the National Board for Consumer Complaints (Sweden) and the Consumer Disputes Board (Finland) resolve disputes in general for consumers and perform similar tasks to energy ombudsmen.

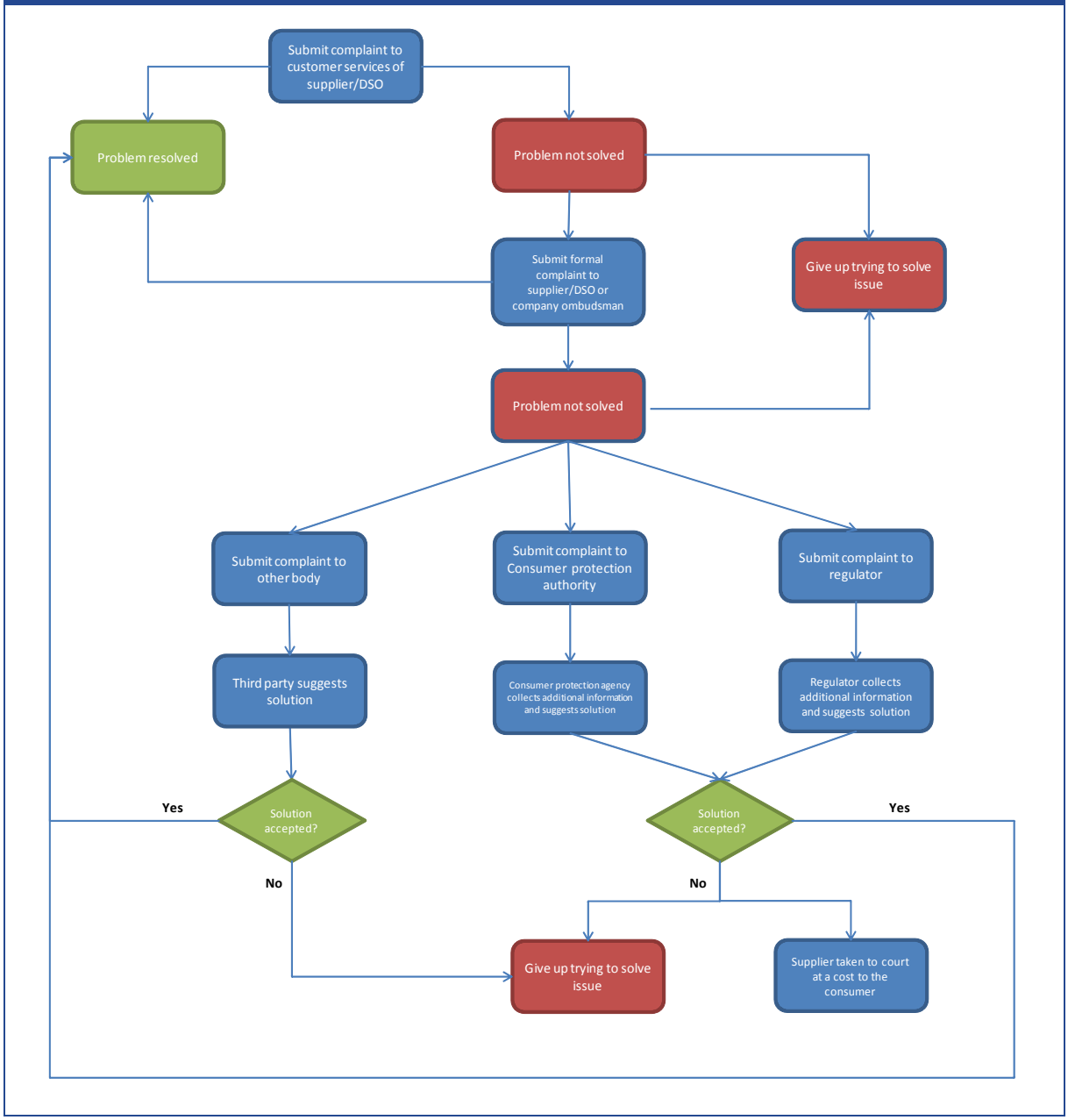
In most cases, the regulator, consumer protection authority and, if applicable, other complaint bodies investigate the complaint and suggest a solution. However, often regulators, consumer protection authorities and other bodies do not have decision powers and rely on the good will of suppliers to conform to the proposed solution.

If a solution can not be reached by the consumer protection authority, regulator or other bodies, in most Member States the supplier may be taken to court by the consumer for unfair contract terms or commercial practices. In some cases, consumer associations or consumer protection agencies may act on behalf of a consumer or a group of consumers to try to pursue the case in court.

In either case, court action can be costly for the consumer. Furthermore, an empirical study of complaint behaviour by Thomas, Shuptrine and Sharma[70] shows that, as the number of attempts at complaining increases, the share of consumers receiving a satisfactory response decrease and consumers react to this decreasing success rate by giving up attempting to complain Therefore, since complaining to a consumer protection authority or a regulator is at best the second attempt (after first complaining to the supplier) it is expected that less consumers will strive to solve their issue through courts. Adding to this is the cost of going to court, which will induce even more consumers to give up on their complaints.

[70] Willaim R. Thomas, F. Kelly Shuptrine and Alok Sharma (1979), 'The Plight of the Discontented Consumer', *Journal of Consumer Studies and Home Economics*, Vol. 3(2), pp. 161-171.

Figure 158: Standard model of complaint procedure



Source: ECME Consortium

Despite the vast number of Member States that approximately follow this standardised model outlined above, there are a few notable exceptions that deal with complaints in a different way.

The supplier does not need to be the first point of contact

An example is the Czech Republic. In April 2008, the Ministry of Industry and Trade initiated the Alternative Dispute Resolution Project. The aim of the Project was to set up an effective system which would speed up and simplify the resolution of consumer disputes via the voluntary participation of both parties. Consequently, the way in which complaints are dealt with is different to those under the standard model. Specifically, consumers do not go to their supplier first with

complaints, as is the case generally. Instead, they are encouraged to fill out a simple form and send it to a competent contact place. Then, the staff provides information on the method of dispute resolution. If the dispute is not resolved outright, then staff will arrange for an initiation of mediation. This system may be more preferable for consumers as it ensures they only have to go to one body to solve their problem, instead of going to several (if previous attempts were unsuccessful).

Another exception to the standard model of complaint procedure is found the Netherlands. Here, consumers are likely to go to Consuwijzer first with a complaint, rather than to their supplier. Consuwijzer is a central point of contact for household consumers who have questions or complaints about a product or service they have acquired. Consumers are then given practical information on how to deal with their complaint, and Consuwijzer can also address the proper market authority with the complaint who can in turn initiate an investigation into the matter. Then, the regulator registers all complaints and has the power to start an investigation into a certain group of complaints and/or Energy Company. Additionally, if the consumer has a dispute with an energy company, instead of going to a regulator or consumer protection authority as in the standard model, they can go to the 'Geschillencommissie' which is an independent dispute settlement organisation, set up by all energy companies.

In Sweden, consumers are also not required to submit a complaint with their supplier before contacting the regulator with the complaint. However, consumers are advised to try to resolve the complaint with the supplier first.

Authorities pass-on complaints to other authorities

In some cases consumer protection agencies, regulators, etc. do not deal with all types of consumer complaints related to electricity supply. In these cases, rather than suggesting a solution, the authority receiving the complaint may instead pass on the complaint to another body or refer the consumer to the courts.

As an example, it can be mentioned that, in Hungary, the regulator only deals with disputes related to non-household consumers, while the consumer protection authority deals with complaints from household consumers and the competition authority deals with complaints related to unfair commercial practices.

We note that in cases such as this where many complaint bodies with different areas of responsibilities exist, it may not be straightforward for consumers to find the appropriate body to submit their complaint to and some consumers may be deterred from complaining to third-parties if they feel that the case is merely being passed from authority to authority.

Authorities have decision powers

In some countries, for example in Cyprus, the regulator has decision powers meaning that suppliers must comply with the regulator's decision and in cases of non-compliance the regulation stipulates the penalties that apply.

6.4.2 Regulation of suppliers' complaint procedures

Complaint handling procedures that electricity suppliers have in place are regulated in most of the Member States for which information is available (see Table 93 overleaf). However, supplier complaint handling procedures are not regulated in Denmark and Finland but the Danish trade association has self-regulation in place. Limited information is available about the regulation in place, but in Cyprus, Estonia, Italy, and Latvia the regulation specifies a time-limit for responding to complaints.

In Estonia, the regulation also specifies that consumers have a right to a written acknowledgement of the complaint. In Member States such as the Netherlands, Luxembourg and Ireland, the regulatory environment stipulates that suppliers must demonstrate that their complaint handling procedures are adequate and effective.

Table 45: Regulation of suppliers' complaint handling processes

Member State	Is the complaint handling procedures of electricity suppliers regulated?
Austria	:
Belgium	Yes, at the federal level
Bulgaria	Yes
Cyprus	Yes
Czech Republic	:
Denmark	No, but the Danish Energy Association has rules on good market behaviour
Estonia	Yes
Finland	No
France	Yes
Germany	Yes
Greece	:
Hungary	Yes
Ireland	Yes
Italy	Yes
Latvia	Yes
Lithuania	:
Luxembourg	Yes
Malta	:
Netherlands	Yes
Poland	:
Portugal	:
Romania	:
Slovakia	Yes
Slovenia	:
Spain	Yes, at the regional level
Sweden	:
United Kingdom	Yes

Note: ':' indicates that no information is available.
Source: ECME Consortium desk research

6.4.3 Roles of company-specific ombudsmen

A few suppliers across EU-27 have company-specific ombudsmen in place.

Desk research suggests that company-specific ombudsmen exist in Austria, France, Sweden, Spain and Poland. This sub-section analyses the roles and responsibilities of company-specific ombudsman using information from the stakeholder survey of company-specific ombudsmen. Only 4 responses were received from company-specific ombudsmen, however due to the complete nature of these responses it is possible to draw some information out of them.

All 4 respondents indicated that the company-specific ombudsmen are completely independent of the companies' customer relationship services. This is an important point as if they are not separate entities then it is difficult to be sure that the ombudsman has the consumer's best interests at heart.

However, all respondents reported that the ombudsman and staff are not located in a separate building from the one occupied by the supplier and that the ombudsman has to report to very senior management. Senior management also makes budgetary decisions for the ombudsman in all cases.

The final question, but possibly the most important in terms of forming a picture of the importance of a company-specific ombudsman, is whether the ombudsman's decision is binding on the supplier. Three of the ombudsmen responded with definitive answers, saying that the decisions they make are binding on the company, which suggests that the ombudsmen may have real powers in relation to dispute resolution.

Table 46: Role and responsibilties of ombudsman

Response	Member State	Independent	In separate building	To whom, within the company is the ombudsman accountable	Who determines the annual budget of the ombudsman	Is the decision binding
1	France	Yes	No	The President	The President	.
2	Spain	Yes	No	Board of Directors and CEO	Board of Directors and CEO	Yes
3	Sweden	Yes	No	Brand & Communication Director and report directly to Management Board	Brand & Communicati on Director	Yes
4	Sweden	Yes	No	Senior Executive Vice President and Head of Business Group Nordic	Senior Executive Vice President and Head of Business Group Nordic	Yes

Source: ECME stakeholder survey

6.4.4 Complaint response time

An essential component of a complaints procedure is the length of time it takes for a response to be made to the consumer (Table 47). As part of the stakeholder survey, stakeholders were asked to provide information about the typical time it takes to deal with complaints. The longest response times were generally reported by stakeholders in France, Greece, Hungary, Ireland, Portugal and Slovenia where every institution that received a complaint takes longer than 1 month to reply.

Table 47: Response time to a complaint

Member State	Regulator	Electricity Association	Consumer Protection Agency	Consumer Association	Company Specific Ombudsman	National Ombudsman
Austria	.	1-2 weeks	3-4 weeks	.	.	
Belgium	< 1 week	1-2 weeks	1-3 months	1-2 weeks	.	3-6 months
Bulgaria	1-3 months	.	.	.	.	.
Cyprus	.	1-3 months	1-2 weeks	.	.	.
Czech Republic	1-3 months	1-2 weeks	.	.	.	.
Denmark	> 6 months	.	.	< 1 week	.	.
Estonia	3-6 months	.	3-4 weeks	.	.	.
Finland	3-6 months	.	.	.	.	.
France	.	.	.	.	3-6 months	.
Germany	3-4 weeks	.	.	.	.	.
Greece	.	.	3-6 months	3-6 months	.	.
Hungary	3-6 months	.	.	3-6 months	.	.
Ireland	> 6 months	.	.	.	.	.
Latvia	1-3 months	.	.	.	.	.
Lithuania	1-2 weeks	.	1-3 months	.	.	.
Luxembourg	1-3 months	.	.	.	.	.
Malta	.	.	1-2 weeks	.	.	.
Netherlands	3-6 months	3-4 weeks	.	.	.	.
Poland	1-3 months	.	1-3 months	.	.	.
Portugal	3-6 months	.	.	.	.	.
Romania	1-3 months	.	.	3-4 weeks	.	.
Slovakia	1-3 months	.	1-3 months	1-2 weeks	.	.
Slovenia	> 6 months	.	.	.	.	.
Spain	.	.	[1]	(< 1 week/.)[2]	3-6 months	.
Sweden	.	.	.	.	(1-2 weeks / 3-4 weeks)[2]	> 6 months
United Kingdom	3-6 months	< 1 week	.	.	.	.

Note: 1) There are different responses from the regional consumer protection agencies of Spain: Direccion General de Consumo Comunidad Autonoma de Illes Balears = 5, Agencia de Sanidad Ambiental y Consumo = ".",Direccion de Consumo - DPTO de Sanidad y Consumo. CC.AA.PAIS VASCO = 3, Servicio de Atencion Integral Consumo de Castilla y Leon = 1, Consejeria de Sanidad y Consumo Ciudad Autonoma de Ceuta = ".",Direccion General de Salud Publica y Consumo - CCAA de la Rioja = 5, Generalitat Valenciana = ".", Extremadura = 2, Direccion General de Consumo Comunidad de Madrid = 5, CC.AA. Castilla La-Mancha = "." and Catalunya = ".".
2) There are responses from 2 Spain consumer associations and 2 Swedish company specific ombudsman, which is why 2 figures are given.
Source: ECME Consortium analysis of data from stakeholder survey

Generally, regulators take a long time to respond to complaints, in many cases consumers did not receive a response for well over three weeks. Moreover, the regulators in Denmark, Ireland and

Sweden took between 3 and 6 months to respond. Notably, the regulators in Belgium only take less than 1 week to respond, possibly because most complaints are passed on to other bodies. Furthermore, the consumer association in Denmark and the Electricity association in the United Kingdom both indicated that suppliers took less than 1 week to respond to complaints. Suppliers generally indicate that they have a low response time compared to organisations. The reason may be that other organisations undertake dispute resolution and hence need to collect and review evidence as part of the process.

6.5 Complaint behaviour in the electricity sector

Having reviewed the existing procedures, this section considers actual complaint behaviour and outcomes from the point of view of consumers.

However, first this section provides a brief literature review of empirical studies analysing determinants of complaint propensities across a range of different sectors.

The section then considers evidence from the data consumer survey undertaken for this study in relation to the complaint propensity in the retail electricity sector, outcomes of complaints from the point of view of the consumer and reasons why consumers do not complain.

6.5.1 Complaint propensities

There are numerous studies looking at the determinants of complaints made by consumers. Thomas, Shuptrine and Sharma (1979) note that the consumers' complaint propensity is a function of the cost of the product or service; how often the product or service is used; how dependent the consumer is on the product or service to perform an essential function; the 'newness' of the product as a generic class and the age of the product. Furthermore, gender, possession of a college degree and employment status all have an effect on whether or not a consumer will complain. For example, males are significantly more likely to complain than females and individuals are less likely to complain if they do not have a college degree.

Oster (1980)[71], on the other hand, looks at how the characteristics of the industry, as well as those of the consumers, determine the prevalence of consumer complaints. The author found that the number of reported complaints increases with the price of the good, the probability of the consumer winning the complaint and the changes in the overall price level of the good. Moreover, complaints were less likely for goods that were purchased more frequently, those bought from a sector dominated by large firms or characterised by high local advertising, goods that were bought out of convenience and goods purchased by high income groups.

Finally, Diener and Greyser (1978)[72] looked at consumer complaints in the personal care product market specifically. This study found that the most significant reaction for dissatisfied consumers was simply the 'action' of not repurchasing. Additionally, the authors looked at a studyr by A C Nielsen (1973), which also found that few consumers took any action towards manufacturers or retailers when dissatisfied with products bought from supermarkets.

[71] Oster, S (1980), 'The Determinants of Consumer Complaints', *Review of Economics and Statistics,* Vol. 62(4), pp. 603-609.

[72] Diener, B.J., and Greyser, S.A. (1978), 'Consumer Views of Redress Needs', *The Journal of Marketing*, Vol. 42(4), pp. 21-27.

Possible explanations for this inaction are low salience of the problem, the relative ease of brand switching and the amount of bother involved with complaining[73].

Looking at the 1976 study for the Office of Consumer Affairs, Diener and Greyser found that 56% of those reported taking 'no action' regarding complaints said they did not feel any action was worth the time or effort. Nevertheless, a survey undertaken by the authors surprisingly found that consumer inaction was not a result of scepticism regarding the likely responses of the manufacturers to complaints. Instead, consumers on the whole would have been satisfied by such responses, and, thus, there is likely to be other reasons behind inaction.

6.5.2 Complaints propensity in the retail electricity market

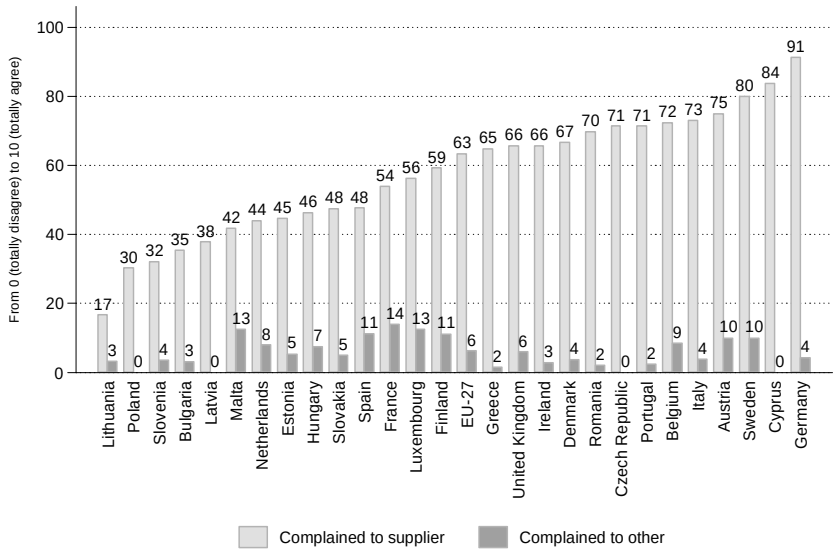
An analysis of the results of the consumer survey undertaken for this study show that there are large variations in complaint propensities in the retail electricity market across the different Member States (Figure 159). The complaint propensity is defined as the share of consumers who experienced a problem and subsequently made a complaint.

The survey data also shows that the majority of consumers chose to complain to their supplier directly.

- This is especially the case for Germany (91%) and Cyprus (84%).
- A notable exception is Lithuania, where only a small percentage of consumers complained at all, of which only 17% complained to their supplier.
- France, Luxembourg and Malta had the highest proportion of consumers with problems complaining to a third-party organisation (14%, 13% and 13% respectively), but this was still a small share compared to those complaining to their supplier directly.

[73] Diener and Greyser, pg 26

Figure 159: Percentage of those who had a problem who complained and to whom



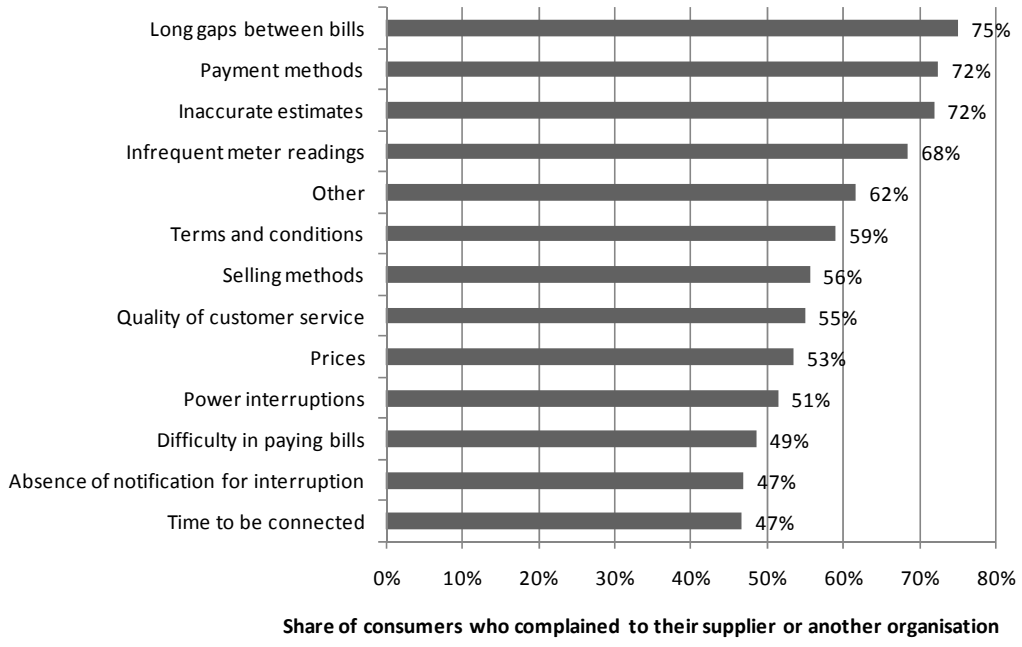
Note: Based on Q18: 'And did you make a complaint about the problem you had? 1) Yes to the electricity provider, 2) Yes to a third party (such as a consumer organisation, a regulator, a public authority or an ombudsman).' Multiple answers are possible.
Base for calculation is the number of consumers who had a problem. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who experienced a problem is provided in Table 123.
EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME Consortium consumer survey

Overall, respondents to the survey were more likely to have complained about problems related to billing, meter readings and payments than about problems related to the speed of connection and absence of notification for power interruptions. This is clear because complaint propensities (i.e. the share of consumes with a problem in the area who made a complaint) are higher for billing, payment and meter problems than for other types of problems (Figure 160).

It is not surprising, that consumers overall complain more about problems related to billing and meter readings because these problems may have a tangible cost to the consumers. In comparison, the fact that consumers complain less frequently about problems related to power interruptions and connections may be because consumers feel that there is less to achieve by complaining. In the case of power interruptions in large areas, consumers may assume, for example, that other consumers have already complained and made the supplier aware of the problem.

It is also worth noting that respondents with difficulty paying bills complained less frequently about their problems. This may be because consumers find it intimidating to admit to having such problems and, in addition, consumers may think that there is little to gain from complaining.

Figure 160: Complaint propensity for different types of problems



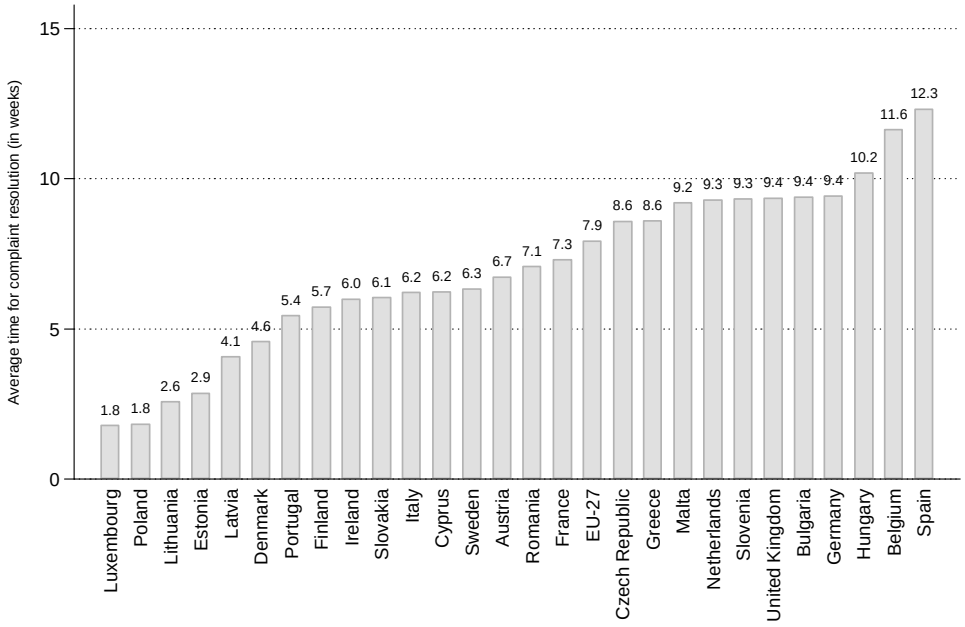
Note: Non-weighted responses. Calculated as the percentage of those respondents who had a problem in each area listed on the vertical axis and made a complaint.
Source: ECME Consortium analysis of data from consumer survey

6.5.3 Outcomes of complaints

The time taken to deal with a complaint, from the time the problem was first reported through to the time a decision was taken varies widely across the EU with complaints in Lithuania and Poland taking on average 1.8 weeks to solve, as compared to 12.3 weeks in Spain.

Although long complaint resolution times could be a significant deterrent of complaints, there is little evidence from the consumer survey to suggest that this is the case. There is a slight positive correlation between the two variables (Figure 162) but differences in the average time taken to deal with the complaint does not generally seem to explain differences in the complaint propensity.

Figure 161: Average time from making complaint to a decision was taken



Note: Based on Q19: How long did it take to deal with your complaint (from the moment you made a complaint to the moment a decision was taken)?

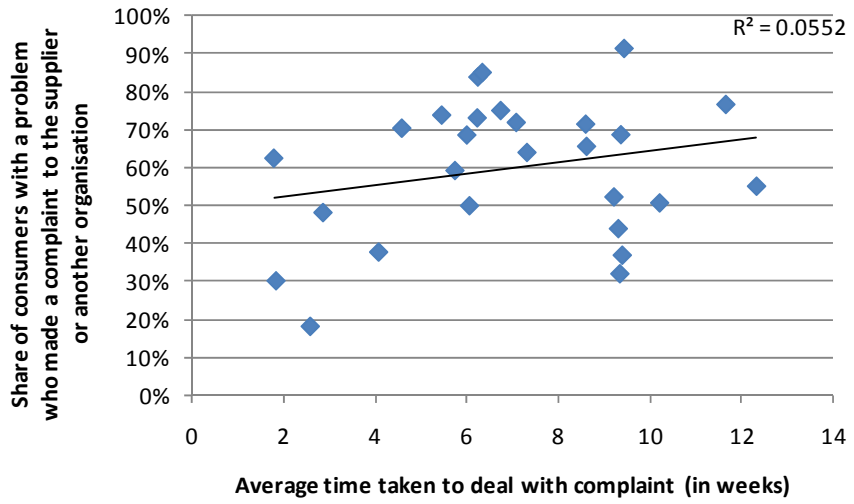
In order to calculate an average, responses were assigned the midpoint of the interval selected by respondents. I.e. 'Less than 1 week' was recoded to 0.5 week, 'Between 1 and 2 weeks' was recoded to 1.5 weeks, 'Between 3 to 4 weeks' was recoded to 3.5 weeks, 'Between 1 and 3 months' was recoded to 8.5 weeks, 'Between 3 and 6 months' was recoded to 19.3 weeks and 'More than 6 months' was recoded to 26 weeks.

Based on responses from those who made a complaint. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who made a complaint is provided in Table 123.

EU-27 average calculated using 2010 Eurostat population figures as weights.

Source: ECME Consortium analysis of data from general consumer survey

Figure 162: Average time taken to deal with complaint vs. complaint propensity



Note: Share of consumers who make a complaint is calculated as the share of those who had a problem who made a complaint to the supplier or another organisation.
Source: ECME Consortium analysis of data from general consumer survey

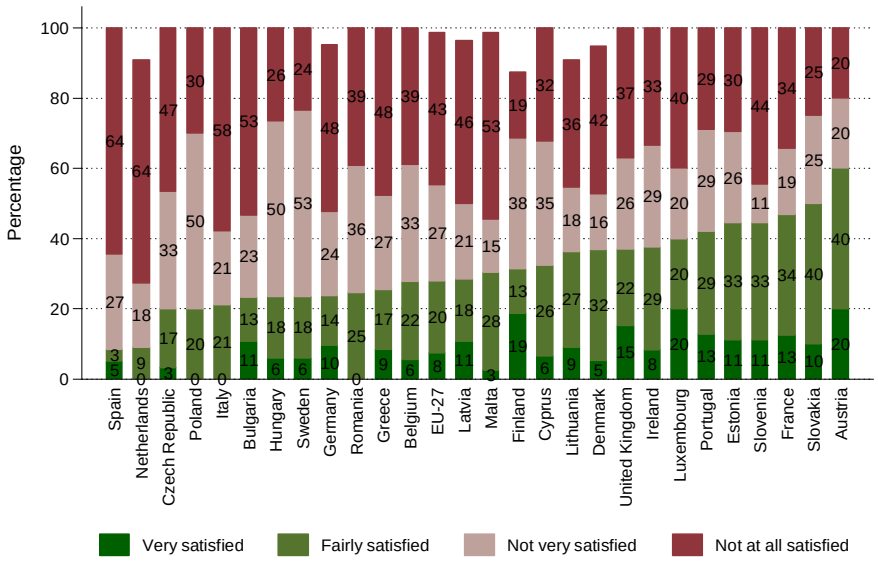
The time taken to deal with customer complaints is one aspect of the complaint procedure which may influence whether consumers are satisfied with how their complaint was dealt with.

The overall level of satisfaction with the way the complaint was dealt with varies considerably across Member States.

- In Austria and Luxembourg, 20% of consumers who made a complaint were *very satisfied* with the way the complaint was handled, and in Finland, 19% of respondents were *very satisfied* with the way the complaint was handled.
- Furthermore, 60% of respondents in Austria were either *very satisfied* or *fairly satisfied* with the way the complaint was dealt with. This is a higher share than in any other Member State.
- In Slovakia 20% of consumers were *very* or *fairly* satisfied with way the complaint was handled
- In all other Member States less than 50% of consumers were very or fairly satisfied with the way the complaint was dealt with.
- Satisfaction levels were lowest in Spain and the Netherlands with 8% and 9% respectively being satisfied with the way the complaint was handled.

There is a clear tendency for the level of dissatisfaction with complaint handling to be positively associated with the average time taken to deal with the complaint.

Figure 163: Satisfaction with how complaint was dealt with (percentage of consumers who made a complaint)



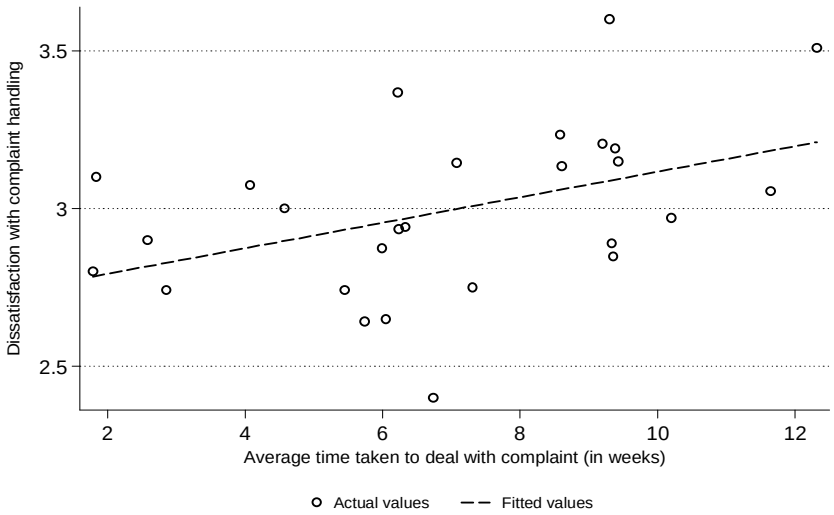
Note: Based on Q20: 'In general, how satisfied were you with the way your complaint was dealt with?'. Respondents were also given a 'don't know' response option.

The base for calculation of percentages is respondents who had made a complaint. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The relevant sample size i.e. the number of respondents who made a complaint is provided in Table 123.

EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.

Source: ECME Consortium analysis of data from general consumer survey

Figure 164: Relationship between dissatifaction with complaint handling and average response time, when dealing with complaints



Note: Scale for dissatisfaction with complaint handling: 1 = very satisfied, 2 = fairly satisfied, 3 = not very satisfied and 4 = not at all satisfied.

Source: ECME Consortium analysis of general consumer survey

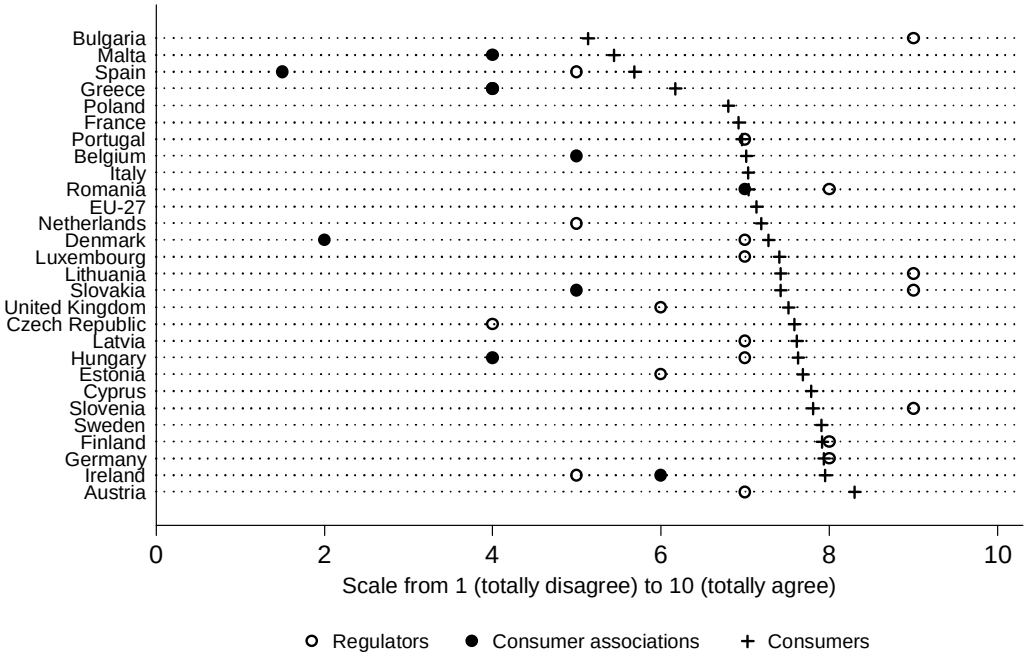
The modest level of satisfaction with the complaint handling among those respondents who made a complaint also translates into low overall assessments of the way suppliers react to complaints and questions. In particular, all consumers were asked to assess on a scale from 0 to 10 where 10 represents high quality complaint and question handling, the extent to which electricity suppliers react promptly and accurately to consumer complaints and questions (Figure 165).

Across the EU-27, consumers rate complaint handling at 7.1. The variation in average responses from consumers is smaller than that of the responses from regulators and consumer associations. Average consumer responses range from 5.1 in Bulgaria to 8.3 in Austria and consumers in Bulgaria, Malta, Spain and Greece, on average, seem to perceive the response to consumer complaints and questions as being of much lower quality than consumers in other Member States.

Consumer associations generally perceived the speed and accuracy of suppliers in response to consumer complaints and questions less favourable than consumers themselves. Only in Romania, did consumers and consumer associations give similar ratings (around 7). In Spain, the consumer association gave a rating of less than 2, the lowest response of any stakeholder and much lower than the average rating provided by Spanish consumers. It is also worth noting that the Danish consumer association provided a much lower rating of the response to consumer complaints and questions than Danish consumers did.

Overall, regulators viewed suppliers' speed and accuracy when dealing with problems as relatively good and only the Czech regulator rated it less than 5 on the 10-point scale. At the other end of the scale, regulators in Bulgaria, Lithuania, Slovakia and Slovenia rated the speed and accuracy with which suppliers deal with problems at 9. It is worth noting that the Bulgarian regulator provides one of the highest ratings on this dimension whereas the Bulgarian consumers, on average, provide the lowest rating of the quality of service in Bulgaria on this dimension. Again we do not observe a positive correlation between the responses provided by regulators and the average ratings provided by consumers (Figure 166).

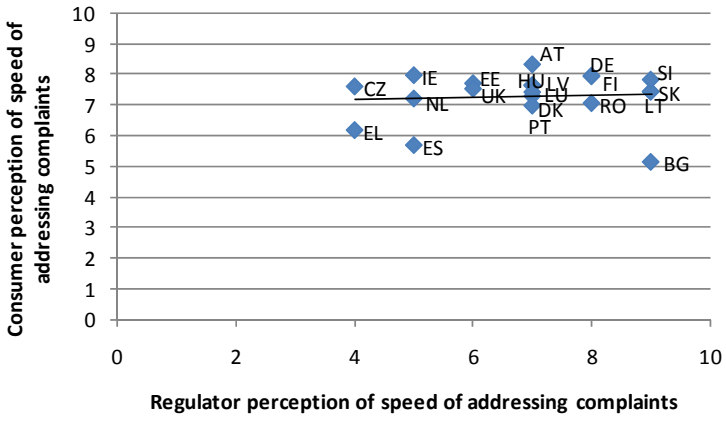
Figure 165: Perception of response to consumer complaints and questions



Note: Agreement with statement: 'Electricity suppliers react promptly and accurately when contacted with problems or questions'. The regulator in France and the consumer association in the UK responded 'Don't know'.

Source: ECME Consortium analysis of data from stakeholder and general consumer survey

Figure 166: Relationship between consumer and regulator perception of speed of adressing complaints



Note: Agreement with statement: 'Electricity suppliers react promptly and accurately when contacted with problems or questions' measured on a scale from 0 to 10 (where 10 represents high speed).

Source: ECME Consortium analysis of data from stakeholder and general consumer survey

6.5.4 Reasons for not making a complaint

As we have seen consumers who experience difficulties or problems with the service they are receiving do not necessarily complaint. This may be due to many different reasons, including if consumers:

- do not know how or where to complain;
- think they are unlikely to get a satisfactory solution;
- think that the sums involved are too small; and
- think that it will be too difficult to complain.

An analysis of the results of the consumer questionnaire indicates that the reasons vary greatly from Member State to Member State.

- For instance, 55% of Belgian consumers responded that their reason for not making a complaint was that they did not know how or where to complain.
- This was also the case for 50% of respondents in Germany and it suggests that there is a low level of awareness of complaint procedures in some Member States.
- However, in Austria, Ireland and Sweden, not a single person reported this as a reason why they did not make a complaint in regards to the electricity service.
- In Luxembourg, Italy and Sweden, 50%, 57% and 67% of consumers respectively said that they had not complained because they thought that it would be too difficult.

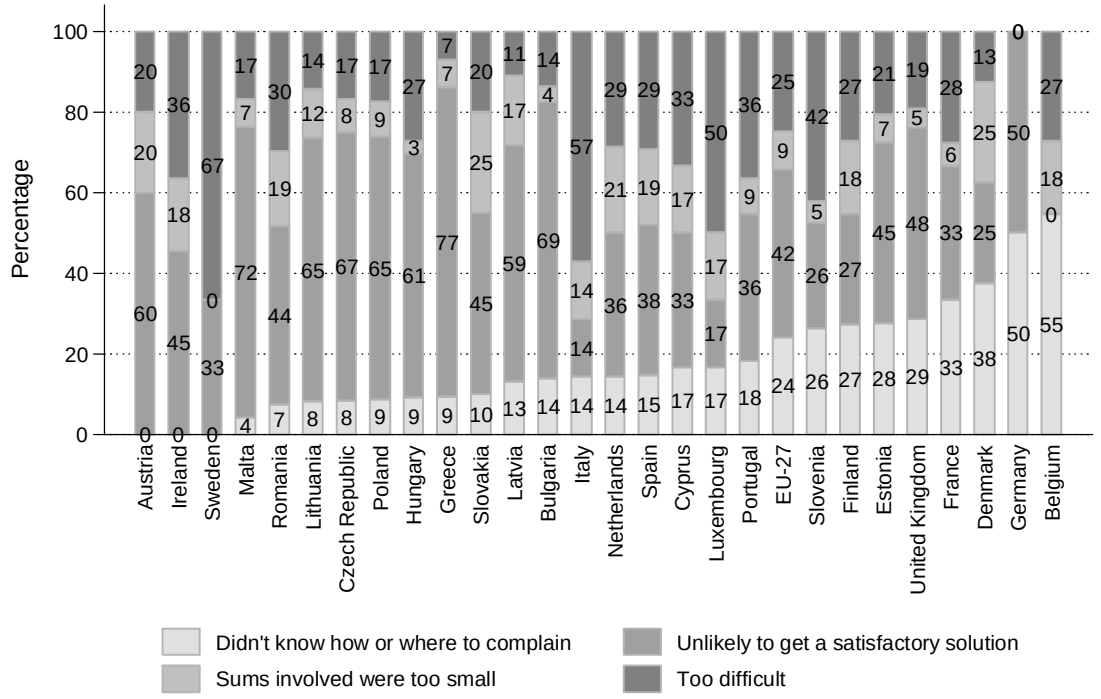
This suggests that there may be scope for improving complaint handling procedures in some Member States to make it easier for consumers to complain. However, no respondents in Germany indicated that they had not complained because they thought that it would be too difficult. This may also be the reason why Germany consumers are more likely to complain than consumers in any other Member State.

In general, there appears to be a positive link between the share of consumers who complain and the share of consumers that do not find complaining too difficult (Figure 168). This suggests that, by improving complaint handling procedures, the complaint propensities may be increased.

The reason for nor complaining that was listed least by consumers as preventing them from complaining was that the sums involved were too small, whilst the most common reason for not complaining was that consumers felt they were unlikely to receive a satisfactory solution.

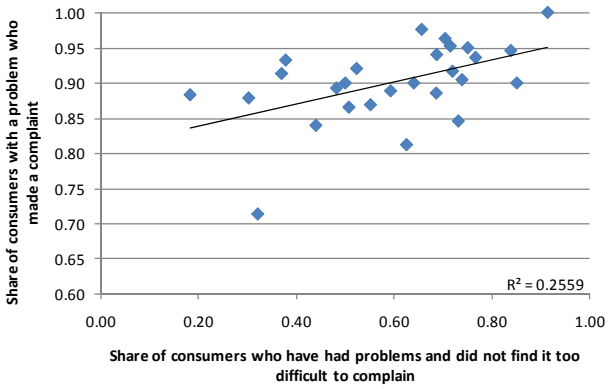
More than 50% of respondents who had a problem but did not complain in Austria, Malta, Lithuania, the Czech Republic, Poland, Hungary, Greece, Latvia, and Bulgaria indicated that they did not complain because they thought that it would be unlikely that the solution would be satisfactory to them.

Figure 167: Main reason for not making a complaint (percentage of consumers who did not make a complaint)



Note: Based on Q21: 'What was the main reason for not making a complaint'.
The base for calculation of percentages is respondents who experienced a problem but did not make a complaint. It should be noted that, since this question is not based on the full sample the statistical significance of the results is reduced. The number of respondents who experienced a problem and the number who made a complaint is provided in Table 123. The relevant sample for this question consists of less than 10 respondents in Austria, Cyprus, Denmark, Germany, Italy, Sweden and Luxembourg.
EU-27 average calculated as a weighted average using 2010 Eurostat figures as weights.
Source: ECME consortium general consumer survey

Figure 168: Share of consumers who do not find it too difficult to complain vs. share of consumers who with problems who had made a complaint



Source: ECME Consortium analysis of data from general consumer survey

6.6 Complaints to third parties

Having considered the complaint process from the point of view of consumers, this section analyses complaints reported by consumers to different types of stakeholders.

6.6.1 Complaints to third-party organisations

As part of the stakeholder survey, third-party organisations such as regulators, consumer protection authorities, consumer associations, company-specific ombudsmen and national ombudsmen were asked to list the main types of electricity-related problems consumers had complained to them about in 2009. They were not asked to list these problems by order of importance or frequency, just to make a list, so that the common underlying themes would become evident.

As these issues were selected by the stakeholders (i.e. they were not given a list to choose from) they were highly heterogeneous and, in order to analyse these responses, they have been grouped into the broad themes. These are:

- **Bad practice:** bad trade practices and unfair commercial practices
- **Poor customer service**
- **Issues with the complaint procedure**
- **Connection issues:** installation problems, trouble getting connected to the grid
- **Contract issues:** contract agreed over phone different to that received in writing, contract terms not clear
- **Debt issues**
- **Metering problems**: incorrect operation of meter reader, who is responsible for meter
- **Payment/ Billing issues**: Erroneous billing, continued billing after having left supplier
- **Supply issues:** disconnection, power cuts, damage due to varying voltage
- **Switching problems**: problems with changing supplier, lack of choose of suppliers
- **Tariff/Pricing issues**: excessive increase in prices, lack of transparent pricing, problems with network tariffs

The electricity-related problems that were reported in the most Member States across the EU related to issues with payment and billing, such as erroneous bills or difficulties understanding the bill.

This is a broad group of complaints and this could explain why complaints in relation to this issue were reported by some stakeholders in 21 out of the 23 Member States for which responses were available. Only stakeholders in Latvia and Lithuania did not list problems related to payment, invoicing or billing as one of the main areas of problems reported by consumers in 2009.

The next two most widespread causes of consumer complaints in 2009 were supply problems and metering issues, with both of these being reported by stakeholders in 18 Member States. Supply problems include disconnections, power cuts, and power surges that caused damage to household appliances. Whilst metering issues included any problems related to meter reading such as meter faults or just wrong meter readings.

There were some problems that were only reported in a few Member States, such as issues surrounding debt and complaints about the complaint procedure. Debt issues were mentioned as a cause of complaints in Belgium, Spain, Hungary, Ireland, Romania and the United Kingdom while complaints about complaint procedures were mentioned as main causes of complaints in Belgium, Denmark, Estonia, Hungary, Slovakia, Spain and the United Kingdom. Notably, all stakeholders in Hungary agreed that complaint handling procedures was one of the main sources of complaints.

Table 48: Complaints using typology of regulator

Member State	Stakeholder	Bad practice	Poor customer service	Complaints procedure	Connection	Contract	Debt	Metering	Payment/ Billing	Supply	Switching	Tariff/ Pricing
Austria	Regulator				✓				✓	✓	✓	
	Consumer protection authority							✓	✓	✓	✓	✓
Belgium	Regulator				✓			✓		✓	✓	
	Consumer protection authority	✓		✓		✓	✓		✓	✓		✓
	Consumer association								✓		✓	✓
Bulgaria	Regulator				✓			✓	✓	✓		
	Consumer protection authority								✓	✓	✓	
Czech Republic	Regulator	✓				✓		✓	✓	✓	✓	✓
Denmark	Regulator							✓	✓	✓		
	Consumer association			✓								
Estonia	Consumer protection authority			✓			✓		✓			
Finland	Regulator				✓				✓			
	Consumer protection authority	✓				✓			✓			✓
France	Regulator	✓				✓			✓	✓		
	Company specific ombudsman	✓				✓		✓	✓			
	National ombudsman	✓				✓		✓	✓	✓		
Germany	Regulator					✓		✓	✓	✓	✓	✓
Greece	Regulator							✓	✓	✓		✓
	Consumer protection authority								✓	✓		
	Consumer association								✓	✓		
Hungary	Regulator			✓	✓	✓	✓	✓	✓	✓		
	Consumer protection authority		✓	✓				✓	✓			
	Consumer association	✓		✓				✓	✓			
Ireland	Regulator							✓	✓			
	Consumer association	✓				✓	✓	✓				
Latvia	Regulator				✓			✓		✓		✓
Lithuania	Regulator					✓				✓		✓
	Consumer protection authority				✓	✓		✓		✓		✓

Luxembourg	Regulator								✓	✓		✓
Netherlands	Regulator	✓							✓		✓	✓
Poland	Regulator		✓			✓		✓	✓	✓	✓	✓
	Consumer protection authority					✓		✓		✓		
Romania	Regulator				✓	✓	✓	✓	✓	✓		✓
	Consumer association							✓	✓	✓		
Slovakia	Regulator					✓		✓	✓	✓	✓	✓
	Consumer protection authority			✓		✓			✓		✓	✓
	Consumer association					✓		✓	✓		✓	✓
Slovenia	Regulator	✓			✓					✓		
	Consumer protection authority					✓		✓	✓	✓		✓
Spain	Consumer protection authority	✓			✓	✓		✓	✓	✓	✓	✓
	Consumer association	✓	✓	✓		✓		✓	✓	✓	✓	✓
	Company specific ombudsman					✓		✓	✓	✓		
Sweden	Company specific ombudsman	✓							✓	✓		
	National ombudsman					✓			✓			
United Kingdom	Regulator	✓					✓	✓	✓		✓	✓
	Consumer association			✓			✓		✓		✓	✓

Note: Red shading indicates that the stakeholder in question mentioned, as an area about which consumers complained in 2009, something that falls into the category listed. Responses were given as text, and as there were many varying complaints, they were grouped according to broad themes, so that we could analyse the commonly recurring complaints.

Source: EMCE Consortium analysis of responses to stakeholder surveys

Complaints by stakeholder type

The only problem area that was reported by over 50% of each stakeholder group was that of payment, invoicing and billing. With 56% of consumer protection authorities reporting there being complaints regarding these issues from consumers in 2009, whilst 67% of national ombudsman, 70% of consumer associations and regulators and all company specific ombudsman reported such instances.

For company specific ombudsman, consumer protection authorities and regulators the 3 areas reported by the highest proportion of respondents as being cause for consumer complaints in 2009, were again payment and billing problems, metering problems and supply issues. Whilst for consumer associations, payment, invoicing and billing and metering problems were most commonly listed but 40% of them also listed issues with the complaints process, switching and tariff or pricing issues as being reasons for consumer complaints. Consumer associations listed these 2 areas as problems more frequently than any of the other stakeholder types, except for 48% of regulators listing tariff or pricing issues.

Debt issues were by far the least commonly listed cause for complaints with only 20% of consumer associations, 13% of regulators and 11% of consumer protection authorities mentioning this problem and it was not raised at all by any company specific or national ombudsman.

Table 49: Percentage of each stakeholder type that reported such areas as a problem area that consumers complained about in 2009

Stakeholder type	Malpractice	Complaints procedure	Connection	Contract	Debt	Metering	Payment/ Billing	Supply	Switching	Tariff/ Pricing
Company specific ombudsman	67%	0%	0%	67%	0%	67%	100%	67%	0%	0%
Consumer association	30%	40%	0%	30%	20%	50%	70%	30%	40%	40%
Consumer protection authority	22%	22%	11%	39%	11%	33%	56%	44%	22%	39%
National ombudsman	33%	0%	0%	67%	0%	33%	67%	33%	0%	0%
Regulator	30%	4%	35%	39%	13%	57%	70%	70%	35%	48%

Note: These percentages are worked out as the proportion of those that responded with a list of electricity-related problems consumers complained about in 2009.
Source: EMCE Consortium analysis of responses to stakeholder surveys

6.7 Comparison with other sectors

Having analysed problems, complaints and complaint handling in the retail electricity market, this section concludes by comparing the conditions for consumers in the retail electricity sector with conditions in other sectors.

In order to get an indication of how good or bad the situation is for consumers in the electricity sector, consumer associations and consumer protection authorities that operate over a range of sectors were asked to compare the situation in the retail electricity sector in terms of consumer conditions and complaints with the consumer conditions in other sectors.

The responses were very varied (Table 50).

- In Spain and Belgium, the electricity sector does not appear to be performing well relative to other sectors, and both the consumer association and consumer protection authorities responded, overall, that they were relatively worse.
- Responses from the stakeholders in Bulgaria and Hungary suggested that conditions in the retail electricity sector in these Member States are worse or slightly worse than conditions in other sectors.
- At the other end of the scale the consumer association and consumer protection authority in Greece both felt that the retail electricity sector in Greece has better conditions for consumers than other sectors. Greece was the only Member State that got responses from both stakeholders that drew this conclusion.
- However, single responses from stakeholders in Cyprus, Finland, Lithuania and Portugal also indicated that consumer conditions in these Member States were better in the retail electricity sector than in other sectors.
- There were other Member States where the stakeholders did not really see a difference between the conduct towards consumers in the retail electricity sector and in other sectors.
- For instance, in Slovenia, both the consumer protection authority and consumer association responded that they felt the electricity and other sectors were level in terms of these standards.
- Similarly, stakeholders in Austria, Estonia, Germany, Poland, Slovakia and Sweden also indicated that the conditions for consumers in the retail electricity sector are comparable to the conditions in other sectors.

Table 50: How does the retail electricity sector compare to other sectors in terms of consumer conditions and complaints?

Member State	Consumer protection authority	Consumer association
Austria	Same	:
Belgium	Worse	Worse
Bulgaria	Worse	:
Cyprus	Better	:
Estonia	Same	:
Finland	Better	:
Germany	Same	:
Greece	Better	Better
Hungary	Worse	Same
Ireland	:	Same
Lithuania	Better	:
Malta	Same	Worse
Poland	Same	:
Portugal	Better	:
Romania	:	Much better
Slovakia	Same	Same
Slovenia	Same	:
Spain	Worse[1]	Worse to much worse[2]
Sweden	Same	:

Note: How does the electricity retail sector compare to other sectors in terms of consumer conditions and complaints?. Green indicates that the sector does better than other sectors and red indicates that the sector does worse than other sectors.
1) The regional consumer protection authorities in Spain responded as follows: 2 said 'Much worse', 4 said 'Worse', 2 said 'Same' and 1 said 'Better'.
2) The Spanish consumer associations responded as follows: one association said worse and another said 'much worse'.
No responses were received from the UK, the Netherlands, Italy, Latvia, Luxembourg, France, Denmark and the Czech Republic.
Source: ECME Consortium analysis of data from stakeholder survey.

6.8 Enforcement

For consumers to benefit from regulation and legislation put in place to protect consumer interests, there needs to be an effective enforcement regime in place. This chapter analyses enforcement regimes in relation to retail electricity markets in the EU Member States.

The assessment is based on information collected in the survey of stakeholders. Stakeholders were asked questions regarding the number and severity of enforcement actions undertaken in 2009. However, it should be mentioned that the information collected in relation to enforcement actions is incomplete because some stakeholders were unable to disclose the requested information while others did not have the requested data.

In addition, as described in Annex 1 responsibility for enforcement of regulation in the area (consumer protection, competition, etc.) may be split between several different authorities such as the electricity regulators, the consumer protection authorities, the competition authorities and national ombudsmen/ alternative dispute resolution bodies. This assessment of enforcement, however, focuses only on enforcement actions taken by stakeholders consulted for this study and

can therefore not be seen as a complete assessment of enforcement activities in each Member State.

6.8.1 Enforcement by regulators

Table 51 gives a summary of the information collected in relation to enforcement actions, regarding the retail electricity market, undertaken by electricity regulators in the various Member States. The table shows a large variation in the number of enforcement actions undertaken. This might be due to measurement problems. For example, the definition of enforcement actions may vary and some countries may consider warnings an enforcement action while other countries do not.

Table 51: Number of enforcement actions related to electricity retailing undertaken by regulators in 2009

Country	Number of enforcement actions undertaken
Austria	37
Belgium	12
Czech Republic	0
Denmark	0
France	0
Greece	1
Hungary	405
Ireland	0
Luxembourg	0
Portugal	0
Romania	158
Slovakia	14
Slovenia	0
United Kingdom	5

Note: Responses to the questionnaire were received from regulators in Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Lithuania, Luxembourg, Latvia, Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia and the United Kingdom. However, in response to the question on enforcement actions, only regulators from the countries listed above gave figures on how many enforcement actions they undertook specifically against electricity retailers and suppliers.
Source: EMCE stakeholder surveys

In addition, in some countries, such as the Netherlands, most enforcement actions that are undertaken are not made public, and the "at fault" supplier is given an opportunity to adjust behaviour without suffering reputational damage.

This certainly complicates any cross-country comparisons of the figures. Comparisons are further complicated by the fact that enforcement actions are not always allocated to the specific industry to which they relate, when figures are given by regulators.

In fact, several of the responses to the survey from regulators only gave aggregate figures of the number of enforcement actions taken. For instance, the Estonian regulator undertook 285 enforcement actions against electricity, gas and district heating suppliers, and it is not possible to differentiate between the 3 different sectors in order to get a figure strictly relevant to electricity suppliers.

According to the stakeholder survey, the Hungarian regulator by far undertook the largest number of enforcement actions compared to any of the other national regulators surveyed. Hungary and Romania are the only two nations with over 100 enforcement actions, both well above the average of 45 for those regulators that responded to the question.

Seven regulators, those from the Czech Republic, Denmark, France, Ireland, Slovenia, Portugal and Luxembourg, did not undertake any enforcement actions against retail electricity suppliers in 2009. However, this is not necessarily due to the absence of problems in the sector. For example, in the Czech Republic, the regulator does not have the power to undertake enforcement actions. Such actions are instead undertaken by the State Energy Inspection.

6.8.2 Actions taken by institutions other than regulators

In some countries, consumer protection authorities and national ombudsmen are also responsible for undertaking enforcement actions against electricity retailers and suppliers.

Consumer protection authorities in two countries have reported many more enforcement actions than any of the other countries; Hungary and Lithuania (Table 52). I all other cases, relatively few actions have been taken to protect the interests of consumers.

Table 52: How many actions related to electricity retailing were undertaken by stakeholders, other than regulators, in 2009?

Stakeholder type	Country	Number of actions
Consumer protection authority	Austria	1
Consumer protection authority	Greece	0
Consumer protection authority	Hungary	281
Consumer protection authority	Lithuania	6
Consumer protection authority	Lithuania	133
Consumer protection authority	Malta	0
Consumer protection authority	Poland	7
Consumer protection authority	Slovakia	30
Consumer protection authority	Slovenia	0
Consumer protection authority	Spain	22
National ombudsman	France	0

Note: Precise figures as to the number of actions taken were only given by the stakeholders listed above. However there were 5 responses from regional consumer protection authorities in Spain and these were cumulated to give a figure for Spain in total. Responses to the question on number of enforcement actions undertaken were received from CC.AA.PAIS VASCO, CCAA de la Rioja, Extremadura, Madrid, CC.AA. Castilla La-Mancha in Spain.
Source: EMCE stakeholder surveys

6.8.3 Remedial Action

When a complaint is received, the first step in the process is typically a review of the case. If the supplier or distributor is found to be at fault, then an order to comply is often given. In some cases financial penalties are also immediately imposed. In other instances, financial penalties are only imposed if the issued order is not fully complied with.

For example, Ofgem, the United Kingdom's regulator, deals with complaints by receiving monthly information from suppliers and distributors on their performance for a 6 month period. It complements this information with random surveys of customers. If problems are discovered posing a serious concern and no remedial action is taken by the supplier or distributor, Ofgem may then decide to impose fees. A similar process is followed in Austria, Hungary, Belgium, Estonia, Ireland, Poland and Spain.

6.8.4 Penalties

The size of the penalties imposed on electricity suppliers is also wide ranging, varying not only with the size and nature of the offence committed but also seemingly with the size of the company at fault.

For example, in July 2009, Ofgem imposed a fine of €2.414 million on a retail electricity company for failing to meet statutory timescales for providing offers to customers requesting a connection to its electricity network.

The total amount of fines imposed, to all suppliers, in some other countries were much smaller. For instance, in Hungary, the regulator imposed out fines totalling €210,000, and, in Romania fines totalling less than €20,000 were imposed by the regulator.

In the Netherlands, the competition authority imposed a penalty of €74,000 on an energy supplier for not declaring a change in its tariffs. Energy suppliers in the Netherlands are required by law to inform the competition authority at least 4 weeks in advance if they wish to change their tariffs.[74] Two suppliers were also fined €388 for not having an adequate quality plan for their networks.

The regional consumer protection authorities in Spain also issued fines in 2009, ranging from under €100 up to €12000, for a range of offences including inadequate customer attention.

A further issue worth noting, when analysing the penalties given to suppliers, is that the process can go on for quite a while. For example, of the 5 formal investigations undertaken by Ofgem in 2009, in 4 of these cases a decision had not yet been reached in June 2010.

[74] http://www.nera.com/extImage/NL_GERN_Issue%20127-Final.pdf

7 Innovation

Innovation can generally be divided into development of new products and development of new processes. Product innovations in the retail electricity market, such as development of green energy products or new tariff structures, generally leads to improved product choice and variety. Research has shown that increased product variety may be a significant source of consumer surplus.[75] Furthermore, product development may lead to new and improved products that fit consumer preferences better, and offer better value for money for consumers.

Process innovation in the retail electricity sector may include marketing innovations, billing innovations, metering innovations, innovations in payment modes etc. These innovations may reduce the costs of internal process in the electricity supply company and improve the quality of consumer services to the benefit of consumers.

Overall a high level of innovation is usually believed to benefit consumers in the long run, although R&D costs and other fixed costs associated with innovation, or implementation of new processes, may be passed on to consumers in the short run.

This chapter assess innovation in the retail electricity sector based on evidence collected in the stakeholder surveys.

The chapter:

- First, it considers the regulatory and legislative barriers or incentives to innovate in all Member States.
- Second, it discusses briefly non-legislative and non-regulatory incentives to innovate.
- Third, it reviews important innovations that have taken place in the last 5 years and their impact on consumers.
- Finally, it presents a summary of the main results from the consumer focus groups on smart metering.

7.1 Legislation and regulations supporting innovation

Our analysis of the extent of regulatory or legislative barriers, and incentives to innovate, builds upon the assessment of stakeholders in the retail electricity industry. Stakeholders were asked for their opinion of whether there are any legislative or regulatory factors which impede or stimulate innovation in the retail electricity sector within their country, in the following areas:

- Tariff flexibility.
- Provision of green electricity.
- Possibility to sell back to the grid excess on-generation.
- New type of metering.

[75] See Brynjolfsson *et al*. (2003) and Höffler (2007).

- Billing and payment via the internet.
- Bundling with offers for other services (gas, telephony, etc.).
- New payment modes.
- Comparison websites for different offers by different suppliers.
- Other areas of particular importance.

Respondents were given also the opportunity to provide a brief description of the legislation/regulation of particular importance for each of these areas and indicate whether there existed:

1) Legislation/regulations that impede innovation.
2) Legislation/regulations have no impact on innovation.
3) Legislation/regulations that stimulate innovation.

Below, we present an overview of the responses for each of the issues listed above.

Table 53: Overall responses to the questions of whether there are any regulatory or legisative factors which impede or stimulate innovation in the retail electricity sector

Focus of legislation	% of respondents indicating that legislation/regulations impede innovation	% of respondents indicating that legislation/regulations have no impact on innovation	% of respondents indicating that legislation/regulation stimulates innovation
Tariff flexibility	24%	38%	38%
Provision of green electricity	11%	17%	71%
Possibility to sell back to the grid excess on-generation	3%	32%	65%
New type of metering	17%	26%	57%
Billing and payment via the internet	8%	59%	32%
Bundling with offers for other services	7%	75%	18%
New payment modes	13%	59%	28%
Comparison websites	13%	41%	47%

Source: EMCE stakeholder surveys

Green energy

Overall the legislative and regulatory environment was viewed as being most stimulating for innovation in the area of provision of green energy. With 71% of respondents believing legislation in this area stimulates innovation and only 4 respondents feeling the opposite was true (see Table 53).

The only one of these 4 respondents to give any justification for their view argued that, because legislation typically provides funding for green electricity production in part by a levy or tax on all electricity consumers, this is not good innovation.

Metering and sell-back of excess own generation

Two areas in which regulation is seen to stimulate innovation within the retail electricity sector are the opportunity to sell back excess own-generation (65% of respondents believe that legislation stimulates innovation), and new types of metering (57% that believe legislation stimulates innovation). Each of these areas had 20 respondents from various countries viewing such legislation as helpful in stimulating innovation, with only 1 respondent arguing that "sell back" regulation was harmful for innovation and 6 stakeholders[76] feeling new types of metering were also harmful.

Innovation in metering usually refers to smart metering, as the introduction of smart metering is gaining momentum and becoming somewhat more widespread across Europe. Several countries including Finland, Greece, Italy, Spain and Sweden already have a legal framework in place for the implementation of smart meters.[77]

In fact, the majority of Member States are at least having discussions about the possibility of a roll-out plan for smart meters. For example, in Sweden, from July 2009, legislation requires monthly meter readings, which practically implies that smart-meters have to be in place, and 99% of consumers in Sweden already have had smart meters fitted, the highest percentage across Europe.

In Italy, the vast majority of consumers (90%) are using smart meters, although it is felt by some Italians that they are intrusive in nature.

However, in May 2010, there were still some countries, such as Hungary and Luxembourg, that had not even begun discussions about a possible roll-out of smart-meters.

Billing, payment and bundling of offers

In relation to innovations in billing and payment via the internet, bundling and new payment modes, the majority of respondents indicated that legislation has a neutral impact (63%, 75% and 59% of respondents respectively) (see Table 54). Of those who did not share in this feeling of neutrality, the majority in each case viewed legislation as being beneficial.

It should be noted that all of the consumer associations that responded to the survey viewed legislation/regulations concerning billing and payment via the internet as having a positive impact on innovation, whereas only 25% of regulators, 11% of electricity associations and no national ombudsman felt this was the case. The majority of these stakeholders indicated that legislation/regulations had no impact on innovation.

[76] The Danish electricity association, the Lithuanian regulator, the Latvian regulator, the Maltese consumer association, the Swedish national board for consumer complaints and the United Kingdom's electricity association.

[77] ERGEG (2009): 'Status Review on Regulatory Aspects of Smart Metering (Electricity and Gas) as of May 2009.'

In fact, for each of the different aspects enquired about, consumer associations always had the highest percentage of positive responses. Especially when it came to issues regarding the impact of legislation regarding bundling, new payment modes, comparison websites, billing and "sell back", their level of positive responses was over 30% higher than those of any of the other stakeholder group.

Comparison websites

Opinion on the effect of legislation and regulations on the emergence of comparison websites for different offers was fairly split. With 46% viewing legislation as being beneficial, whilst 41% see it as having no impact. Only 13% of those who responded indicated the legislation had a negative effect, and of these, the majority only responded in such a manner because of the lack of legislation/regulations of comparison websites.

Tariff flexibility

Stakeholders were divided in their views on whether legislation impedes or stimulates innovation in tariff flexibility. 8 respondents indicated that the regulation in place impedes innovation in the area, with 13 viewing it as having no effect and 13 more viewing it as promoting innovation.

Two of the negative views, noted above, expressed that the legislation/regulations pertaining to regulated tariffs did not promote innovation in tariff structure. Some other respondents more generally noted the fact that the regulation of tariffs was harmful to innovation within the sector.

In fact, such legislation is seen to act as a barrier to innovation in tariff flexibility by a higher percentage of respondents than any of the other areas of innovation considered here, with 24% viewing legislation as having negative implications (Table 54).

There were no electricity associations that viewed legislation/regulations as being beneficial to innovation in tariff flexibility, which is surprising since 50% of regulators and national ombudsman and 60% of consumer associations believed it to be.

However, whilst a large proportion of respondents may have seen this legislation to be beneficial to innovation, at least 40% of the electricity associations, consumer associations and national ombudsmen actually viewed it to be a hindrance to innovation, with only 6% of regulators concurring with this view.

The fact that there were no electricity associations that viewed legislation/regulations as stimulating innovation, and 40% viewed it as impeding innovation, may reflect this group of stakeholders focuses more on the business opportunities that arise from flexibility in tariff setting while the other stakeholders may be more concerned about the impact of tariff flexibility on consumers, or certain groups of consumers.

Table 54: Assesment of impact of legislative/regulatory impact on incentives to innovation in the area of tariff flexibility

Countries	Regulator	Electricity Association	Consumer Association	National Ombudsman
Austria	+			
Belgium	0	0	+	+
Bulgaria	+			
Cyprus		0		
Czech Republic		0		
Denmark	+	-	+	
Finland	0	-		
France		-		-
Germany	+	0		
Ireland	+		+	
Latvia	+			
Lithuania	-			
Luxembourg	+			
Malta			-	
Netherlands	0	-		
Poland	0			
Portugal	0			
Romania	+			
Slovakia	0			
Slovenia	0			
Spain	+		-	
United Kingdom	0	0		

Note: Colour code – Green if legislation is seen to stimulate innovation, Yellow if legislation is seen to neither stimulate nor impede innovation and Red if legislation is seen to impede innovation.
EMCE Consortium analysis of data from stakeholder surveys

7.2 Non-regulatory incentives to innovate

Besides regulatory and legislative incentives to innovate, suppliers may also innovate in response to competitive pressures. If this is the case, suppliers would be expected to view innovation as a means to respond to market changes and achieve improved services and/or increased profitability.

When questioned as to how electricity suppliers viewed incentives to innovate, electricity associations from Austria, Belgium, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Netherlands and the United Kingdom noted that electricity suppliers perceive innovation as a means to improving services provided to customers. They also all agreed that electricity suppliers view innovation as a way to increase profitability.

As well, all associations but one, perceived innovation as a means of responding to changing market requirements to remain competitive.

Therefore one can reasonably conclude that electricity suppliers are fully aware that innovation can benefit them, through increased profit and increased competitiveness, whilst also benefitting their customers, through better service.

7.3 Recent innovations

In order to identify the main innovations in the retail electricity sector and the impact of these innovations on consumers, stakeholders were asked to list what they considered to be the most important innovations over the last 5 years and provide an assessment of the impact on consumers.

The responses given by the different stakeholders were varied but there were some common underlying themes and a summary of the responses is provided below, divided into 16 major themes:

- **Opening markets**: for example through more choice of suppliers, more competition, and general liberalisation.
- **Switching**: in general, the opportunity to switch. In addition, the introduction of websites devoted to helping switching, improvement in speed of switching.
- **Metering**: generally this includes innovations related to the introduction of smart meters or other innovations to aid or improve the process of reading meters, such as the possibility to submit meter readings over the phone.
- **Transparency**: tariffs, calculation of price, bills and also lack of clear information are examples of responses in this category.
- **Billing/payment changes**: online payment and billing along with monthly billing.
- **Dual offers**: sale of gas and electricity together from a single retailer.
- **Sales**: changes in sales tactics such as increased phone marketing.
- **Tariff/pricing/contract developments**: for example, variable tariffs, default tariffs, specialist tariffs, and night tariffs, more market oriented pricing, price guarantees, price increases, and different contractual innovations such as longer term contracts, contracts without a basic fee, and the possibility to negotiate over contracts.
- **Communication**: new means of communication, online information and complaints etc.
- **Development of electricity products and services**: increased product and service differentiation, such as introduction of capped, fixed, discounted and tracker style products.
- **Unbundling**: of supply, distribution and transport activities, as well as in billing.
- **Price comparison tools**: price comparison calculator provided by suppliers or websites.
- **Availability of estimates**: better estimated readings.
- **Green energy**: such as solar energy.
- **Standards/regulation changes**: improved standards of energy supply.
- **Social aid**: improvements in social tariffs etc.

Some of the groups of responses are quite homogenous. For example metering innovations primarily include smart-metering.

However, in other cases, the groupings of responses are more heterogeneous. For example, innovations in *billing and payment* changes and innovations in *tariff, pricing and contracts* are much broader and had very varied responses within them. As an example it can be mentioned that online payment and monthly billing are both included in the category *billing/payment changes*.

Table 55 summaries information on which Member States the innovations were identified in and the average rating across all stakeholders of the impact on consumers on a scale from 1 (very negative impact) to 5 (very positive impact).

A general finding is that innovations generally are assessed to have a positive impact on consumers. Only innovations in *better estimates* and *sales* are on average not viewed as having had a positive impact on consumers and in both cases the innovations are only mentioned by stakeholders in 2-3 countries.

The most positively rated innovation was the development of *dual offers* for energy. Although it was only listed as a key innovation in 5 countries (France, Germany, Portugal, Spain and the United Kingdom), the average rating from stakeholders in those 5 countries was 4.5.

Some of the most frequently mentioned innovations are discussed in further detail below.

Metering

Metering innovations including smart-metering were seen as key innovations across the European Union with stakeholders in 19 out of the 27 Member States listing this as one of the main innovations of the past 5 years.

In addition to being mentioned most frequently by stakeholders, metering innovations was also generally viewed as beneficial to consumers. On a scale from 1 (very negative impact) to 5 (very positive impact) the average response across stakeholders within a country was higher than 3.5 in 17 out of the 19 countries where *metering* was listed. Only Austrian and Spanish stakeholders, on average, indicated that *metering* might have negative effects on consumers, with average ratings of 2 and 1.5, respectively.

Billing and payment

Besides metering, innovations in *billing and payment* including new billing provisions such as e-billing and changes in billing information were listed by stakeholders in 15 out of 26 of the Member States from which responses were received.

Furthermore, these innovations were generally also highly rated and only stakeholders in two countries gave an average rating of less than 4: Belgium (3) and Spain (1.9).

Standards and regulation

Other innovations which were listed by stakeholders in many countries are innovations in the area of *standards and regulation*; *opening of markets*; *tariff, pricing and contractual developments*; and

development of electricity products and services, all being listed as one of the main innovations of the past 5 years by stakeholders in 10 or more Member States.

The impact on consumers of innovation in *standards and regulation* was generally viewed positively, except in Hungary (2) and Spain (3), with the Hungarian consumer association arguing that the new legal environment surrounding the retail electricity sector has a negative impact on consumers.

Opening of markets

In comparison, the *opening of markets*, which includes responses related to the choice of suppliers, level of competition and general liberalisation, had fairly varied average ratings responses in terms of the impact of the innovations on consumers. These ranged from negative in Belgium, Denmark and Spain to very positive in Greece. This suggests that market liberalisation is not necessarily viewed as having a positive impact on consumers.

In fact, the impact may depend on the pre-liberalisation market conditions in each Member State, the specific nature of the liberalisation, the extent of the liberalisation, the time since implementation and measures put in place to accompany the liberalisation process and assist and protect consumers.

For example, stakeholders in Spain were relatively sceptical about the benefits of market opening, possibly because the market for household consumers was only fully liberalised in 2009, and, as a result, there may still be implementation problems.

Green energy

Green energy was seen as a main innovation by stakeholders in 8 out of the 26 Member States from which responses were received. With the exception of the Czech Republic, the average response of stakeholders in all other Member States who listed *green* energy as an innovation viewed it, as having a positive or very positive impact on consumers.

In addition, it is worth mentioning, that the discussion earlier in this chapter showed that most stakeholders agreed that legislation generally stimulates innovation in green energy, and, hence, further innovations in the area might be expected in the future. However, the Czech regulator, who expressed concerns about the impact of a very large increase in solar energy on the transmission system, rated the impact on consumers as *very negative*.

Transparency

Transparency was also generally given a positive average rating by most of the stakeholders. While increased transparency is generally viewed as beneficial, in certain cases it can help co-ordination among suppliers to avoid fierce competition, and, thus, may impact negatively on consumers by facilitating price increases.

In general transparency attracted a positive judgment. However, in both Hungary and Spain, the average rating response was very negative. The Hungarian Consumer Protection Agency viewed the obligation to include network access fees in the relevant bill as very negative, and the Spanish Consumer Association indicated that there was a lack of clear information regarding changes in

regulation, or a lack of transparency, which they viewed as very negative. This apparent double negative in the Spanish argument therefore does seem to go along with the vast majority of responses on this point, and confirms, as we would expect, that transparency in the retail electricity market is generally believed to be beneficial to the consumer.

Table 55: Average rating across all stakeholders of the expected impact on consumers of the main innovations

Innovation	AT	BE	BG	CY	CZ	DK	EE	FI	FR	DE	EL	HU	IE	LV	LT	LU	MT	NL	PL	PT	RO	SK	SI	ES	SE	UK	Number	EU avg.
Metering	2	-	4	4	-	4	4	4.5	3.5	4	5	-	5	5	-	4	5	4	-	-	4	-	4	1.5	5	4	19	4.0
Switching	5	-	-	-	4	-	-	4	4	-	-	-	-	-	-	-	-	-	4.5	5	-	-	4	-	-	4	8	4.3
Opening markets	-	2	-	-	3	2	-	-	-	4	5	3	4	-	4.5	-	-	-	-	4	-	4	-	2.1	-	-	11	3.4
Transparency	5	4	-	-	-	5	4	-	-	-	-	1	-	-	-	-	-	-	5	-	-	3	-	1	-	4	9	3.6
Billing/payment changes	-	3	4	4	5	4	4	-	-	-	4	4.5	-	5	-	-	-	-	-	4	4	4.3	-	1.9	5	5	15	4.1
Dual offers	-	-	-	-	-	-	-	-	4	5	-	-	-	-	-	-	-	-	-	4	-	-	-	4.5	-	5	5	4.5
Tariff/pricing/ contract developments	3.5	3	-	-	1	-	-	-	-	4.6	-	4	-	-	4	-	1	3	-	-	4	-	-	2.6	-	4	11	3.2
Communication	5	3.5	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	3	-	2	3.5	4	7	3.6
Electricity products and services	-	3.5	-	-	-	-	-	-	3	5	-	-	-	-	4	4	5	4	-	4	-	-	-	3.3	-	5	10	4.1
Unbundling	-	3.5	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	3	3.5
Price comparison	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	3	-	-	-	-	4	-	4	-	4	3.8
Estimates	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	2.5
Green	-	-	-	-	1	4	4	-	4	4.5	-	-	-	-	-	-	-	-	-	4	-	4	-	5	-	-	8	3.8
Standards/ regulation	-	4.3	4	-	5	5	5	4	-	5	-	2	-	-	-	-	-	-	5	5	4	-	-	3	5	-	13	4.3
Sales	-	1	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	3	2.3
Social aid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	1	4.0

Note: Colour code - Dark Green if average rating greater than 4, Light Green if average rating is greater than 3 and less than or equal to 4, Yellow if average rating is greater than 2 and less than or equal to 3, Light red if average rating is greater than 1 and less than or equal to 2 and Dark red if average rating=1. Number refers to the number of Member States where the innovation was mentioned. EU average is not weighted.

Source: EMCE Consortium analysis of data from stakeholder surveys

7.3.1 Views of different stakeholders

In addition Table 56 summarises the ratings of the effect of the innovations on consumers by stakeholder type.

The three areas of innovation that appear to be viewed most positively by all types of stakeholders are *metering*, *green electricity* and changes in *standards and regulation*. For in each of these categories there was only one stakeholder type which gave an average rating response of less than 4 (positive).

In general, the consumer protection agencies gave the lowest ratings across the 16 different areas. They rated 8 out of the 16 innovations themes below 3, seemingly viewing the innovations as being most harmful to consumers.[78]

Not surprisingly, the highest ratings were given by the electricity associations. They only viewed innovations in sales and unbundling as having no impact on consumers. All other areas of innovation, for which they provided an answer, were viewed as having a positive impact on consumers.

However, it is worth mentioning that company-specific ombudsmen, who are also funded by the industry and have particularly close ties to specific companies, generally view innovations less favourable than the electricity associations.

Metering

Metering was viewed, on average, extremely positively by all stakeholder types other than consumer protection authorities, whose average rating was only 2.8. The average rating was pulled down by the response from the Austrian consumer protection authority, who mentioned that the effect of smart-meters on consumers would be negative, which reduced the otherwise high rating that was given by most consumer protection authorities. All stakeholder groups, other than consumer protection authorities, on average rated *metering* as either positive or very positive, with *company specific ombudsman* giving an average rating of 5, clearly viewing innovations in metering in the past 5 years as being very beneficial to consumers.

This is well in line with the findings from the consumer focus groups in Italy and Belgium that smart meters are useful because they lead to more accurate billing and therefore bills that more accurately reflect consumption. However, the focus groups also highlighted that it is important that smart meters are user-friendly for the full benefits to be achieved.

Standards and regulation

Innovations in *standards and regulation* in the retail electricity sector were viewed as being beneficial to consumers by all stakeholder groups, with only consumer associations giving an

[78] The fact that consumer protection authorities have been shown to have the least favourable views of recent innovations in the retail electricity sector, in terms of their benefit to consumers, is to some extent because the 11 regional Spanish consumer protection authorities that responded were very pessimistic about the benefit of the innovations. However, other consumer protection authorities also expressed pessimistic views.

average rating of below 4, but higher than the neutral response of 3. This suggests that, overall, the changes to standards and regulation over the past 5 years have benefitted consumers, with all other organisations, on average, rating innovations in this area above 4.3 and the *company specific ombudsman* giving an average response rating of 5.

Green energy

A further area of innovation viewed by most stakeholder groups as being positive for consumers was that of *green energy*. Only the average response of regulators is below 4, at 2.8. However this result is due to the Czech regulator being worried about the amount of money that was spent on green energy and the negative effect that this could have on the rest of the industry, therefore giving a rating of 1 (very negative impact). All other regulators gave ratings of at least 4 to this innovation.

Tariffs, pricing and contract developments

The only recent innovation for which three of the six stakeholder groups gave an average rating of below 3 is *tariffs, pricing and contract developments*. For consumer protection authorities, the average rating was 2.67 and both consumer associations and company specific ombudsman rated these innovations at 2, clearly feeling that these changes were to the detriment of consumers.

For instance the change to the tariff regulations by the government in Spain was seen to have a negative impact on consumers by their consumer association and the move to more market orientated pricing was seen to be very negative for consumers by the Maltese consumer association.

As suggested by Which?, a consumer association in the United Kingdom[79],there are several reasons why innovation of tariffs can actually hinder, rather than aid, consumers because large numbers of different tariffs can prove to be difficult to understand for some consumers.

However, some organizations felt that developments in tariffs, pricing and contracts were of benefit, with national ombudsmen and electricity associations viewing them as such, with average ratings of 5 and 4.9, respectively.

Transparency

A surprising result is that two out of the four stakeholder groups who provided answers regarding *transparency* gave average ratings of below 3, whilst the other two rated it as being positive or very positive.

A priori, it certainly seems strange that both consumer protection authorities and consumer associations would see more transparency as not being in the best interest of their consumers. However, as mentioned above, the reason that consumer associations gave, on average, such a low response rating is that they are concerned about the lack of transparency with regard to changes in regulation and viewed this, rather than transparency per se, as having a negative impact on consumers. Whilst some consumer protection authorities feared that transparency with

[79] Which?: 'Energy tariff investigation', October 2010.

regard to including pricing on the bill for electricity was harmful to consumers, at the same time, others felt that more open pricing on electricity suppliers' websites was very beneficial to consumers.

Other innovations

Responses relating to the concept of *dual offers* were only received from regulators, electricity associations and consumer associations. However, they all believed these innovations to be of benefit to consumers with average ratings of 4.3, 5 and 4 respectively.

Another innovation that was viewed positively by each stakeholder group, on average, was that of *switching*, although it should be noted responses on this issue were received only from regulators (average rating of 4.2), electricity associations (average rating of 4.5) and consumer protection authorities (average rating of 5).

However, the *opening up of markets* more generally was only seen in a positive light by regulators, with both consumer protection authorities and consumer associations viewing it negatively and company specific ombudsman seeing it as being neutral.

Table 56: Average rating acoss the EU of the impact on consumers of the main innovations– by stakeholder type

Innovation	Electricity regulator	Electricity association	Consumer protection authority	Consumer association	Company specific ombudsman	National ombudsman
Metering	4.2	4.3	2.8	4.5	5	4
Switching	4.2	4.5	5	-	-	-
Opening markets	4	-	2.7	2	3	-
Transparency	4	5	2.7	2.5	-	-
B/I/P changes	4.1	4.3	2.9	3.3	3	-
Dual offers	4.3	5		4	-	-
T/P/C developments	3.3	4.9	2.7	2	2	5
Communication	4.3	5	2.7	2	3.5	-
Electricity products and services	4	4.1	3.5	4	-	-
Unbundling	3.5	3	-	-	-	4
Price comparison	3.5	4	4	-	4	-
Estimates	-	-	1	4	-	-
Green	2.8	5	4	4.5	-	4
Standards/ regulation	4.6	4.3	4.3	3.5	5	4.3
Sales	-	3	1	-	-	-
Social aid	-	-	4	-	-	-

Note: Colour code - Dark Green if average rating greater than 4, Light Green if average rating is greater than 3 and less than or equal to 4, Yellow if average rating is greater than 2 and less than or equal to 3, Orange if average rating is greater than 1 and less than or equal to 2 and Red if average rating=1.

Source: EMCE Consortium analysis of data from stakeholder surveys

7.4 Consumer views on smart-metering

As part of this study smart metering and the effects on consumers and consumer behaviour was analysed using consumer focus groups. Detailed results of the focus groups are provided in Annex C and below we provide a summary of the results.

A rationale for introducing smart-metering is that smart meters may be a useful tool for consumers trying to reduce energy consumption. However, the smart-metering consumer focus groups undertaken in Italy and Belgium suggest that the introduction of smart-metering should not necessarily be expected to lead to a major change in consumer behaviour.

Consumers are generally not well-informed about metering and electricity consumption and they are not necessarily able to make use of information provided to them about smart-metering. For example, the roll-out of smart meters in Italy was accompanied by information brochures to consumers but none of the consumers in the focus groups were able to make use of the information about how to use smart meters to reduce consumption. Instead Italian consumers suggest that instructions should be provided on a face-to-face basis and Belgian consumers would

like user friendly features to be incorporated (automatic alerts in case of problems and to have information about consumption in Euros rather than kWh).

When asked about advantages and disadvantages of smart meters, respondents from Belgium and Italy had similar responses. For example, Belgian consumers emphasise more accurate bills as an advantage and Italian consumers emphasise fewer requirements on consumers in relation to meter readings.

In terms of disadvantages, consumers identify loss of control in terms of being able to validate meter readings and low understanding of the use of the meter as disadvantages. Italian consumers also view intrusion of privacy as a significant disadvantage and Belgian consumers are worried that the costs of installation may not exceed the benefits.

8 Prices

This chapter provides information on a number of retail electricity price dimensions, namely:

- The price regulation in place.
- A cross Member States comparison of price levels.
- The structure of the consumer retail electricity price in terms of the electricity commodity, the supply margin, transport and distribution tariffs, and taxes and other charges.
- The determinants of cross-Member State differences in retail electricity prices.
- Price trends retail electricity prices.
- The convergence in retail electricity prices in the EU.

8.1 Price regulation in place

This section examines whether the retail price to consumers is regulated and, if so, how, and by whom. The section also addresses who enforces price regulation and what penalties apply. The section is structured as follows:

- Extent of price regulation in the EU.
- How prices are regulated and by whom.
- Enforcement of price regulation and penalties that apply.

8.1.1 Extent of price regulation in the EU

Under price regulation, prices offered to household consumers (by one or several suppliers) are subject to control by a public authority and must be approved by the public authority before the prices can be charged to customers.

Despite the liberalisation of the household retail market in most Member States from 2007 onwards, price regulation is still common in Europe: 14 out of 23 Member States with open household markets have price regulation for some tariffs.[80]

Where regulated prices are on offer, only a small proportion of consumers have moved to non-regulated tariffs in the liberalised market, although in some countries the share of consumers on regulated prices has fallen recently. An ERGEG (2010) study found that in three Member States in particular (Ireland, Italy and Portugal) the share of consumers supplied at regulated prices decreased noticeably (by at least 5 percentage points) between July 2008 and January 2010. However, in most countries where regulated prices are available, over 90%, and often around 100%, of household customers are supplied at regulated tariffs (Table 58).[81]

[80] Cyprus, Malta and Estonia have closed household markets at present.

[81] Price regulation is also much more prevalent in the household market than in the small business, medium-to-large business or energy intensive industry markets. See ERGEG report "*Status Review of End-User Price Regulation as of 1 January 2010*" (2010).

The implication of the existence of regulated tariffs for consumers may be on the one hand that they are protected from potential large price increases in recently liberalised electricity markets. On the other hand, prices may be lower when prices are set freely due to the effects of competition. Hence, it is interesting to examine whether regulated prices or free-market prices are higher within the same markets.

In 2008, ERGEG surveyed regulatory authorities in Member States with end-user price regulation asking whether the average regulated price was 'above' or 'below' the average free market price. In one case (Ireland), the information from the ERGEG report has been updated according to the findings of the web-sweep undertaken for the current project.

With the exception of Latvia, regulatory authorities from Eastern European Member States reported that the average regulated price is below the average free market price, whereas regulators from Western European Member States reported that the average regulated price is above or similar to the average free market price (Table 57).[82]

Table 57: Level regulated prices relative to free-market prices

Regulated compared free-market:	Member States
Below	Greece; Hungary; Lithuania; Romania; Slovakia
Similar	Denmark; Portugal; Spain
Above	France; Ireland; Latvia
No information	All others

Note: With the exception of Ireland and Greece, information in the table is from the ERGEG report "Status Review of End-User Price Regulation as of 1 July 2008" (2009). The information in this report refers to the situation on 01/07/2008. ERGEG (2009a) found that in Ireland regulated prices are similar to free-market prices, but desk research undertaken for the present study found that all free-market tariffs are in fact lower than the regulated prices. The information for Greece is taken from the Member State fiche.
Source: ERGEG (2009a) and ECME Consortium desk research.

[82] ERGEG report "*Status Review of End-User Price Regulation as of 1 July 2008*" (2009). The information in this report refers to the situation on 01/07/2008. The information for Ireland has been updated according to evidence from desk research undertaken for the present study.

Table 58: Regulation of household electricity prices and share supplied at regulated prices

Member State	Price regulation[1]	Share of customers supplied at regulated prices:	
		As of 01/07/08	As of 01/01/10
Austria	No	n.a.	n.a.
Belgium	No	n.a.	n.a.
Bulgaria	Yes	:	100%
Cyprus[2]	Closed	n.a.	n.a.
Czech republic[3]	No	n.a.	n.a.
Denmark	Yes	:	94.0%
Estonia[2]	Closed	n.a.	n.a.
Finland[4]	No	n.a.	n.a.
France	Yes	99%	96.0%
Germany	No	n.a.	n.a.
Greece	Yes	100%	100%
Hungary	Yes	100%	100%
Ireland	Yes	99.7%	79.8%
Italy	Yes	99.7%	91.0%
Latvia	Yes	100%	99.0%
Lithuania	Yes	100%	100%
Luxembourg	No	n.a.	n.a.
Malta[2]	Closed	n.a.	n.a.
Netherlands[5]	No	n.a.	n.a.
Poland	Yes	100%	100%
Portugal	Yes	97.2%	92.0%
Romania	Yes	100%	100%
Slovakia	Yes	100%	100%
Slovenia	No	n.a.	n.a.
Spain	Yes	92%	91%
Sweden	No	n.a.	n.a.
United Kingdom	No	n.a.	n.a.

Note:

1. Information on the existence of price regulation is from the ERGEG report *Status Review of End-User Price Regulation as of 1 July 2008* (2009) for Belgium, Czech Republic, Latvia, Lithuania, Slovakia and Spain. The information in this report refers to the situation on 01/07/2008. For all remaining Member States, information on the existence of price regulation is from the LE web-sweep.
2. Malta, Cyprus and Estonia have closed household retail markets.
3. Supplier of last resort prices are regulated, but according to the Member State fiche reviewed by the regulator the supplier of last resort option is rather theoretical as in 2008 no customer used this right.
4. Although there is no regulation in Finland, according to Section 21 subsection 1 and 2 of the Electricity Market Act, suppliers with a dominant position must deliver electricity at "reasonable" prices to consumers.
5. In the Netherlands, there is a form of "tariff supervision" whereby the Office of Energy Regulation (OER) "surveys the fairness of supply tariffs" and approves individual tariff proposals. The OER notes that this is not regulation, and it is not regulation according to the definition used here. However, it is regulation according to the definition in ERGEG (2009a), pp. 10.

Source: ERGEG (2010) "Status Review of End-User Price Regulation as of 1 January 2010".

8.1.2 How prices are regulated and by whom

This sub-section provides further information on regulated electricity tariffs for households by highlighting the differences between Member States in the way that prices are regulated and the bodies that are responsible for regulation.

Authorities responsible for regulation of retail electricity prices

In the majority of Member States where prices are regulated it is the regulator who is responsible for tariff setting other than social tariffs. In the other cases, this is the responsibility of the relevant government minister. Even when not setting prices, the regulator still plays an important role by providing an opinion or preparing the calculation methodology for the minister.

Thus, overall there are few differences between the Member States in terms of the bodies responsible for regulation of retail electricity prices for households.

Table 59: Price setting authorities (Member States with regulated prices)

Member State	Price setter	Role of regulator if not price setter
Bulgaria	Regulator	n.a.
Cyprus	Regulator	n.a.
Denmark	Regulator	n.a.
Estonia	Regulator	n.a.
France	Minister	Gives an opinion/recommendation
Greece	Minister	Gives an opinion/recommendation
Hungary	Minister	Prepares calculation methodology for ministerial approval
Ireland	Regulator	n.a.
Italy	Regulator	n.a.
Latvia	Regulator	n.a.
Lithuania	Regulator	n.a.
Malta	Regulator	n.a.
Poland	Regulator	n.a.
Portugal	Regulator	n.a.
Romania	Regulator	n.a.
Slovakia	Regulator	n.a.
Spain	Minister	Gives an opinion/recommendation and makes a proposal

Note: For Hungary, the information provided via the Member State fiche contradicted the information in ERGEG (2010). The information from the Member State fiche is used in the table. n.a. = not applicable.
Source: Member State fiches and ERGEG (2010).

Method for setting regulated prices

The method of price regulation applying to the supply part of the final electricity price is described in some of the Member State fiches in Annex A which were verified by the regulators, namely Bulgaria, Denmark, Estonia, Lithuania, Malta, Portugal and Slovakia (Table 60):

- In Bulgaria, the supply element of the price is subject to revenue cap regulation. Under revenue cap regulation suppliers' revenues are capped and the cap is adjusted

periodically taking into account the rate of inflation less some amount for expected efficiency savings, regardless of changes in company profits.

- In Denmark, Estonia and Lithuania, the supply element of the price is subject to price cap regulation. Under price-cap regulation, prices are adjusted periodically by the rate of inflation plus or minus some predetermined amount without giving consideration to changes in company profits.

- In Malta and Slovakia, the supply part of the price is subject to rate-of-return regulation. Under rate-of-return regulation, prices are set so that the supplier can earn a specified rate of return on capital. The regulated price may be allowed to adjust upwards (downwards) if the utility starts making a lower (higher) rate of return.

- In Portugal, the regulated tariffs for the year ahead are calculated based on forecasts from regulated companies and the regulator, and aim to cover the expected costs ex-ante (i.e. so that costs are recovered).

Table 60: Method of retail price regulation	
Member State	**Method of retail price regulation**
Bulgaria[1]	Revenue cap regulation with a 5 year regulatory period. The regulator approves suppliers' revenue requirements for the first year of the regulatory period and analyses and adjusts them for each subsequent year of the regulatory period.
Cyprus	:
Denmark	Prices are capped in line with prices and margins in the competitive market. Hence, regulated prices are not below costs.
Estonia	A 'weighted average limit' for prices for a 1 year period is approved, allowing suppliers to set different tariffs for different consumer groups within the weighted average limit. If prices are above the limit, the supplier must compensate consumers with a discount the following year, but no compensation is given to the supplier If prices turn out (ex post) to be lower than the limit.
France	:[1]
Greece	:[2]
Hungary	:
Ireland	:
Italy	:
Latvia	:
Lithuania	Incentive regulation has been introduced with price caps set for 3 year periods. Specific tariffs are calculated every year abiding by methodologies approved by the regulator.
Malta	Tariffs are revised according to the full cost recovery method, allowing the monopolist supplier to recover all acceptable costs and earn a reasonable rate of return on its capital employed.
Poland	:
Portugal	Regulated tariffs for a given year are calculated at the end of the preceding year based on the best forecasts available from regulated companies and the regulator so that expected costs are covered, i.e. there is no tariff deficit ex-ante. Grid access tariffs are incorporated into regulated retail tariffs directly via the tariff additivity method.
Romania	:
Slovakia	An overall maximum electricity price is determined and specific tariffs are set so that revenue per electricity unit supplied does not exceed the maximum price. The maximum price is determined based on justified costs, including distribution and transmission costs, and adequate profit.
Spain	:

Note: ":" Signifies that no relevant information was provided.

[1] For France, regulated tariffs cover the whole value chain (commodity, transport and distribution). No further information was provided.

[2] For Greece, the method for calculating regulated prices does not include a geographic component (tariffs are applied uniformly to consumers regardless of their geographical location). No further information was provided.

Source: Member State fiches except for Bulgaria. For Bulgaria the information is taken from the Bulgarian regulator's report to the European Commission for 2009 (page 14).

8.1.3 Enforcement of price regulation and penalties that apply

Information on enforcement of price regulation and the penalties that apply was provided by regulators through the Member State fiches in four cases:

- In Estonia, a weighted average limit for prices is set for a 1 year period (allowing a variety of different tariffs within the weighted average limit). If prices are above the limit the supplier must compensate consumers with discounts the following year.
- In Hungary, non-compliance with retail price regulation is sanctioned by the regulator through fines. The size of fines is set by the Ministry of Transport, Communication and Energy.
- In Poland, the President of the regulator has a power to introduce financial sanctions in order to enforce its decisions.
- In Romania, the enforcer is the regulator and fines or other penalties may be applied.

The common theme is that in each of these Member States there are financial penalties for suppliers for non-compliance with price regulation.

8.2 Cross Member States comparison of price levels

Differences in price levels between Member States may be a key indicator of how well the market is working for consumers in each Member State relative to others in the EU. Obviously, a number of factors may explain differences in retail electricity prices across the EU. This section provides information on price level differences between Member States, covering:

- Differences in average price levels between Member States
- Differences in prices at different consumption levels

8.2.1 Differences in average prices across Member States

The first step in examining price level differences is to compare average prices in the Member States. Data from Eurostat can be used to make this comparison. For each Member State, Eurostat reports weighted average prices representative for the whole Member State, using the market shares of suppliers as weighting factors.

In the second half of 2009, average prices in Euros were highest in a group of EU-15 Member States Western Europe. This group includes all 10 Member States where prices were above the EU-27 average.

- Prices were particularly high in Denmark and Germany.
- Conversely, prices were lowest in several new Member States, namely Bulgaria, Estonia, Lithuania and Romania (Figure 169).[83]

However, in order to fully ascertain the magnitude of differences in retail electricity prices across the EU, it is important to take account of differences in the general price level or cost of living across the EU. Therefore, the analysis in the present section also examines electricity retail prices

[83] Eurostat publish average prices for households in several different consumption bands. In the present section, we refer to average prices for households in the middle band of between 2,500 and 5,000kWh per year.

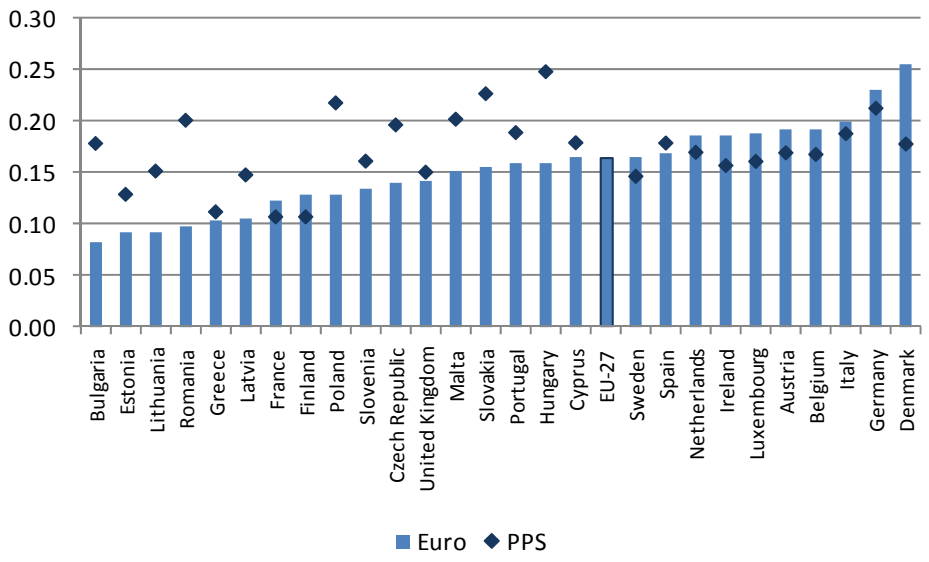
between Member States in purchasing power standards (PPS). The PPS is a common reference currency unit that eliminates price level differences between Member States, so one PPS buys the same volume of goods/services in all Member States.[84]

The ranking of Member States in terms of the level of retail electricity prices changes markedly when prices are measured in PPS.

- Prices are highest in several new Member States, especially Hungary, Slovakia and Poland.
- They are the lowest in Finland, France and Greece.

The dispersion of average prices is high. For the second half of 2009, average prices in Euros in Denmark were more than three times higher than in Bulgaria. Although dispersion is lower when prices are compared in PPS (as expected), the level of dispersion is still significant, with the highest prices 2.3 times greater than the lowest.[85]

Figure 169: Household electricity prices including all taxes for 2nd semester 2009 (per kWh)



Note: Prices for households with annual consumption of 2,500 to 5,000kWh per year. Data for Belgium refers to 2009semester 1.
Source: Eurostat

[84] The purchasing power standard PPS is an artificial reference currency unit that eliminates price level differences between Member States. One PPS buys the same volume of goods and services in all Member States. This unit allows meaningful volume comparisons of economic indicators across Member States. Aggregates expressed in PPS are derived by dividing aggregates in current prices and national currency by the respective purchasing power parity (PPP).

[85] In PPS, the highest average prices are 2.3 times greater than the lowest. The standard deviation of prices in Euros is 4.2 whereas the standard deviation of prices in PPS is 3.5.

8.2.2 Differences in prices at different consumption levels

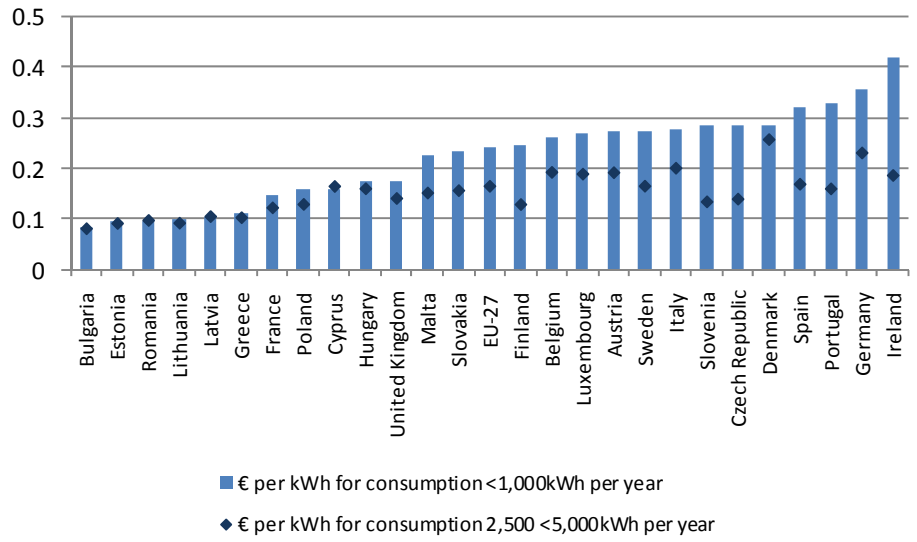
Eurostat publishes average prices for households in several different consumption bands.[86] Of particular interest for the present study are unit prices charged to households with low overall consumption, as typically low-income households use lower amounts of electricity.

In most Member States, households in lower consumption bands pay higher total amounts per unit than those who consume more electricity, and in some cases the amount per unit is significantly higher (Figure 170). This likely to be because of standing charges that are fixed irrespective of the amount that is consumed.

In four Member States (Czech Republic, Ireland, Portugal and Slovenia), the total amount paid per unit for those who consume less than 1,000kWh per year is more than double that charged to households that use between 2,500 and 5,000kWh.

Given that low income households typically use less electricity, this pattern is important from an affordability perspective. For Member States where unit prices charged to low volume consumers are significantly higher, this needs to be taken into consideration when assessing affordability.

Figure 170: Prices for low consumption households (compared to prices for medium consumption households)



Note: Prices in Euros including taxes. Data for 2009 semester 2, except Belgium (2009semester 1). No figure is given for the Netherlands for households with consumption less than 1,000kWh.
Source: Eurostat.

[86] The bands are: less than 1,000kWh/year; 1,000 to 2,500kWh/year; 2,500 to 5,000kWh/year; 5,000 to 15,000kWh/year; and more than 15,000kWh/year.

8.3 Price structure

Total retail electricity prices charged to household consumers are made up of several components:

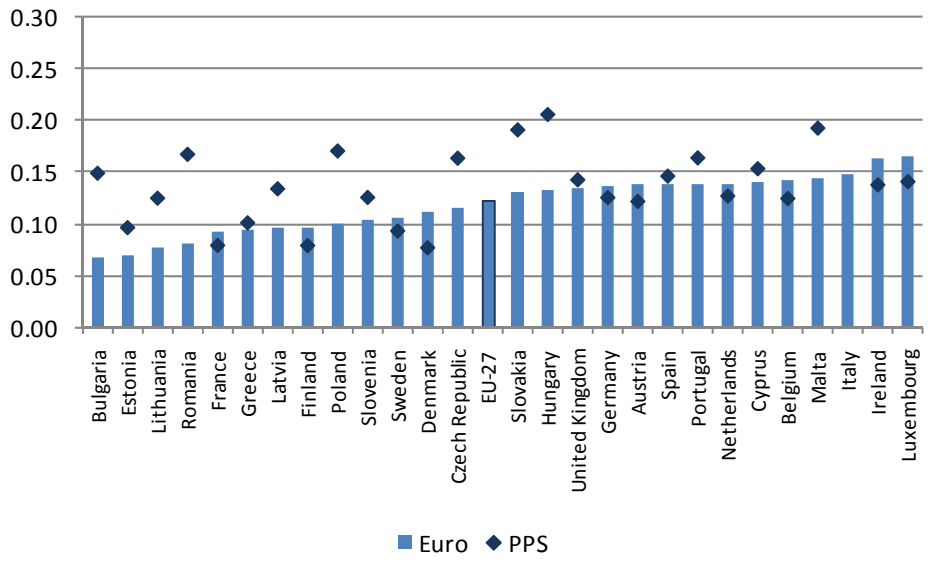
- Commodity price: the cost of generating electricity
- Transport cost: the cost of transmitting electricity from one geographic area to another (through the high voltage network)
- Distribution cost: the cost of distributing electricity within a geographic area (through the low voltage network);
- Supply cost: the cost of interactions with consumers (billing etc.);
- Taxes and levies.

The total price to consumers is given by the sum of these five components. The present study is especially interested in the part of the price attributable to the supply cost. However, this component and the commodity price are sometimes reported in aggregate (in addition, transport and distribution costs are also sometimes reported in aggregate).

It is useful to first examine prices excluding taxes, as this illustrates the price of the electricity service (commodity, transportation, and supply), without the effect of government taxation. Without taxes, prices in Euros are no longer highest in Denmark and Germany, whereas Member States with low taxes on household electricity, such as the United Kingdom and Malta, move up the scale (Figure 171).[87]

[87] For Italy, prices excluding taxes are missing from Eurostat's online database. Therefore, for Italy, prices excluding taxes are calculated by applying the share of taxes and levies in the total price as presented in the Eurostat publication *Electricity prices for second semester 2009* (Data in focus 22/2010): http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-QA-10-022/EN/KS-QA-10-022-EN.PDF. For the remaining Member States prices, excluding taxes are available from Eurostat's online database.

Figure 171: Household electricity prices excluding taxes for 2nd semester 2009 (per kWh)



Note: Prices for households with annual consumption of 2,500 to 5,000kWh per year. Data for Belgium refers to 2009semester 1. No data available for Italy for prices excluding taxes in PPS.
Source: Eurostat and "Electricity prices for second semester 2009" (Data in focus 22/2010).[88]

Finally, it is also possible to further breakdown the average price for each Member State into the part of the price attributable to energy and supply. For the second half of 2009, the contribution of energy and supply to the total price was highest in Malta, Ireland and Italy, and lowest in France, Romania and Estonia (Figure 172).

The combined effects of excluding taxes from the total price and then isolating the energy and supply component of the total price are illustrated by the distance that the marker for each country falls below the 45-degree line in charts A and B of Figure 173.

If for a certain country there were no taxes included in the total price, then the marker for that country would lie on the 45-degree line in chart A. Similarly, if network costs were very low, meaning that energy and supply accounts for most of the price excluding taxes, then the marker would lie close to the 45-degree line in chart B. On the other hand, if taxes (network costs) account for a large part of the price, then the marker will be well below the 45-degree line in chart A (B).

For example, the effect of high electricity taxes on overall prices in Denmark, Germany and Sweden is shown by the distance of these three Member States below the 45-degree line in chart A of Figure 173. On the other hand, Malta and the United Kingdom, where taxes add only a small amount to the total price, are close to the 45-degree line in chart A.

The short distance between Malta and the 45-degree line in chart B of Figure 173 shows that, for Malta, the great majority of the price excluding taxes (i.e. the majority of the price of the electricity service) is accounted for by energy and supply costs. On the other hand, Denmark and

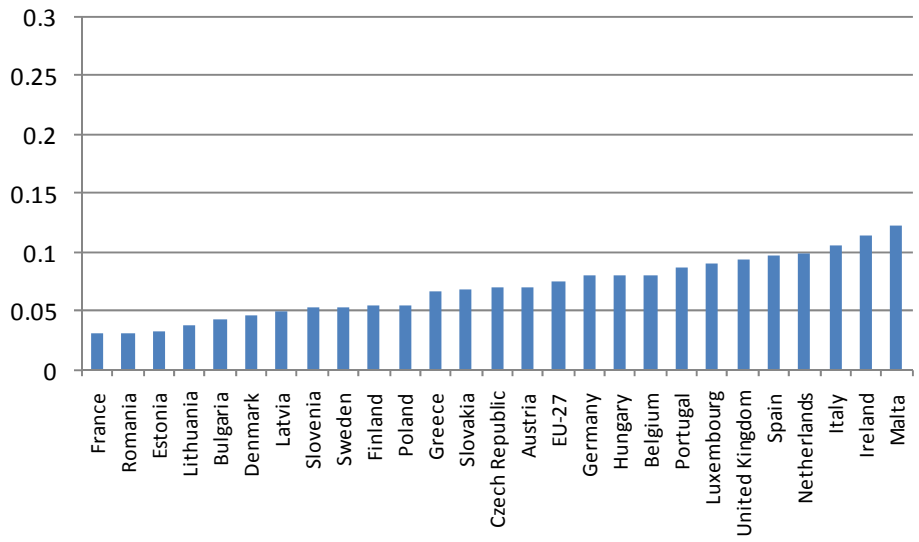
[88] "*Electricity prices for second semester 2009*" used to calculate the share of the price accounted for by taxes for Italy.

Romania are further away from the 45-degree line in chart B showing that energy and supply costs make a relatively small part of the total price.

The lines showing the average impact of excluding taxes and the average impact of isolating the energy and supply component of the total price are also shown in Figure 173. If a country is above one of these lines, this means that the difference between the price including the relevant price component and the price excluding it is smaller than the average of this difference across countries.

For example, the share of taxes in total price is above average in Denmark, Germany and Sweden, so these countries are below the average taxes line in chart A. Conversely, the share of taxes in total price is below average in Malta and the United Kingdom, so these countries are above this line.

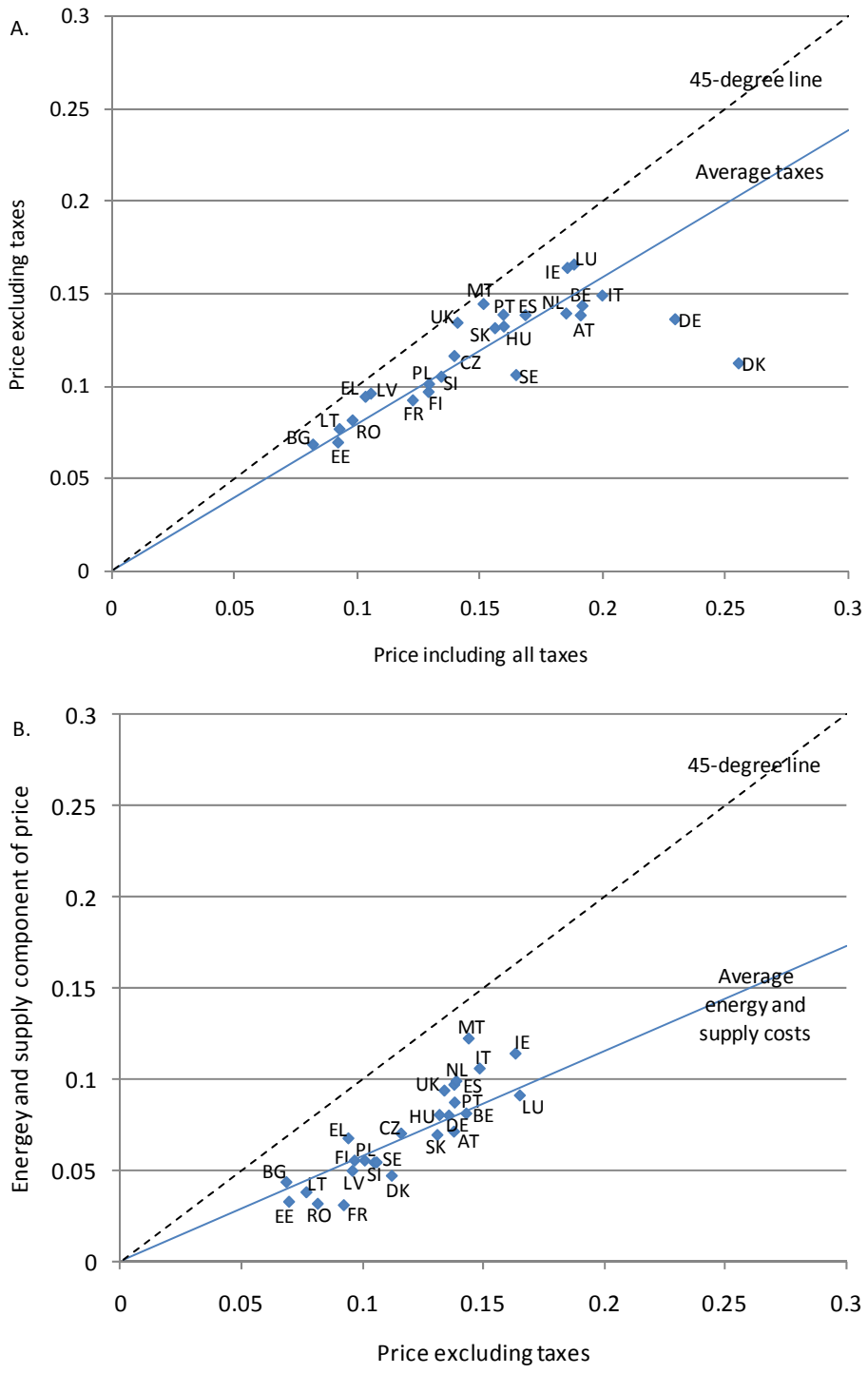
Figure 172: Energy and supply component of the price (€/kWh)



Note: For households with annual consumption between 2,500 and 5,000kWh. Information from desk research has been use to allocate the share of the price attributable to energy and supply for France, Ireland and the Netherlands. No data for Cyprus. EU-27 average calculated using population as weighting factors.

Source: Eurostat, "Electricity prices for second semester 2009" (Data in focus 22/2010) and ECME Consortium desk research.

Figure 173: Relationship between various breakdowns of electricity price (€/kWh)



Source: ECME Consortium analysis of Eurostat data.

Overall, in a number of Member States costs not directly related to the commodity and its supply make up a significant part of the final price to consumers in a number of Member States. These costs include transport and distribution costs and taxes and levies. However, the structure of prices varies considerably across Member States.

- In some Member States (e.g. Denmark and Germany) taxes and levies account for a large part of the overall price.
- In other Member States, taxes account for only a small part but energy and supply costs make up a much larger share (e.g. Malta and the United Kingdom) (Figure 174). [89]

For a limited number of Member States, prices can be broken down further from desk research (Table 61). In particular, the contribution of the supplier cost to the overall price is identified for six Member States: Denmark, Finland, Ireland, Italy, Lithuania and Slovenia. In these Member States, the average share of the supplier cost in prices is 3%, ranging from 1% (Denmark and Lithuania) to 7% (Finland).[90]

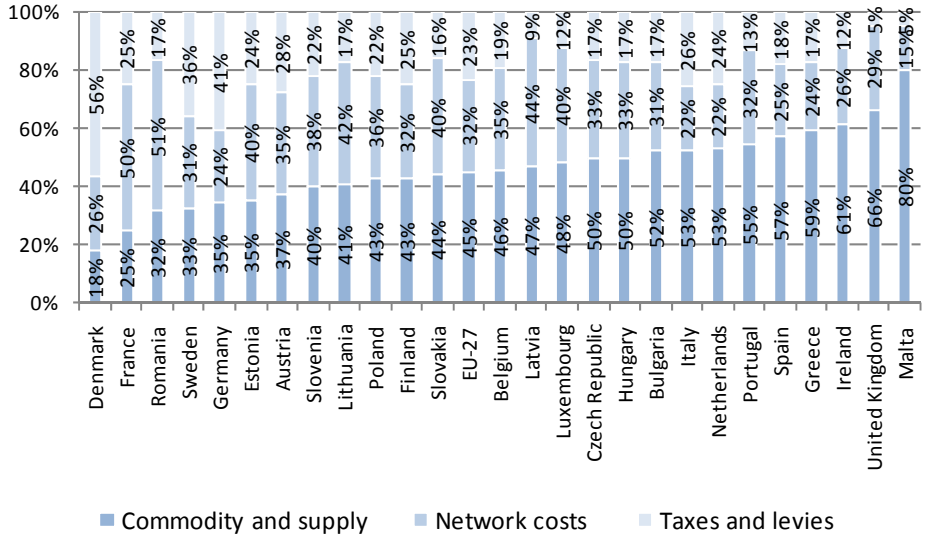
The benefit for consumers that can be realised from retail market reforms is to an extent limited by the contribution of supply costs to the overall price (although other types of reforms, such as those aimed at improving service, can benefit consumers in other ways). The data presented here show that although supply costs only form a minor part of the price (compared to generation etc.), they still make a noteworthy contribution in some Member States.

Moreover, Figure 175 shows that there exists no relationship between the electricity retail price level (in PPS) and the share of the electricity cost and the supply margin in the total price. This means that countries where the commodity and supply component of the price is higher do not necessarily have higher prices over all.

[89] Eurostat: "Electricity prices for second semester 2009" (Data in focus 22/2010).

[90] For several countries the part of the total price attributable to commodity and supply is reported in aggregate, and unfortunately cannot be disaggregated further.

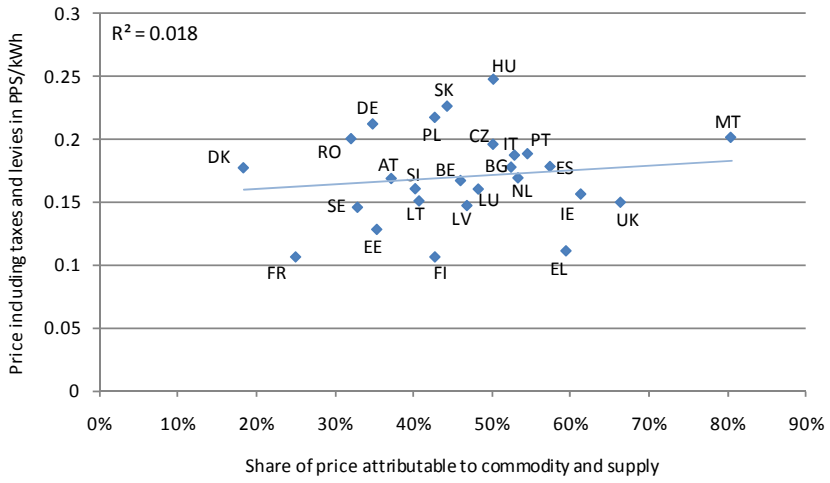
Figure 174: Breakdown of electrcity prices to household consumers (2nd semester 2009)



Note: For households with annual consumption between 2,500 and 5,000kWh. No data for Cyprus. Data for Belgium refers to the second semester 2008. Data for France, Ireland and the Netherlands are taken from desk research. EU-27 average calculated using population as weighting factors.

Source: Eurostat: "Electricity prices for second semester 2009" (Data in focus 22/2010) for all Member States except Belgium, and "Electricity prices for second semester 2008" (Data in focus 25/2009) for Belgium. Desk research for France, Ireland and the Netherlands.

Figure 175: Price including taxes and levies (in PPS) vs. share of price attributable to commodity and supply



Note: Prices refer to consumers with consumption between 2,500kWh and 5,000kWh per year.

Source: ECME analysis of Eurostat

Table 61: Breakdown of the average retail electricity price

	Commodity	Supply	Transport	Distribution	Taxes/levies
Austria[1]	40%	32%			28%
Belgium	:	:	:	:	:
Bulgaria	:	:	:	:	:
Cyprus	:	:	:	:	:
Czech Republic	47%		6%	29%	18%
Denmark	17%	1%	19%		62%[2]
Estonia	36%	42%[3]			22%
Finland	37%	7%	3%	28%	25%
France[4]	25%		50%		25%
Germany	37%		24%		38%
Greece	:	:	:	:	:
Hungary	:	:	:	:	:
Ireland[5]	57%	4%	4%	22%	12%
Italy	57%	4%	16%		23%
Latvia	42%		46%		13%
Lithuania[6]	36%	1%	10%	38%	15%
Luxembourg	42%		46%		12%
Malta	:	:	:	:	:
Netherlands	53%		22%		24%
Poland	:	:	:	:	:
Portugal	:	:	:	:	:
Romania	:	:	:	:	:
Slovakia	46%		38%		16%
Slovenia	33%	2%	6%	30%	28%[7]
Spain	:	:	:	:	:
Sweden	42%		18%		40%
United Kingdom	71%		3%	15%	11%[8]

Note: ":" indicates no information found.
1) Calculated by taking the arithmetic average across 13 suppliers.
2) Includes a subsidy for research and development into renewable energy sources and efficient energy use (called the PSO-tariff).
3) For Estonia, transport, distribution and supply are collectively referred to as "network service".
4) For France, the breakdown is calculated using information on the cost of transport and distribution for consumers with consumption 3,500kWh/year from the website of the regulator (http://www.cre.fr/fr/calculatrice/simple), combined with prices including and excluding taxes from Eurostat.
5) For Ireland, shares for commodity, transport, distribution and supplier costs are approximate figures taken for the website of the consumer protection body, *Energycustomers*: http://www.energycustomers.ie/faqs/index.aspx#2009. The share for taxes and levies is taken from Eurostat.
6) For Lithuania, shares for commodity, transport, distribution and supplier costs are calculated by taking the average for the two suppliers VST AB and RytųSkirstomieji Tinklai AB. The share for taxes and levies is taken from Eurostat.
7) Figure includes "ancillary services" (considered part of the 'use of network charge' by Hrovartin *et al* 2009), the contribution of the Energy Agency, the contribution of the power exchange Borzen, support for renewable energy, and VAT.
8) Figure includes costs of environmental obligations from government which are passed on to the consumer.
Source: LE web-sweep.

8.4 Determinants of prices

This section examines whether prices depend on key drivers such as the mix of electricity generation, market structure and price regulation. This is addressed in two parts:

- Review of existing literature on the determinants of prices;
- Empirical analysis of the determinants of prices.

Rather than being used to draw conclusions for the present study, the findings from the literature review is be used to inform the empirical analysis reported in the present section. In particular, the literature review will help to guide the choice of variables examined in the empirical analysis.

8.4.1 Literature review on the determinants of prices

The link between household electricity prices and several different factors have been examined empirically in the literature namely:

- Liberalisation (Bellantuono, 2007).
- Generation and consumption characteristics (Florio, 2003, and KEMA, 2005).
- Consumer protection regulation (Bellantuono and Boffa, 2008).
- Wholesale electricity prices (Giulietti et al., 2008, and KEMA, 2005).

There exists only a small number of studies on the determinants of retail electricity prices and their main conclusions informed the present study on the factors which have been found to impact on household electricity prices in order to help develop an empirical model (see section 8.4.2). Each of the points above is discussed in turn below.

Some studies calculate simple correlations between different variables and electricity prices, whereas others use the variables to estimate multi-variate models of household electricity prices. This information is summarised in Table 63 and Table 64 at the end of the section.

Liberalisation

One study by Bellantuono (2007) finds that household prices are lower in Member States where the retail market has been liberalised. The result of this particular study is illustrated by a regression model testing the impact of retail market liberalisation on consumer prices in the electricity and gas markets over the period from 1995 to 2005.[91]

The model includes two explanatory dummy variables indicating whether the residential and industrial retail markets have been liberalised (a market is defined as liberalised if 50% or more of consumers can choose their supplier). In an alternative regression, the percentage of industrial consumers who can choose their supplier is included as a continuous variable.

Liberalisation of the industrial market is included to test the hypothesis that if the industrial market is liberalised but the residential market is not, this leads to higher prices for residential

[91] A limitation of the study is that it does not compute the regression for the electricity and gas markets separately.

customers. This hypothesis is supported by the results, which show that when the percentage of industrial consumers who can choose their supplier increases by 1% residential prices increase by 0.02%.

Further, the study isolates (to some extent) the retail component of the average price to residential customers by removing the wholesale price from the regression model.[92] This is done by considering an alternative dependent variable, given by the change in the residential price minus the wholesale price. The results of this alternative regression also support the finding that prices to residential customers are lower in Member States with liberalised retail markets.

Generation and consumption characteristics

Generation characteristics such as the fuel mix used for generation and prices of these fuels are also identified as drivers of electricity prices to household consumers. Likewise, consumption patterns (consumption per inhabitant) are also shown to influence household prices.

Florio (2003) analyses the electricity prices charged to domestic users in five Member States, namely France, Germany, Italy, Sweden and the United Kingdom over the period 1985 to 1997. The analysis aims to examine the link between electricity prices and a number of different factors, including:

- prices of energy inputs (coal, diesel and gas);
- production mix (shares of different types of generating plants: nuclear, fossil, hydro);
- consumption (total GWh and kWh per capita); and,
- the structure of the sector (concentration of generation).

Correlations are calculated between changes in domestic prices and changes in input costs over the period 1985-1997. Correlations between electricity prices and other variables, including shares of generating plants using different fuel types, degree of market concentration in generation (measured as the Hirschman-Herfindahl index) and consumption level (in total and per inhabitant) are calculated for 1997.

The study also undertakes a linear regression of residential user tariffs using as explanatory variables indices of total electricity production, electricity production from nuclear and hydroelectric sources, average electricity consumption per inhabitant and the costs of inputs of production (though only the price of gas is retained in the final model) for the period 1989 to 1997.

The empirical analysis shows that electricity prices are strongly correlated with the prices of energy inputs, and negatively correlated with consumption per capita. Florio (2003) attributes the inverse relationship between prices and consumption per capita to economies of scale. However, the correlation between prices and market concentration is low.

[92] Spot market prices are used as proxies for wholesale prices.

Consumer protection regulation

Bellantuono and Boffa (2008) ranked 10 Member States[93] according to the quality of their residential customer protection measures, and analysed the impact of these measures on the prices charged to households over the period from 1996 to 2007.[94] The study found that where appropriate consumer protection measures were implemented, residential prices increased less than in the absence of such measures. The measures examined in the study included measures aimed at reducing switching costs, ensuing fair contractual terms and providing consumer information.

Two methodological issues must be addressed in order to make a meaningful comparison of consumer protection regulations in theses 10 Member States. The first issue relates to the collection of information on the implementation of consumer protection measures. According to Bellantuono and Boffa (2008), it is insufficient to limit the analysis to the rules that have been enacted, and information on the day-to-day regulatory practice is also needed. They use consumer protection best practice propositions set out by ERGEG as a benchmark, and examine whether Member States in the sample conform to them.[95]

Secondary sources, such as ERGEG's reviews and national reports, are used to rank each Member State and to construct an index on a three point scale according to the extent that each Member State conforms to the benchmarks.

[93] The Member States included are Austria, Belgium, Denmark, Finland, Germany, Italy, Netherlands, Spain, Sweden and the United Kingdom.

[94] The lengths of the price data time series vary between Member States: Sweden: 1996-2007. Finland and Germany: 1998-2007. United Kingdom: 1999-2007. Austria: 2001-2007. Belgium, Denmark and Spain: 2003-2007. Netherlands: 2004-2007.

[95] The best practices are summarised in the study as:

1) Availability of comparable price information, for example through tariff calculators; transparency of price elements on the bill; communication of contract terms before the conclusion of the contract.

2) Easy, cost-efficient and standardised switching procedure; it should be completed within one month; no unnecessary obstacles to the change of supplier; clear allocation of responsibilities among suppliers and distributors; the consumer should only need to be in direct contact with one party, preferably the new supplier; contracting should be in writing, but should be available electronically.

3) Contract terms must be supervised or directly regulated by NRAs; specific provisions must be enacted at least for suppliers' and consumers' right of termination and for suppliers' right to unilaterally modify contract terms.

Table 62: Index consumer protection constructed by Bellunutono and Boffa (2008)

	Information (1-3)	Switching (1-3)	Contract terms (1-3)
Austria	3	2	1
Belgium (Flanders)	3	3	3
Denmark	2	2	1
Finland	3	1	3
Germany	2	1	3
Italy	3	1	3
Netherlands	3	2	2
Spain	2	3	2
Sweden	3	2	2
United Kingdom	3	3	3

Note: 3 signifies high quality, 1 signifies low quality.
Source: Bellantuono and Boffa (2008)

The second methodological issue relates to the timing of regulatory reforms (when, after the beginning of the liberalisation process, were consumer protection measures introduced). The Member States were divided into one of two groups: one group includes Member States where consumer protection measures were enacted since the beginning of the liberalisation process, and a second group where they were enacted some time later.

For each Member State, the study compares the price difference between the year the electricity market was liberalised (in that)[96] to the most recent available observation (2007) with the average price difference for the same time period among the ten Member States in the sample. The relative price increase (for the relevant Member State and time period) for the industrial customers is used as a control variable to account for Member State-specific factors such as the Member State's general regulation or the input prices for the Member State's energy mix.

Regression analysis is used to estimate the impact of the quality of consumer protection measures on the relative price variation for each Member State. This is done for the quality of consumer protection measures overall, and for the quality of consumer protection measures in the three areas individually (reducing switching costs, ensuing fair contractual terms and providing consumer information). The impact of the timing of regulatory reforms is assessed in two ways: by undertaking the analysis for the two groups separately, and by including a dummy variable.

The results show that the quality of consumer protection regulation is a factor in the evolution of prices, although the result is stronger for gas prices than electricity prices. Measures aiming to reduce switching costs were found to be the most important, followed by measures to ensure information is provided to consumers.

An important downside of the analysis of Bellunutono and Boffa is that, in some Member States covered by their study, the average retail electricity price over the sample period reflects largely a regulated tariff set by a regulator and cannot be said to be driven mainly by the market.

[96] These dates ranged from 1996 to 2004.

Wholesale electricity prices

Giulietti et al. (2008) explore the link between domestic electricity retail prices and wholesale prices in the UK. They examine the behaviour of the margin between retail electricity prices and wholesale prices over the period in 1999 to 2005, during which time some important changes occurred in the industry.[97]

They find that the link between wholesale and retail prices is not strong. They observe wide divergences between the trends of these two variables over time, so that margins change by a significant amount.

The impacts of fuel prices and wholesale electricity prices on retail electricity prices are also considered in KEMA (2005). The study compares patterns in the evolution of fuel prices and wholesale electricity prices with the evolution prices charged to households.

The study examines the evolution of coal, gas and oil prices over the period between 1995 and 2004 because, since fuel costs represent a significant part of the variable costs of generating plants which use these fuels, these input prices are likely to exert pressure on final electricity prices.[98]

The study observes that the start of the upward trend in fuel prices generally coincides with a rise in end-user electricity prices (for both households and industrial end-users). Thus, it concludes that, given that all these fuels have a significant impact on the cost of producing electricity, it is probable that the trend in fuel prices had an impact on household electricity prices.

KEMA (2005) also examines the evolution of wholesale electricity prices in a number of Member States, and compares these patterns with the evolution of household prices.[99] The availability of wholesale electricity prices varies across Member States due to the varying stages of the liberalisation process, including the formation of organised wholesale markets. Thus, the evolution of wholesale prices is presented for each Member State for the period over which information is available.

A significant increase in wholesale prices is observed between 2000 and 2003 for many Member States, including Denmark, Finland, France, Germany and Sweden. The study observes that, for these Member States, the general upward trend in wholesale prices since 1999 and 2000 matches the patterns of end-user prices (including prices to households). However, for other countries no apparent link is observed between wholesale prices and end-user prices: in the Netherlands and

[97] In the UK, before 2001 generation and supply were coordinated through a pool mechanism. In March 2001, replacement arrangements known as the New Electricity Trading Arrangements were put in place involving bilateral wholesale trading alongside a small balancing market.

[98] For coal and oil, the study uses European wide indicators of crude oil prices, heavy fuel oil prices (which are more representative of the costs of electricity generation) and coal prices. For gas, the study relies on gas prices reported by Eurostat, as no overall recognised indicator for European gas prices exists. Specifically, evolutions of nominal gas prices for gas users with a certain annual consumption (41860 GJ) and load factor (1600 hours) are presented for several EU Member States.

The prices of uranium and water (i.e. the fuel prices for other two major electricity production technologies in Europe, nuclear and hydro) are not considered as variable costs only contribute a small part of the total costs of nuclear and hydro generation. Thus, uranium and water prices are less likely to have a significant impact on final electricity prices.

[99] The Member States covered are Denmark, Finland, France, Germany, the Netherlands, Norway, Spain, Sweden and the United Kingdom. The prices used are annual averages of day-ahead hourly prices.

the United Kingdom wholesale prices fell between 2000 and 2002 before recovering, and in Spain wholesale prices rose until 2002 before decreasing again.

Variables used in empirical studies of household electricity prices

As mentioned above, the aim of the literature review was not to draw conclusions for the present study, but to inform the study on what factors/variables have been linked with household electricity prices in order to develop an empirical model.

Hence, variables for which simple correlation with retail electricity prices have been reported in the literature are summarised in the Figure 176 below. The variables which were used in multi-variate models of household electricity prices in the literature are summarised in Table 63.

Table 63: Variables used in simple corrleation analysis with with household electricity prices in the literature

Variable	Description
Share of generating plants by fuel type	Share of nuclear, fossil fuel and hydroelectric in total generating plants.
Cost of inputs of production	Prices for coal, diesel and gas and the weighted average of these based on the share of each input in total electricity generation.
Degree of market concentration	Measured as the Hirschman-Herfindahl index.
Consumption level	Total consumption and consumption per inhabitant.

Table 64: Explanatory variables used to model household electricity prices in the literature

Explanatory variable	Description
Level electricity production	Total amount of electricity produced by all types of generator and the amount of electricity produced by nuclear and hydroelectric generators.
Average electricity consumption	Average electricity consumption per inhabitant.
Cost of inputs to production	Prices for coal, diesel and gas (though only the latter is retained in the final model).
Wholesale electricity costs	Wholesale price of electricity plus distribution cost.
Spark spread	Difference between the wholesale cost of electricity and the cost of the gas required to produce it.
Liberalisation of the residential market	Dummy variable taking the value 1 if more than 50% of residential consumers are able to choose their supplier or 0 otherwise.
Liberalisation of the industrial market	Dummy variable take the value 1 if more than 50% of industrial consumers are able to choose their supplier or 0 otherwise. Alternatively, the actual percentage of eligible consumers is used as a continuous variable.
Regulation of pre-contractual information	Index of the quality of regulation on the provision of pre-contractual information. The index is on a three point scale based on best practices set out by ERGEG. Scores depend on the extent Member States comply with these best practices.
Regulation of switching procedures	Index on the quality of regulation of switching procedures, constructed as above.
Regulation of contractual terms	Index on the quality of regulation of contractual terms, constructed as above.
Timing of consumer protection measures	Dummy variable taking the value 1 if consumer protection measures adopted since the beginning of the liberalisation process or 0 otherwise.
Increase in industrial electricity prices	Increase in average industrial electricity prices relative to other Member States in the sample.

8.4.2 Empirical analysis of the determinants of prices

In this section, an empirical analysis of the determinants of household electricity prices is undertaken. First, the approach taken to the empirical analysis is explained including the variables used and the modelling procedure. Second, the regression analysis is presented. The last part discusses the results.

Approach to the empirical analysis

A general-to-specific modelling approach is not appropriate in this case because there are too few observations (a maximum of 27). Due to the limited number of observations, the results may be questionable if we were to estimate a model that simultaneously includes all of the explanatory variables of interest. In particular, there would be too few degrees of freedom to meaningfully test the statistical significance of the estimated relationships between the explanatory variables and the dependent variable.

Therefore, preliminary analysis was undertaken where a number of variables, which the literature review suggests as being important (see Table 65 below), were used as uni-variate models to explain cross-Member State price variation.

Following this, variables which showed a statistically significant effect on prices based on the results of the preliminary analysis were entered together as explanatory variables in a multi-variate model in order to examine whether collectively these variables explain much of the observed variation in prices.

Independent variables

Household electricity price data from Eurostat are used as the independent variables. These are average household electricity prices in PPS, excluding taxes and network costs[100], for the second semester 2009, for households in five different consumption bands: less than 1,000kWh/year; 1,000 to 2,500kWh/year; 2,500 to 5,000kWh/year; 5,000 to 15,000kWh/year; and, exceeding 15,000kWh/year.

The data from Eurostat are average prices representative for the whole county, using the market shares of suppliers as weighting factors. Prices are analysed in PPS, since this accounts for cross-Member State differences in general price levels.

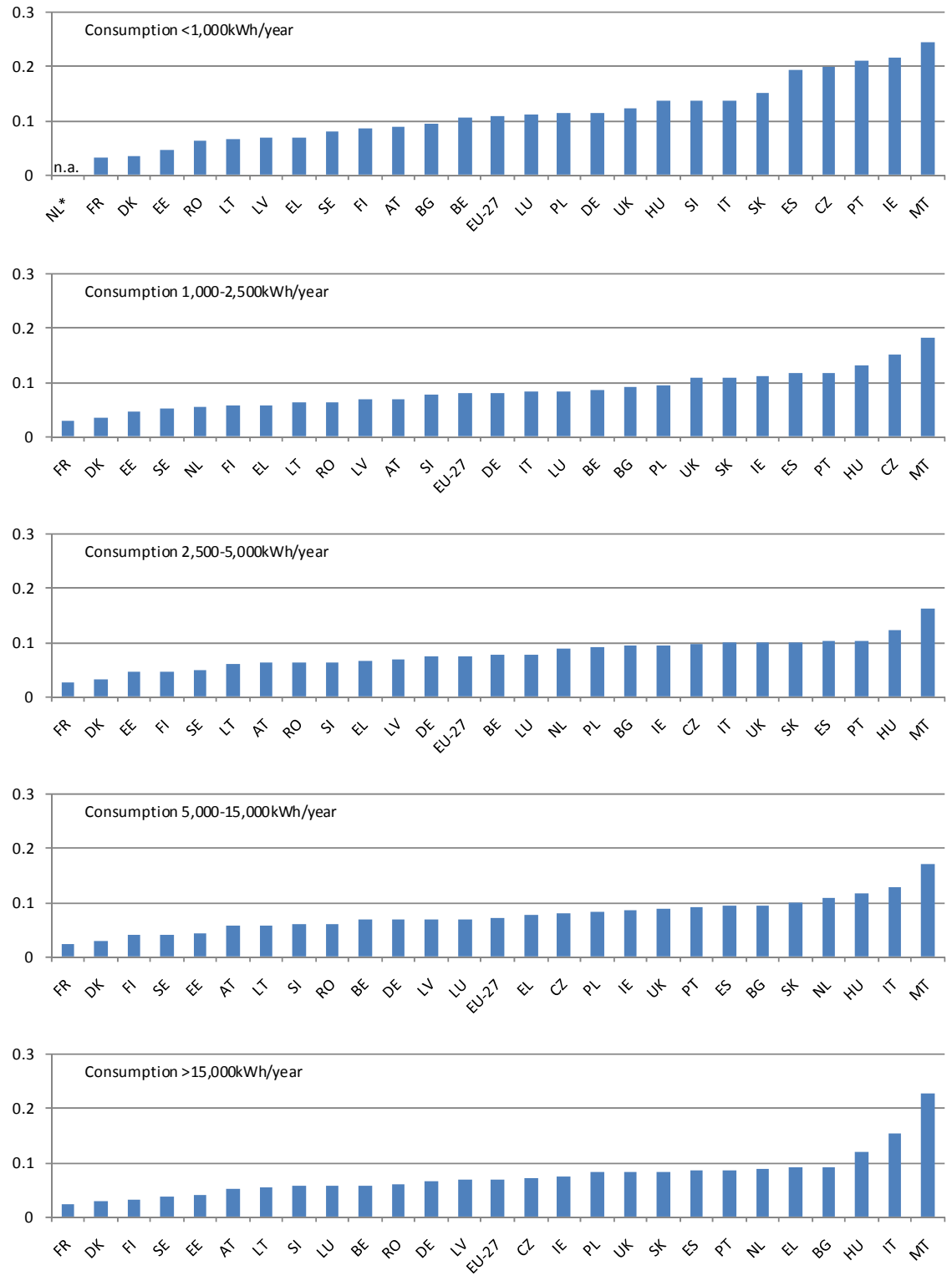
The analysis uses prices to households excluding taxes and network costs because the present study is concerned with the supply part of the electricity supply chain. Thus, the analysis wishes to identify factors which specifically influence this component of the price.

It is interesting to examine whether the factors which influence prices net of taxes and network costs are the same across all household consumption levels. Hence, the analysis covers all 5 consumption bands for which data are available from Eurostat. The cross-Member State variation in prices excluding taxes and network costs for each consumption band is presented in Figure 176.

[100] For all Member States except Cyprus, France, Ireland and the Netherlands, prices excluding taxes and network costs are calculated by applying the share of the price attributable to energy and supply published in the Eurostat publication "Electricity prices for second semester 2009", Issue number 22/2010. The shares from this publication correspond to households with consumption 2,500-5,000kWh/year, but we assume that they are a good estimate for the shares corresponding to all consumption bands.

For France, Ireland and the Netherlands the share of the price attributable to energy and supply comes from ECME Consortium desk research (see Table 7). No breakdown of the price is available for Cyprus.

Figure 176: Prices excluding taxes and network costs by consumption band (PPS/kWh)



Note: * No data available for the Netherlands for consumers with consumption below 1,000kWh/year.
Source: ECME calculations based on Eurostat data.

Explanatory variables

Evidence from the literature review presented in the previous section guided the selection of explanatory variables for the empirical analysis of the determinants of household electricity prices.

The variables in Table 63 and Table 64 above provide a guide for the types of explanatory variables to be included. However, the analysis does not use precisely the same variables since often these are not available for all the EU Member States or there are many missing data points. The potential explanatory variables investigated in the empirical analysis are presented in Table 65 below.[101]

The literature review suggests that the shares of different inputs of production in total electricity generation (variables 1-8) influence household electricity prices. These may proxy for differences between Member States in terms of variable costs of generation, by accounting for the variable costs associated with different input factors. Although the actual prices of inputs of production were also identified as relevant by the literature review, these are not included in the analysis directly, since data are not available for every Member State.

According to the literature review, total and per capita generation and consumption (variables 9-12) may also be relevant for household electricity prices. Some papers (e.g. Florio 2003) find an inverse relationship between household prices and consumption per capita, which is attributed to economies of scale.

The literature review also suggests that the degree of market concentration of generators and suppliers have an effect on household electricity prices (variables 14-18). Higher prices may be observed in highly concentrated markets as companies may exploit market power. However, in many Member States where there are only a few large suppliers the prices of these companies are regulated, so this must also be accounted for in the model (variable 13).

The literature review further indicates that regulations aimed at reducing switching costs, ensuring fair contractual terms and providing consumer information also influence household prices. Good regulation in this area may be expected to lead lower prices since it may allow consumers to search for the best offers more effectively and so encourage suppliers to compete by lowering prices. In order to proxy for the quality of such regulations, measures relating to how easy it is for consumers to switch (variable 19), whether consumers believe their contractual terms are clear and complete (variable 20) and fair (variable 21), and the extent that consumers are well informed about the market (variable 22) are included among the explanatory variables. These four variables are also combined to form an overall quality of regulation index (variable 23) which is also included as an explanatory variable. The literature review suggests that these variables may be inversely related to prices (i.e. easier switching, clearer and more fair contractual terms and better consumer information result in lower prices).

In addition, two alternative explanatory variables to proxy for ease of switching and consumer information are included: an information availability index constructed using data from the mystery shopping exercise (variable 24), and the switching rate itself (variable 25). The information

[101] A similar table including the dependent and explanatory variables and the source for each variable is presented in section A1.9.

availability index may capture some of the same effects as regulation of pre-contractual information, since good regulation in this area should lead to greater information availability. A high switching rate might be expected to be linked to lower prices since it could indicate that consumers are actively searching for the best deals, so putting downward pressure on prices. However, causality may run in the opposite direction if consumers become discontented with high prices and therefore try to switch supplier.

Finally, the literature review also found that the length of the period over which the retail market has been liberalised (variable 21) may have an effect on household electricity prices.

There is insufficient information to obtain European wide data on some other variables identified by the literature review, namely wholesale electricity costs, regulation of contractual terms, timing of the introduction of consumer protection measures (relative to the date of market liberalisation), and the spark spread.

All the variables, including dependent and explanatory variables, are presented along with their respective sources in section Annex 7. This section also presents the correlations between each variable and summary statistics of each variable (mean, standard deviation, maximum and minimum).

Table 65: Potentail explanatory variables

Variable	Description	Reference period
1	Share of total net electricity generation using oil as main input factor	2008
2	Share of total net electricity generation using natural gas as main input factor	2008
4	Share of total net electricity generation using coal as main input factor	2008
5	Share of total net electricity generation using lignite as main input factor	2008
6	Share of total net electricity generation using hydro power as main input factor	2008
7	Share of total net electricity generation using wind power as main input factor	2008
8	Share of total net electricity generation using nuclear power as main input factor	2008
9	Total net electricity generation	2008
10	Total net electricity generation per capita	2008
11	Final energy consumption of households	2008
12	Final energy consumption of households per capita	2008
13	Dummy variable for whether retail electricity prices are regulated or not	2010
14	Number of main generators (with share > 5%)	2008
15	Average market share of main generators (with share > 5%)	2008
16	Market share of main suppliers to households (with share > 5%)	2010
17	Average market share of main suppliers to households (with share > 5%)	2010
18	Herfindahl index of suppliers to households	2010
19	Share of consumers who found it easy to switch (out of those who tried to switch)	2010
20	Average clarity/completeness of contract terms[1]	2010
21	Average fairness of contract terms[2]	2010
22	Extent consumers are well informed about the market[3]	2010
23	Quality of regulation index[4]	2010
24	Information availability index[5]	2010
25	Switching rate for the 2 years to May-June/2010 (% of consumers who switched)	May-June/2010
26	Years since liberalisation	2009

Note: 1. This variable is calculated from the responses to the general consumer survey. It is given by the average rating from 1 (low) to 10 (high) for the statement "information in my contract terms with current supplier is clear, complete and easy to understand".
2. This variable is calculated from the responses to the general consumer survey. It is given by the average rating from 1 (low) to 10 (high) for the statement "the terms of the contract I have with my current supplier are fair i.e. they guarantee my rights as a consumer".
3. This variable is calculated from the responses to the general consumer survey. It is given by is the average rating from 1 (low) to 10 (high) for the statement "I am generally well informed about the retail electricity market".
4. This variable is calculated as the average of variables 20 to 23.
5. The information availability index is constructed from information from the mystery shopping exercise. The mystery shopping exercise was used to find the shares of mystery shoppers who can: a) find the type of tariff they are on; b) find the payment methods they can use; c) find the terms and conditions related to their contract; d) find a customer service number to complain to; and, e) find contact details of an energy mediator or third-party assistance. For each Member State, the information availability index is given by the average of these shares.

Reference periods

There are insufficient time series available for the explanatory variables to undertake panel-data estimation, so the model is estimated on a single cross section. The price data refer to the second semester 2009 (the latest available data from Eurostat). For the explanatory variables, the data refer to the closest available period to the reference period for the price data.

Regression analysis

In order to identify variables which have a statistically significant relationship with prices excluding taxes and network costs (in PPS), first the results for a number of regressions each including a single explanatory variable are presented. Following this, variables which are identified as having a statistically significant effect on prices are combined in price models.

Single explanatory variables regressions

Regressions including a single explanatory variable indicate that only five variables presented in Table 65 have a statistically significant relationship with prices excluding taxes and network costs (in PPS) for households in any of the five consumption bands. These variables are:

- **Share of total net electricity generation using oil as main input factor** (significant for households in all consumption bands).
- **Total net electricity generation per capita** (significant for households in the 2500-5000kWh/year, 5000-15000kWh/year and >15000kWh/year consumption bands).
- **Final energy consumption of households per capita** (significant for households in the 5000-15000kWh/year consumption band only).
- **Market share of main suppliers to households** (significant for households in the 2500-5000kWh/year consumption band only).

None of the variables related to market structure, price regulation, market liberalisation, information availability, contractual terms or switching appear to have a statistically significant relationship with prices in PPS excluding taxes and network costs.[102]

The strongest relationship is between prices and the share of electricity generated using oil as the main input factor (Table 66). However, this observed relationship is likely to be heavily influenced by Malta, where all electricity is generated from oil and prices excluding taxes and network costs (in PPS) are particularly high.

When the regressions are re-run excluding Malta (Table 67), the following results are obtained:

- the impact of the share of oil in total generation becomes statistically insignificant, except in the case of prices for households in the highest consumption band; but,
- the impact of the share of natural gas in total generation becomes statistically significant in the case of prices for households with medium to high consumption.

Therefore, an extra variable representing the combined share of oil and natural gas in total generation is used in two additional regressions, with and without Malta. When Malta is included, this variable has a statistically significant positive relationship with prices excluding taxes and

[102] This analysis does not replicate the results of Bellantuono and Boffa (2008). None of the variables used to proxy for quality of regulation in the areas of switching, contractual terms and consumer information were found to have a statistically significant relationship with prices in PPS excluding taxes and network costs. The analysis of these explanatory variables was also undertaken using two alternative dependent variables: 1) prices in PPS excluding taxes and network costs for the first semester 2010 for the countries for which these data are already available (as of 15th September 2010), and 2) the change in prices over the last two years. However, again none of the variables related to the quality of regulation were found to be statistically significant.

network costs (in PPS). When Malta is excluded, the relationship is only statistically significant for households with medium to high consumption (Table 68).

Table 66: Estimation results of univariate regressions (full sample)

	(1)	(2)	(3)	(4)	(5)
	PPS per kWh (w/o taxes and network costs, Consumption <1000 kWh)	PPS per kWh (w/o taxes and network costs, 1000< Consumption <2500 kWh)	PPS per kWh (w/o taxes and network costs, 2500< Consumption <5000 kWh)	PPS per kWh (w/o taxes and network costs, 5000< Consumption <15000 kWh)	PPS per kWh (w/o taxes and network costs, Consumption >15000 kWh)
Regression 1					
% of net generation using oil as main input	0.142* (2.64)	0.102** (3.27)	0.0894** (3.54)	0.104*** (3.93)	0.170*** (6.14)
Constant	0.108*** (9.73)	0.0792*** (12.61)	0.0741*** (14.58)	0.0709*** (13.31)	0.0655*** (11.77)
Observations	25	26	26	26	26
R2	0.233	0.308	0.343	0.392	0.611
Adjusted R2	0.199	0.279	0.316	0.366	0.595
F (p-value)	6.97 (0.015)	10.68 (0.003)	12.55 (0.002)	15.46 (0.001)	37.72 (0.000)
Regression 2					
Total net generation per capita	-2.650 (-0.67)	-3.340 (-1.43)	-4.163* (-2.28)	-4.749* (-2.41)	-5.617* (-2.14)
Constant	0.134*** (4.76)	0.108*** (6.47)	0.107*** (8.20)	0.108*** (7.73)	0.113*** (6.03)
Observations	25	26	26	26	26
R2	0.019	0.079	0.178	0.195	0.160
Adjusted R2	-0.023	0.041	0.144	0.162	0.125
F (p-value)	0.454 (0.507)	2.056 (0.164)	5.192 (0.032)	5.822 (0.024)	4.569 (0.043)
Regression 3					
Final energy consumption of households per capita	-9.496 (-0.69)	-11.30 (-1.38)	-13.38 (-2.06)	-15.23* (-2.17)	-16.43 (-1.74)
Constant	0.133*** (5.17)	0.104*** (6.89)	0.102*** (8.46)	0.103*** (7.89)	0.104*** (5.91)
Observations	25	26	26	26	26
R2	0.020	0.074	0.150	0.164	0.112
Adjusted R2	-0.022	0.035	0.114	0.129	0.074
F (p-value)	0.475 (0.498)	1.905 (0.180)	4.225 (0.051)	4.692 (0.041)	3.012 (0.096)
Regression 4					
Market share of main suppliers to households	0.0672 (1.15)	0.0586 (1.70)	0.0577* (2.07)	0.0625 (2.05)	0.0747 (1.85)
Constant	0.0600 (1.18)	0.0363 (1.21)	0.0310 (1.28)	0.0247 (0.94)	0.0133 (0.38)
Observations	25	26	26	26	26
R2	0.055	0.107	0.151	0.149	0.125
Adjusted R2	0.014	0.070	0.116	0.114	0.089
F (p-value)	1.333 (0.260)	2.881 (0.103)	4.268 (0.050)	4.213 (0.051)	3.428 (0.077)

Note: t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: ECME Consortium analysis.

Table 67: Estimation results of univariate regressions (excluding Malta)

	(1)	(2)	(3)	(4)	(5)
	PPS per kWh (w/o taxes and network costs, Consumption <1000 kWh)	PPS per kWh (w/o taxes and network costs, 1000< Consumption <2500 kWh)	PPS per kWh (w/o taxes and network costs, 2500< Consumption <5000 kWh)	PPS per kWh (w/o taxes and network costs, 5000< Consumption <15000 kWh)	PPS per kWh (w/o taxes and network costs, Consumption >15000 kWh)
Regression 1					
% of net generation using oil as main input	0.309 (1.08)	0.0343 (0.21)	0.123 (0.91)	0.241 (1.74)	0.366* (2.57)
Constant	0.103*** (7.66)	0.0810*** (10.52)	0.0732*** (11.73)	0.0673*** (10.49)	0.0603*** (9.18)
Observations	24	25	25	25	25
R2	0.050	0.002	0.035	0.116	0.223
Adjusted R2	0.007	-0.042	-0.007	0.078	0.190
F (p-value)	1.161 (0.293)	0.042 (0.839)	0.829 (0.372)	3.020 (0.096)	6.616 (0.017)
Regression 2					
% of net generation using natural gas as main input	0.0962 (1.75)	0.0300 (0.99)	0.0533* (2.31)	0.0677** (2.87)	0.0653* (2.44)
Constant	0.0902*** (5.60)	0.0747*** (7.91)	0.0639*** (8.91)	0.0577*** (7.89)	0.0548*** (6.59)
Observations	24	25	25	25	25
R2	0.122	0.041	0.188	0.264	0.206
Adjusted R2	0.082	-0.001	0.153	0.232	0.171
F (p-value)	3.067 (0.094)	0.972 (0.334)	5.336 (0.030)	8.263 (0.009)	5.951 (0.023)
Regression 3					
Total net generation per capita	-1.971 (-0.55)	-2.829 (-1.43)	-3.741* (-2.48)	-4.276* (-2.69)	-4.826* (-2.80)
Constant	0.125*** (4.78)	0.100*** (7.06)	0.101*** (9.29)	0.102*** (8.89)	0.102*** (8.23)
Observations	24	25	25	25	25
R2	0.013	0.082	0.210	0.239	0.254
Adjusted R2	-0.031	0.042	0.176	0.206	0.222
F (p-value)	0.298 (0.591)	2.048 (0.166)	6.128 (0.021)	7.211 (0.013)	7.850 (0.010)
Regression 4					
Final energy consumption of households per capita	-9.159 (-0.73)	-11.07 (-1.62)	-13.19* (-2.51)	-15.01* (-2.70)	-16.08* (-2.63)
Constant	0.127*** (5.40)	0.100*** (7.89)	0.0984*** (10.04)	0.0987*** (9.56)	0.0970*** (8.53)
Observations	24	25	25	25	25
R2	0.024	0.103	0.214	0.241	0.232
Adjusted R2	-0.021	0.064	0.180	0.208	0.198
F (p-value)	0.533 (0.473)	2.629 (0.119)	6.275 (0.020)	7.310 (0.013)	6.929 (0.015)

Note: t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: ECME Consortium analysis.

Table 68: Variable coefficients for regressions with the combined share of oil and natural gas in total generation as the explanatory variable (full sample and excluding Malta)

	(1)	(2)	(3)	(4)	(5)
	PPS per kWh (w/o taxes and network costs, Consumption <1000 kWh)	PPS per kWh (w/o taxes and network costs, 1000< Consumption <2500 kWh)	PPS per kWh (w/o taxes and network costs, 2500< Consumption <5000 kWh)	PPS per kWh (w/o taxes and network costs, 5000< Consumption <15000 kWh)	PPS per kWh (w/o taxes and network costs, Consumption >15000 kWh)
Including Malta					
% of net generation using oil or natural gas as main input	0.123** (3.01)	0.0626* (2.46)	0.0717*** (3.86)	0.0874*** (4.71)	0.115*** (4.78)
Constant	0.0825*** (5.38)	0.0674*** (6.84)	0.0588*** (8.18)	0.0519*** (7.22)	0.0426*** (4.57)
Observations	25	26	26	26	26
R2	0.282	0.202	0.383	0.480	0.488
Adjusted R2	0.251	0.168	0.357	0.458	0.467
F (p-value)	9.038 (0.006)	6.060 (0.021)	14.90 (0.001)	22.15 (0.000)	22.87 (0.000)
Excluding Malta					
% of net generation using oil or natural gas as main input	0.0936 (1.85)	0.0275 (0.96)	0.0508* (2.35)	0.0672** (3.10)	0.0689** (2.83)
Constant	0.0882*** (5.37)	0.0746*** (7.66)	0.0630*** (8.58)	0.0560*** (7.59)	0.0521*** (6.30)
Observations	24	25	25	25	25
R2	0.134	0.039	0.194	0.295	0.259
Adjusted R2	0.095	-0.003	0.159	0.264	0.227
F (p-value)	3.411 (0.078)	0.926 (0.346)	5.537 (0.028)	9.605 (0.005)	8.032 (0.009)

Note: t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: ECME Consortium analysis.

Regressions including multiple explanatory variables

Variables found to have a statistically significant impact on prices (in PPS excluding taxes and network costs) in the above analysis (from Table 66, Table 67 and Table 68) are entered together as explanatory variables in price regressions in order to examine whether they remain statistically significant and to what extent they collectively explain the observed variation in prices.

Two models are estimated where the shares of oil and gas in total electricity generation are included separately (Model 1) and aggregated together (Model 2):

$$\text{Model 1: } price_{i,j} = c_i + \beta_{i,1}(\text{generation oil})_j + \beta_{i,2}(\text{generation gas})_j + \beta_{i,3}(\text{generation per capita})_j + \beta_{i,4}(\text{share of main suppliers})_j + \varepsilon_{i,j}$$

$$\text{Model 2: } price_{i,j} = c_i + \beta_{i,1}(\text{generation oil or gas})_j + \beta_{i,2}(\text{generation gas})_j + \beta_{i,3}(\text{generation per capita})_j + \beta_{i,4}(\text{share of main suppliers})_j + \varepsilon_{i,j}$$

where $price_{i,j}$ is the average household electricity price excluding taxes and network costs in PPS/kWh for households in consumption band (i) in Member State (j), and the explanatory variables are:

- the percentage of total net electricity generation using oil as the main input factor (*generation oil*);
- the percentage of total net electricity generation using gas as the main input factor (*generation gas*);
- the combined percentage of total net electricity generation using either oil or gas as the main input factor (*generation oil or gas*); and
- the total net electricity generation per capita (*generation per capita*); and,
- the combined market share of main suppliers (with share > 5%) to households (*share of main suppliers*).

Since Malta has been shown to be an outlier which distorts the findings substantially, it is not included in the estimation of Models 1 and 2.

The results show that when these explanatory variables are included together, none have a statistically significant relationship with prices net of taxes and network costs (in PPS), except the shares of oil and gas in total electricity generation.

Model 1, which includes the shares of oil and gas in total generation separately, explains more of the cross-Member State variation in prices (Table 69), but the variable representing the combined share of these input factors (in Model 2) has the strongest effect on prices of any variable in either model (both in terms of significance and the size of the coefficient) (Table 70).

Discussion of results

The analysis has found that the cross Member State variation in household electricity prices excluding taxes and network costs seems to be largely driven by differences in the cost of generating electricity.

In particular, the regressions show that an increase in the share of electricity generated from oil and natural gas increases the average price net of taxes and network costs. This suggests that differences between the variable costs associated with these input factors compared with variables costs associated with alternative energy sources account for part of the observed cross-Member State price variation.

Interestingly, indicators of market concentration, both in the generation and supply, do not appear to have a significant influence on household electricity prices in PPS excluding taxes and network costs. Further, demand side factors such as the rate of switching between suppliers and the availability of information to consumers do not seem to influence cross-Member State variation in household prices net of taxes and network costs in a statistically significant way.

None of the variables related to market structure, price regulation, market liberalisation, information availability or switching appear to have a statistically significant relationship with prices excluding taxes and network costs.

Table 69: Model 1 regression results without Malta

	(1)	(2)	(3)	(4)	(5)
Independent variable	PPS per kWh (w/o taxes and network costs, Consumption <1000 kWh)	PPS per kWh (w/o taxes and network costs, 1000< Consumption <2500 kWh)	PPS per kWh (w/o taxes and network costs, 2500< Consumption <5000 kWh)	PPS per kWh (w/o taxes and network costs, 5000< Consumption <15000 kWh)	PPS per kWh (w/o taxes and network costs, Consumption >15000 kWh)
% of net generation using natural gas as main input	0.112 (1.77)	0.0307 (0.89)	0.0486 (1.99)	0.0605* (2.58)	0.0486 (1.89)
% of net generation using oil as main input	0.276 (0.89)	-0.0143 (-0.08)	0.0377 (0.29)	0.158 (1.25)	0.283 (2.05)
Total net generation per capita	19.06 (1.48)	4.735 (0.62)	2.958 (0.54)	4.948 (0.95)	2.893 (0.51)
Final energy consumption of households per capita	-63.08 (-1.44)	-22.34 (-0.87)	-19.59 (-1.07)	-27.92 (-1.59)	-22.65 (-1.18)
Market share of main suppliers to industry and households (with share > 5%)	0.0298 (0.42)	0.0239 (0.57)	0.0109 (0.36)	0.00406 (0.14)	-0.00162 (-0.05)
Constant	0.0336 (0.40)	0.0608 (1.21)	0.0678 (1.88)	0.0654 (1.90)	0.0708 (1.88)
Observations	24	25	25	25	25
R2	0.242	0.157	0.367	0.496	0.495
Adjusted R2	0.031	-0.064	0.200	0.363	0.363
F (p-value)	1.148 (0.372)	0.710 (0.623)	2.202 (0.097)	3.737 (0.016)	3.730 (0.016)

Note: t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: ECME Consortium analysis.

Table 70: Model 2 regression results without Malta

	(1)	(2)	(3)	(4)	(5)
Independent variable	PPS per kWh (w/o taxes and network costs, Consumption <1000 kWh)	PPS per kWh (w/o taxes and network costs, 1000< Consumption <2500 kWh)	PPS per kWh (w/o taxes and network costs, 2500< Consumption <5000 kWh)	PPS per kWh (w/o taxes and network costs, 5000< Consumption <15000 kWh)	PPS per kWh (w/o taxes and network costs, Consumption >15000 kWh)
% of net generation using oil or natural gas as main input	0.123* (2.11)	0.0282 (0.89)	0.0480* (2.12)	0.0659** (2.99)	0.0615* (2.42)
Total net generation per capita	17.88 (1.44)	5.115 (0.71)	3.051 (0.59)	4.122 (0.82)	0.913 (0.16)
Final energy consumption of households per capita	-59.39 (-1.40)	-23.56 (-0.96)	-19.89 (-1.13)	-25.28 (-1.48)	-16.31 (-0.83)
Market share of main suppliers to industry and households (with share > 5%)	0.0322 (0.46)	0.0231 (0.56)	0.0107 (0.37)	0.00591 (0.21)	0.00281 (0.09)
Constant	0.0350 (0.42)	0.0604 (1.23)	0.0677 (1.93)	0.0662 (1.94)	0.0726 (1.85)
Observations	24	25	25	25	25
R2	0.231	0.155	0.367	0.481	0.425
Adjusted R2	0.069	-0.014	0.240	0.377	0.310
F (p-value)	1.428 (0.263)	0.917 (0.473)	2.894 (0.049)	4.637 (0.008)	3.691 (0.021)

Note: t statistics in parentheses. * p < 0.05, ** p < 0.01, *** p < 0.001
Source: ECME Consortium analysis.

8.5 Price trends

This section examines how prices evolved over time in different EU Member States. Price trends are presented in two parts:

- A recent price trend for the EU-27 as a whole.
- A comparison of price trends across Member States over 10 to 15 years.

The first part is presented for completeness, and based on the limited series of data available for the EU-27 as a whole (from 2005 to 2009). The second part is more relevant for the present study, as the study is interested in comparing prices across Member States and whether there has been price convergence.

8.5.1 Recent price trend for the EU-27

The analysis in the present sub-section focuses on consumers' experience with regards to recent price changes and aggregate development in retail electricity prices as reported by Eurostat

Consumers' price experience over past 12 months

In the consumer survey, respondents were asked to indicate whether their electricity price had increased, decreased or stayed the same over the previous 12 months. As the survey was mainly run in June 2010, the 12-months period runs broadly from June 2009 to June 2010.

Overall, the picture is very mixed across the EU and within Member States with generally consumers reporting prices increase, decreases and unchanged prices in a same Member State. However, the proportion of each of the three situations varies greatly across Member States.

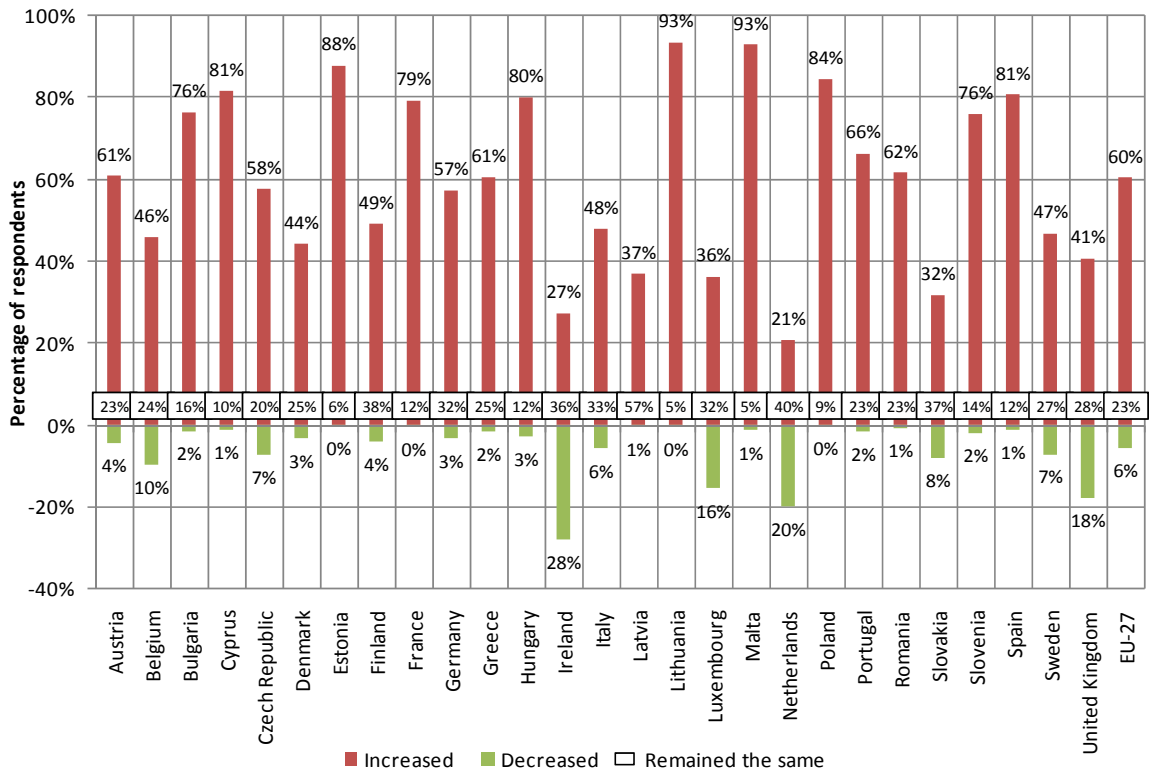
In total, many more consumers experienced a price increase over this period than a price decrease. However, a closer examination of the data shows that three types of situations can be broadly distinguished:

1) A large majority of consumers experienced price increases and the other consumers saw their price mainly remained unchanged. This is the case in Austria, Bulgaria, Czech Republic, Estonia, Greece, Finland, France, Hungary, Lithuania, Malta, Poland, Portugal, Romania, Slovenia and Spain

2) Less than 50% of consumers experienced a price increase and the remaining consumers saw their price stay generally unchanged. This is the case in Denmark, Germany, Latvia and Slovakia are in this situation

3) Finally, less than 50% of consumers experienced a price increase while 10% or more of consumers experienced a price decrease. This is the case in Belgium, Ireland, Luxembourg, the Netherlands, and the United Kingdom fall in this category.

Figure 177: Consumers' price experience over past 12 months

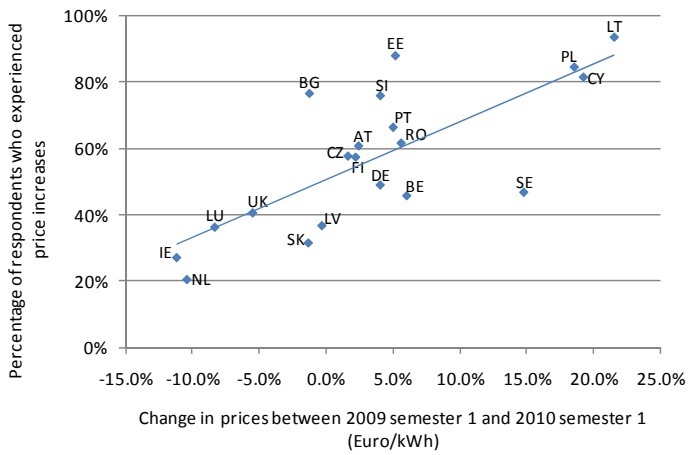


Source: ECME consumer survey

Finally, comparing Eurostat data on household electricity prices for the first half of 2010 with the experiences reported by the survey respondents shows that, in general, the experiences of the respondents reflect actual price changes relatively accurately (Figure 178).

In general, where prices increased by a large percentage between 2009 and 2010 more survey respondents reported that they experienced price rises in the last twelve months (Figure 178). However, for a number of countries a significant proportion of respondents reported experiencing price increases despite a fall in average prices, most notably Bulgaria where just over three-quarters reported price increases even though the average price actually fell.

Figure 178: Share of respondents who experienced price increases in the last 12 months vs. actual change in average prices between 2009 semester 1 and 2010 semester 1



Source: ECME consumer survey and Eurostat.

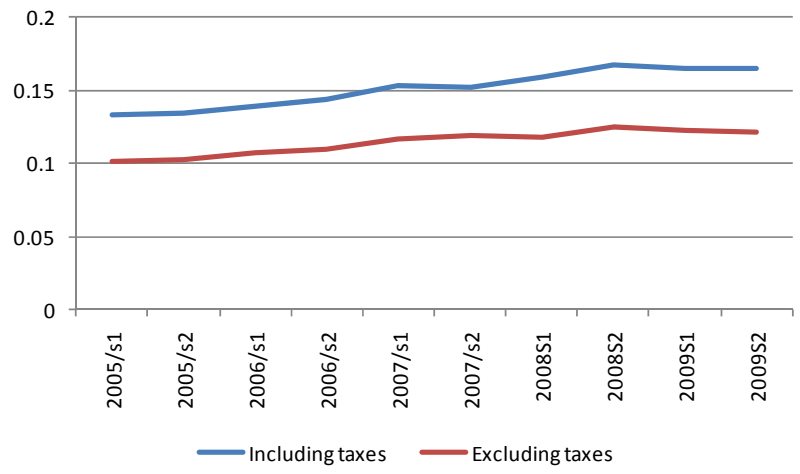
Aggregate electricity price trends

For the EU-27 as a whole the longest period for which data are available from Eurostat is from the first half of 2005 to the second half of 2009. For medium consumption households, prices have risen for the EU-27 as a whole by around 23% over this period (20% for prices excluding taxes) (Figure 179).[103]

However, the present study is interested in comparing electricity market outcomes in different Member States, so a comparison of price trends across Member States is useful. This is undertaken in the next sub-section.

[103] *Medium consumption households* refer to households with consumption of 3,500kWh/year before 2007 and consumption of between 2,500 and 5,000kWh/per after 2007.

Figure 179: Recent price trend for the EU-27 (€/kWh)



Note: Data for 2007 and earlier refers to households with consumption of around 3,500kWh per year. Data for post 2007 refer to households with consumption of between 2,500 and 5,000kWh.
Source: Eurostat

8.5.2 Comparison of price trends across Member States

In order to compare household price trends between Member States we examine the evolution of the average price for each Member State. Hence, the analysis uses Eurostat data which are weighted average prices for each Member State, weighted using the market shares of suppliers as weighting factors.

The present study is especially interested in the part of the price associated with electricity supply. Therefore, it is useful to examine the trend in prices excluding taxes and levies but including electricity supply costs. However, the overall price including all costs is what is most important from the perspective of the consumer and from the point of view of affordability, so prices including taxes and levies are also examined.

This section does not examine prices excluding taxes and network costs, as we did for the empirical analysis of the determinants of prices, because long time series of prices without taxes and network costs are not available. However, as before, both prices in € and PPS are considered.

10-15 year price trends

Before 2007 prices were collected using an alternative methodology. A main difference between the methodologies used pre- and post- 2007 are the standard consumption bands to which prices refer. To examine price trends over 10 to 15 year periods, data referring to households in the medium consumption band under each methodology are compared:

- Pre-2007 (inclusive): households with consumption of 3,500kWh/year.
- Post-2007: households with consumption of between 2,500 and 5,000kWh/year.

Details of the data collection methodologies used by Eurostat are provided in the metadata documentation available at the Eurostat website.[104] In addition, for a number of Member States the time series of prices do not extend to 10 or 15 years.[105]

There are three important observations from the data (see Table 71 and Figure 180):

- Over the 10 years from 1999 to 2009, prices in PPS (both including and excluding taxes) rose in most Member States (16 out of 19 Member States for which there are data). However, the price changes during this period vary significantly between Member States (average annual price changes ranged from minus 1.8% in Italy to 8.4% in Ireland for prices in PPS including taxes).

- Over the 15 years from 1994 to 2009, prices rose in most Member States (12 out of 15 Member States for which there are data), although in the majority of these countries (9 out of 15) the average annual price change was less over this period than during the 10 years to 2009. Again, there is significant variation between Member States in the level of price growth (the average annual change in prices including taxes ranged from minus 1.5% in Italy to 15.1% in Hungary).

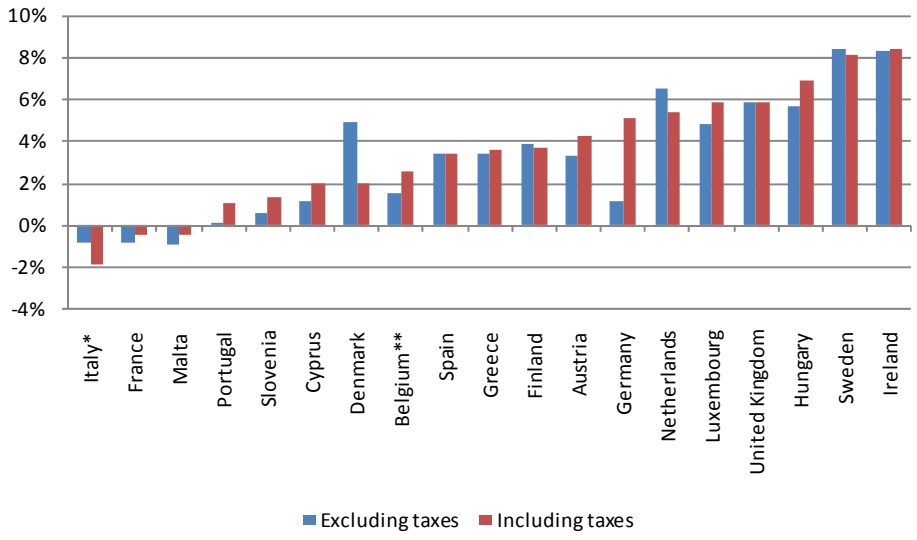
- On average (and especially in Germany), prices including taxes increased more in percentage terms than prices without taxes, although there are a number of exceptions (namely Denmark, the Netherlands and Sweden).

Overall, electricity prices have grown at very different rates across the Member States over the last 10 to 15 years. The next section examines whether the absolute differences in growth rates that we have shown above have also implied price convergence.

[104] Old methodology: http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/nrg_pc_h_esms.htm.New methodology: http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/nrg_pc_esms.htm.

[105] Time series extending to 1994 (15 years) are available for Belgium, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovenia, Spain and the United Kingdom. Time series extending to 1999 (10 years) but not to 1994 are available for Austria, Cyprus, Finland and Sweden. See Table 18 for the earliest date for which data are available for each Member State.

Figure 180: Average annual change in prices in PPS for medium consumption households from 1999/semester 2semester 2 to 2009/semester 2[1]



Note: 1) Data for 2007 and earlier refers to households with consumption of around 3,500kWh per year. Data for post 2007 refer to households with consumption of between 2,500 and 5,000kWh. * The figures for Belgium refer to the period until 2009semester 1. No data are available for 2009semester 2semester 2 for Belgium. ** For prices excluding taxes the figures for Italy refer to the period until 2007semester 2. No later data are available for Italy.

Source: Eurostat

Table 71: Change in prices in PPS for medium consumption households: total percentage change and average annual change over 10 and 15 year periods[1]

Member State	10 year trend (1999 semester 2 – 2009 semester 2)				15 year trend (1994 semester 2 – 2009 semester 2)			
	Excluding taxes		Including taxes		Excluding taxes		Including taxes	
	Total	Yearly	Total	Yearly	Total	Yearly	Total	Yearly
Austria	33%	3.3%	43%	4.3%	:	:	:	:
Belgium[2]	14%	1.5%	25%	2.6%	12%	0.8%	23%	1.6%
Bulgaria	:	:	:	:	:	:	:	:
Cyprus	12%	1.2%	20%	2.0%	:	:	:	:
Czech Republic	:	:	:	:	:	:	:	:
Denmark	49%	4.9%	20%	2.0%	61%	4.1%	58%	3.9%
Estonia	:	:	:	:	:	:	:	:
Finland	39%	3.9%	37%	3.7%	:	:	:	:
France	-8%	-0.8%	-4%	-0.4%	-16%	-1.1%	-11%	-0.8%
Germany	12%	1.2%	51%	5.1%	15%	1.0%	59%	3.9%
Greece	34%	3.4%	36%	3.6%	9%	0.6%	1%	0.1%
Hungary	57%	5.7%	69%	6.9%	197%	13.1%	227%	15.1%
Ireland	83%	8.3%	84%	8.4%	68%	4.6%	70%	4.7%
Italy[3]	-7%	-0.8%	-18%	-1.8%	-14%	-1.0%	-23%	-1.5%
Latvia	:	:	:	:	:	:	:	:
Lithuania	:	:	:	:	:	:	:	:
Luxembourg	48%	4.8%	59%	5.9%	53%	3.5%	64%	4.3%
Malta	-9%	-0.9%	-4%	-0.4%	-2%	-0.1%	3%	0.2%
Netherlands	65%	6.5%	54%	5.4%	61%	4.1%	82%	5.5%
Poland	:	:	:	:	:	:	:	:
Portugal	1%	0.1%	11%	1.1%	-10%	-0.7%	-1%	-0.1%
Romania	:	:	:	:	:	:	:	:
Slovakia	:	:	:	:	:	:	:	:
Slovenia	6%	0.6%	14%	1.4%	13%	0.8%	31%	2.0%
Spain	34%	3.4%	34%	3.4%	11%	0.7%	18%	1.2%
Sweden	84%	8.4%	81%	8.1%	:	:	:	:
United Kingdom	59%	5.9%	59%	5.9%	33%	2.2%	29%	2.0%

Note: Data for 2007 and earlier refers to households with consumption of around 3,500kWh per year. Data for post 2007 refer to households with consumption of between 2,500 and 5,000kWh. 2) The figures for Belgium refer to the period until 2009 semester 1. No data are available for 2009 semester 2 for Belgium. 3) For prices excluding taxes the figures for Italy refer to the period until 2007 semester 2. No later data are available for Italy.

Source: Eurostat

8.6 Price convergence

This section takes the analysis of price evolution a step further and examines whether prices have converged among Member States over time. The section has two parts:

- Analysis of change in dispersion of prices over time.

- Estimation of convergence models.

8.6.1 Change in dispersion of prices over time

Price convergence means that Member States with higher starting prices experience lower price growth in subsequent periods, compared to those with lower initial prices. This means that the overall dispersion of prices across Member States decreases over time. Therefore, examining changes in the variation of prices changes over time can give an initial indication of whether there has been price convergence. We use the standard deviation of electricity prices in EU Member States as a measure of price dispersion in a given year.

In addition, the previous section showed that price trends over the last 10 to 15 years are different depending on whether prices are measured with or without taxes. As a result, there may have been convergence in, for example, prices without taxes but not in prices including taxes. Hence, the analysis for this section covers both cases.

Due to the change in the methodology used by Eurostat to collect electricity price data from 2007, data for households in the medium consumption band under each methodology are used,[106] and since different time series of prices are available for different Member States, the standard deviation of prices is calculated for three different groups/periods:

- EU-15 for 1996semester 1-2009semester 2;
- EU-27 except Latvia, Lithuania, Slovakia, Bulgaria and Romania for 2002semester 1-2009semester 2; and,
- EU-27 for 2005semester 1-2009semester 2.

The main observation from the analysis is that generally there is no downward trend in the standard deviation of prices (the relevant figures are presented in section A7.1.1). Rather, depending on the group of Member States considered (and corresponding period), the price dispersion often increases slightly over time.

The exception is for the EU-15 Member States, for which there has been a gradual decline in the standard deviation of prices in PPS excluding taxes (see Figure 243 in section A7.1.1). This suggests that, excluding taxes, prices have converged towards the same level in EU-15 over the period from 1996 to 2009.

However, overall these initial results suggest that there has not been strong convergence of average household electricity prices in the EU during recent years. This finding is tested more formally in the following sub-section where standard convergence models are estimated.

8.6.2 Convergence models

In order to make a more rigorous assessment of price convergence, in this sub-section two standard convergence models are estimated:

[106] These bands correspond to households with consumption of 2,500 to 5,000kWh/year for post-2007 data, and households with consumption of 3,500kWh/year for pre-2007 data (inclusive).

- **The beta convergence model** estimates the relationship between initial price differences among Member States and price differences among the same Member States in subsequent periods. If large initial price differences are linked to smaller price differences in subsequent periods then there is said to be beta convergence.

- **The sigma convergence model** tests formally whether there is a negative time trend in price dispersion across Member States. If the price dispersion falls over time then there is said to be sigma convergence.

Sigma convergence is a more direct measure of decreasing price dispersion than beta convergence.[107] In addition, it should be noted that sigma convergence is a stronger convergence concept than beta convergence, and, hence, it is possible to find beta convergence although there is no sigma convergence but it is not possible to find sigma convergence without beta convergence.[108] Therefore, if we find sigma convergence this will be a strong indication of convergence whereas if we only find beta convergence this will be a weak indication of convergence.

The convergence models are estimated for prices in PPS with and without taxes, for the EU-27 as a whole and also for four sub-groups of Member States. The sub-groups are made up according to the lengths of the series of price data available for different Member States (Table 74).

Details of the equation that is estimated for the beta convergence model and the estimation method are provided in section A7.1.2. Details of the sigma convergence model are also provided in section A7.1.2.

Beta convergence

The results of the beta convergence model show beta price convergence for the EU-27 as a whole and for each sub-group separately (whether prices include or exclude taxes, see Table 72).[109] In each case the results are statistically significant (see section A7.1.2 for coefficients and p-values).

For prices including taxes, the speed of convergence is highest for the EU-27 as a whole. For prices excluding taxes, it is highest for group 4 (all Member States except Romania). The speed of convergence is lowest for Group 1, which is the smallest sub-group of Member States, comprising of Member States with data available since the first half of 1991. These conclusions are also illustrated by the half-life which indicates how long it would take to halve the price differences at the estimated speed of convergence. The longest half-life is estimated for Group 1 for prices excluding taxes because this group was estimated to have the lowest rate of convergence. At the opposite extreme the half-life for Group 4 excluding taxes was estimated at 2.9 years because the speed of convergence is high at 24%.

[107] Quah (1993) and Friedman (1992) therefore both argue in favour of using the sigma convergence measure although scholars traditionally have focused on beta convergence.

[108] As shown by Young *et al* (2004).

[109] The formulae for calculating the speed of convergence and the half-life are presented in section A1.10.2.

Table 72: Beta convergence (prices in PPS including and excluding taxes)						
		All	Group 1	Group 2	Group 3	Group 4
Prices including taxes	Speed of convergence	21%	12%	17%	18%	20%
	Half-life	3.3	5.8	4.1	3.8	3.4
Prices excluding taxes	Speed of convergence	24%	10%	18%	18%	24%
	Half-life	2.8	7.1	3.9	3.9	2.9

Source: LE calculations using Eurostat data.

Sigma convergence

The sigma convergence model is a regression of price dispersion on a linear time trend (see section A7.1.2). Sigma convergence is identified by the sign and significance of the slope coefficient. A significant, negative slope coefficient implies sigma convergence i.e. that price dispersion decreases over time.

For each group of Member States in Table 17, two measures of price dispersion are calculated; the standard deviation of prices (in PPS) and the coefficient of variation of prices (in PPS). These are both measures of variation from the average price level and the measures are closely related. However, the standard deviation is the most commonly used measure for statistical analysis. As a robustness check, separate models are estimated regressing each of these measures against a time trend.

The results show that there is no sigma convergence of prices. In fact, the positive coefficients show that the dispersion of price increased over time. However, when the model is estimated for the EU-15 only, the results show that there has been sigma convergence for this group.

Table 73: Sigma convergence of prices.				
	Prices including taxes (in PPS):		Prices excluding taxes (in PPS):	
Group	Standard deviation	Coefficient of variation	Standard deviation	Coefficient of variation
All	0.0016*	0.0044	0.0017*	0.0057
Group 1	0.0004***	0.0009**	0.0003***	0.0018***
Group 2	0.0003***	-0.0004	0.0003***	0.0007
Group 3	0.0006***	0.0003	0.0006***	0.0015
Group 4	0.0022***	0.0076**	0.0023***	0.0096**
EU15	-0.0002***	-0.0044***	-0.0005***	-0.0068***

Note: "*"denotes significance at the 10% level; "**" denotes significance at the 5% level; "***"denotes significance at the 1% level.
Source: LE calculations using Eurostat data.

Overall the analysis indicates that there is no or only very low convergence as there is only evidence of beta convergence and not of sigma convergence. The lack of price convergence implies that the level of prices faced by consumers in different Member States is very different and at present there are no sign that the price gap is decreasing.

However, it should be noted that convergence may only occur over long time periods and may not be reflected in the short time period over which the analysis is undertaken. This hypothesis is

somewhat supported by evidence of sigma convergence in EU-15, the group of Member States for which the model can be estimated on the longest time series.

Table 74: Groups of Member States for which convergence is estimated

Member State	Earliest data available	Included in:				
		Group 1	Group 2	Group 3	Group 4	All
Belgium	1985/SEMESTER 1	✓	✓	✓	✓	✓
Denmark	1985/SEMESTER 1	✓	✓	✓	✓	✓
Luxembourg	1985/SEMESTER 1	✓	✓	✓	✓	✓
France	1991/SEMESTER 1	✓	✓	✓	✓	✓
Germany	1991/SEMESTER 1	✓	✓	✓	✓	✓
Greece	1991/SEMESTER 1	✓	✓	✓	✓	✓
Ireland	1991/SEMESTER 1	✓	✓	✓	✓	✓
Italy	1991/SEMESTER 1	✓	✓	✓	✓	✓
Malta	1991/SEMESTER 1	✓	✓	✓	✓	✓
Netherlands	1991/SEMESTER 1	✓	✓	✓	✓	✓
Portugal	1991/SEMESTER 1	✓	✓	✓	✓	✓
Spain	1991/SEMESTER 1	✓	✓	✓	✓	✓
UK	1991/SEMESTER 1	✓	✓	✓	✓	✓
Hungary	1992/SEMESTER 1		✓	✓	✓	✓
Slovenia	1992/SEMESTER 1		✓	✓	✓	✓
Finland	1995/SEMESTER 1			✓	✓	✓
Austria	1996/SEMESTER 1			✓	✓	✓
Sweden	1996/SEMESTER 2			✓	✓	✓
Cyprus	1999/SEMESTER 1				✓	✓
Czech Rep.	2000/SEMESTER 1				✓	✓
Poland	2000/SEMESTER 2				✓	✓
Estonia	2002/SEMESTER 1				✓	✓

Table 74: Groups of Member States for which convergence is estimated

Member State	Earliest data available	Included in:				
		Group 1	Group 2	Group 3	Group 4	All
Bulgaria	2004/SEMESTER 1				✓	✓
Latvia	2004/SEMESTER 1				✓	✓
Lithuania	2004/SEMESTER 1				✓	✓
Slovakia	2004/SEMESTER 1				✓	✓
Romania	2005/SEMESTER 1					✓

9 Affordability

This chapter examines the issue of affordability of electricity for household consumers from a number of different perspectives. It:

- presents information on cross-Member State differences in household expenditure on electricity,
- investigates the extent that consumers have difficulty paying electricity bills,
- examines consumers' views on the affordability of electricity,
- considers differences in the definition of 'energy-poor', and
- explores measures which have been introduced by authorities and the electricity industry to help consumers who have problems paying energy bills

9.1 Cross Member State comparison of household expenditure on electricity

This section examines the share of household income that is taken up by charges for electricity in each Member State. The starting point is to compare across Member States the mean level of household expenditure on electricity. The amount that households spend on electricity is determined by the price of electricity and the amount they need/demand in order to support a desired of quality of life.

High electricity bills may diminish households' standards of living in other areas if a large share of overall consumption expenditure is taken up paying bills. If a household's electricity demand is inelastic to price, then higher prices will reduce the income available to spend on other goods and services.

Finally, whether a household is likely to have difficulty paying for electricity is determined by the share of the household's income that is required to cover the bills. In some Member States, fuel poverty is officially defined as spending more than a certain percentage of income on energy bills. Therefore, information on household spending on electricity as a proportion of income is also provided in this section.

Thus, three indicators relating to household expenditure on electricity are examined:

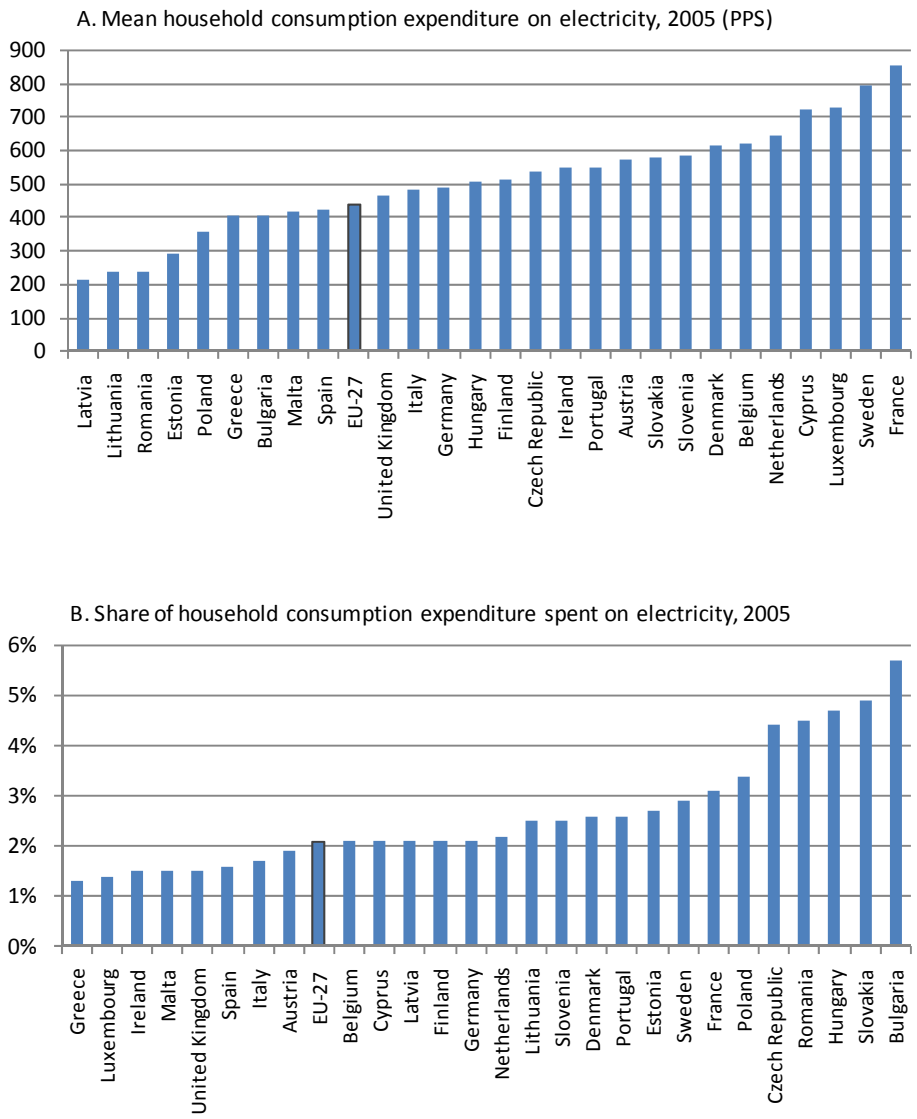
- Mean household consumption expenditure on electricity
- Share of household consumption expenditure spent on electricity
- Share of household income spent on electricity

Mean household consumption expenditure on electricity

Data on household consumption expenditure on electricity are available from the Statistics on Income and Living Conditions (EU-SILC) provided by Eurostat. However, the latest data only refer to 2005.

In 2005, average household consumption expenditure on electricity was highest in several EU-15 Member States in Northern Europe (and also in Cyprus), and lowest in a number of New Member States in Eastern Europe (Figure 181 chart A).

Figure 181: Average household consumption expenditure on electricity and share of eelctricity expenditures in total household consumption expenditure (2005)



Note: COICOP level = CP0451. Figures for Germany refers to 1999, as there is no data for 2005.
Source: Eurostat.

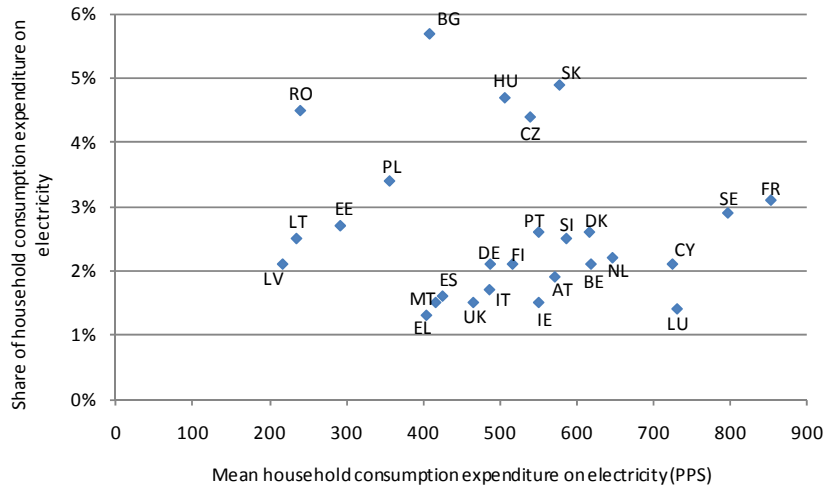
When comparing levels of expenditure on electricity it is important to note that consumption levels vary across Member States. For example, in Member States where electricity is used for heating the level of consumption will be greater. Clearly, for a given price level, high consumption levels will in turn lead to higher expenditure.

Share of household consumption expenditure spent on electricity

However, the Member States rank differently when spending on electricity is compared as a share of total consumption expenditure. In 2005, households spent most on electricity as a percentage of overall consumption in several Eastern European Member States (most notably Bulgaria, Slovakia and Hungary). Conversely, the share of spending on electricity is lowest in several established Member States (Figure 181 chart B).

Figure 182 highlights the importance of taking account of the overall level of expenditures of households when considering affordability and financial impact of electricity consumption on households' budgets.

Figure 182: Average household consumption expenditure on electricity vs. share of household consumption expenditure spent on electricity (2005)



Note: COICOP level = CP0451. Figures for Germany refers to 1999, as there is no data for 2005.
Source: Eurostat

Share of household income spent on electricity

The share of household income spent on electricity is not provided in the EU-SILC data. However, one can construct this indicator from several variables that are available from Eurostat (see Annex 8 for details on how the indicator in calculated).[110]

This indicator shows that household spending on electricity as a percentage of disposable income is highest in Bulgaria, Sweden and Hungary and lowest in Lithuania, Greece and Latvia (calculated in PPS using the latest figures which refer to 2008) (Figure 183).

The factors that determine the share of income which is used to pay for electricity are:

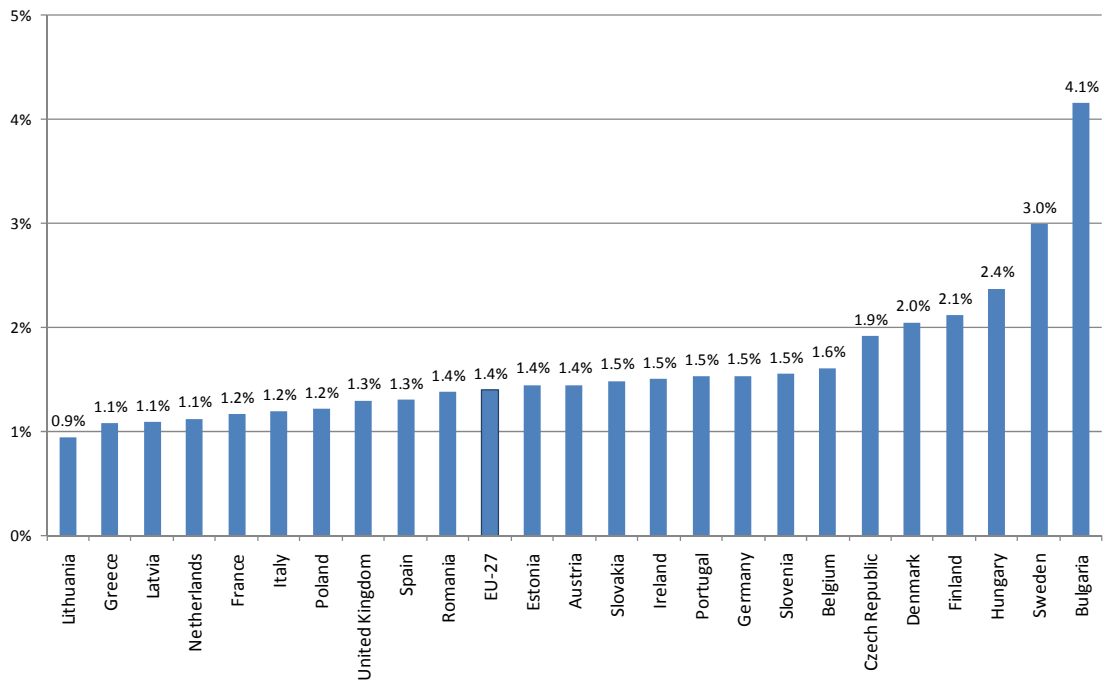
[110] The variables from Eurostat used to calculate this indicator are: gross disposable income of households per capita; population; final household electricity consumption; electricity prices.

- consumption level: higher consumption means a greater share spent on electricity;
- price level: higher prices mean a greater share spent on electricity; and
- income level: higher income means a lower share spent on electricity.

For each of these factors, the difference relative to the EU-27 level for each Member State is presented below Figure 183. These figures illustrate why the share of income spent on electricity is especially high or low in certain Member States.[111]

For example, the share of income spent on electricity is high in Bulgaria because income is lower (71% less than for the EU-27), whereas the share is also high in Sweden because consumption per capita is much higher (158% more than for the EU-27).

Figure 183: Household spending on electricity as a percentage of gross disposable income in PPS and difference relative to EU-27 in terms of income, consumption and price (2008)



Difference relative to the EU-27 level:*

	Lithuania	Greece	Latvia	Netherlands	France	Italy	Poland	United Kingdom	Spain	Romania	EU-27	Estonia	Austria	Slovakia	Ireland	Portugal	Germany	Slovenia	Belgium	Czech Republic	Denmark	Finland	Hungary	Sweden	Bulgaria
Income	-38%	-7%	-44%	14%	17%	4%	-42%	17%	0%	-63%	0%	-42%	19%	-35%	6%	-21%	19%	-24%	11%	-29%	-1%	4%	-40%	8%	-71%
Consumption	-51%	-2%	-46%	-8%	48%	-30%	-57%	17%	-3%	-71%	0%	-16%	24%	-49%	18%	-23%	3%	-4%	14%	-14%	23%	143%	-31%	158%	-20%
Price in PPS	-14%	-27%	-20%	0%	-34%	27%	17%	-8%	-3%	23%	0%	-28%	0%	36%	-3%	12%	27%	-12%	12%	12%	18%	-35%	46%	-10%	9%

Note: Insufficient data are available for Cyprus, Luxembourg and Malta. * The difference relative to the EU-27 level for income per capita, consumption per capita and prices in PPS is equal to: (Member State level – EU-27 level)/EU-27 level.
Source: ECME consortium calculations using Eurostat data.

[111] Note these figures are calculated in PPS.

9.2 Consumers having difficulty paying bills

The previous section focused on household spending on electricity and the proportion of income that is devoted to paying for electricity by the population as a whole in each Member State. Although this is important in terms of affordability of electricity for consumers in general, the present study is particularly interested in consumers that struggle to pay energy bills.

Therefore, this section assesses the extent to which consumers are having difficulty paying electricity bills and utility bills in general. The section also examines the socio-economic characteristics of the population who are in arrears with utility bills. Finally, some information is presented on the amount that consumers are behind with payment for electricity.

9.2.1 Proportion of consumers having difficulty paying bills

First, the proportion of the population in arrears with utility bills in general is examined. Although this indicator combines electricity with other services it is still a useful indicator, especially since complete data are available from Eurostat.

Eurostat defines a person as 'in arrears' if they are unable to pay on time (as scheduled) utility bills for their main dwelling. If a consumer manages to pay by borrowing (from a bank, relatives or friends), this is treated in the same way as if they manage to pay from their own resources (the person is not counted as being in arrears).

Second, the share of consumers having difficulty paying electricity bills is assessed using an indicator constructed from the general consumer survey.

Proportion of consumer in arrears with utility bills

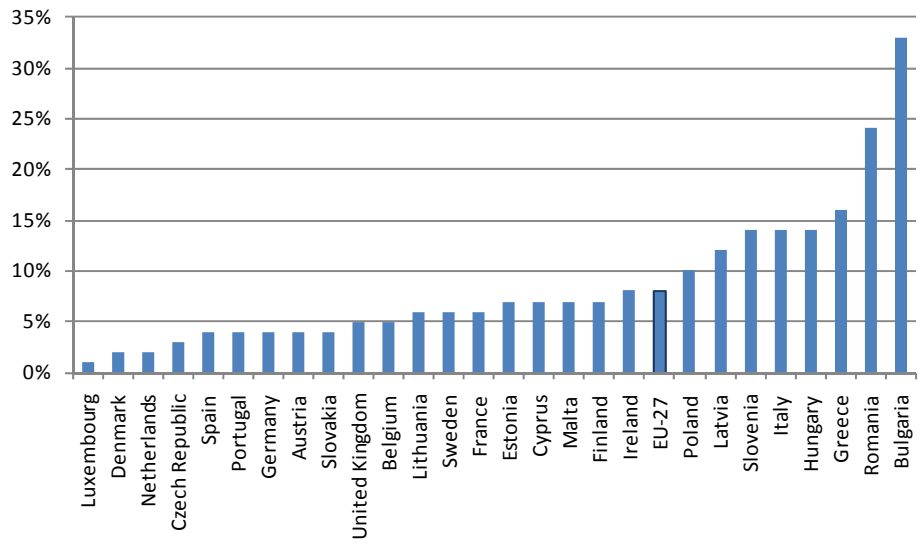
As noted above, the first indicator is the share of the population who are in arrears with utility bills. Although utility bills include the costs of heating, gas and water, as well as electricity, this indicator still gives an idea of the Member States where problems with arrears are more common. Furthermore, useful data on this measure are available for all Member States from the EU-SILC database (from Eurostat).[112]

In 2008, eight percent of the EU-27 population had been in arrears on utility bills in the previous 12 months. The proportion of the population behind on utility bills was especially high in Bulgaria and Romania, whilst the highest rate of arrears among the EU-15 Member States is in Greece. The lowest rates occur in several EU-15 Member States in Northern Europe (Figure 184).

[112] The data refers to the percentage of the population that has been in arrears in the last 12 months: that is, unable to pay on time (as scheduled) utility bills (heating, electricity, gas, water, etc.) for the main dwelling. Telephone bills are not considered as utility bills in this item. However sewage and rubbish bills are taken into account in this item. If the household manages to pay through borrowing (from bank, relatives or friends) it is considered in the same way as if the household manages to pay from its own resources.

Interestingly, the share of the population in arrears with utility bills is not strongly correlated with either the price of electricity for households in PPS or the share of income spent on electricity. [113]

Figure 184: Percentage of population in arrears with utility bills



Note: The Slovenian Member State fiche indicates that practically no arrears exist for electricity, so in this case the percentage shown above may be mostly attributable to heating, gas, water, etc.
Source: Eurostat.

Proportion of consumers having difficulty paying electricity bills

It is more relevant for the present study to examine the share of consumers who have at some time had difficulty paying their electricity bills, rather than utility bills in general. A measure of this can be constructed using information from the general consumer survey undertaken for the present study.

The survey data are used to construct the indicator, defining consumers as having difficulty paying their electricity bills if they reported that: a) they worry about paying their electricity bills but usually manage to do so, or b) they sometimes cannot pay their electricity bills on time, or c) they often cannot pay their electricity bills on time (Figure 185). In addition, the share of consumers from each country who reported that they 'sometimes' or 'often' cannot pay their electricity bills on time (responses b) and c)) is also examined.

It is important to note that the indicator constructed from the consumer survey represents the share of consumers who have had difficulty paying their electricity bills at some point, not the proportion of consumers who are in arrears at the same time, which is a lower figure. Organisations from three Member States reported that they collect information on the share of consumers who are in arrears: the Belgian regulator reported that the share of electricity

[113] The correlations are 0.07 and 0.46.

consumers in arrears is 3.2%, and electricity associations from Cyprus and France reported that the share is 16% and 8.9% respectively.[114]

According to the measure constructed from the survey data, 22% of consumers in the EU have had difficulty paying their electricity bills at some time, whilst 4% reported that they either 'sometimes' or 'often' cannot pay their electricity bills on time. At Member State level, there are large differences between countries in terms of the proportion of consumers who have had difficulties paying electricity bills:

- 58% of consumers have had difficulties paying electricity bills on average across Bulgaria, Malta and Romania (the three highest).
- 10% to 15% of consumers either 'sometimes' or 'often' cannot pay electricity bills on time in four Member States; Greece, Hungary, Malta and Romania.
- 7% of consumers have been had difficulties paying to pay electricity bills on average across Denmark, Germany and Luxembourg (the three lowest).
- 1% or less of consumers either 'sometimes' or 'often' cannot pay electricity bills on time in five Member States; Denmark, Germany, the Netherlands, Slovakia and Sweden.

Interestingly, using this measure, the share of the population who have had difficulties paying electricity bills is not strongly correlated with either household electricity prices in PPS or the share of income spent on electricity.[115] An explanation for this may be that in some countries there is more variation in terms of prices and the share of income spent on electricity. Part of the population in a country may face high electricity costs as a percentage of income, even if average electricity costs for the country as a whole are low compared to other Member States. In this situation, this part of the population is especially likely to be unable to pay electricity bills, which increases the overall percentage for the entire country.

Across the EU-27 as a whole, the survey responses show that consumers who are more aware of how much electricity they use and how much they pay for electricity and who have better awareness of the retail electricity market in general are less likely to have difficulty paying bills:[116]

[114] It should be noted that the definition of 'in arrears' was left open in the stakeholder surveys, in order to increase the likelihood that the respondents would provide some information. Hence, these responses should be interpreted with care, since the precise definition of 'in arrears' used in each case is not known. For example, the relatively high shares of consumers in arrears reported by the Cypriot and French electricity associations compared to the data presented in Figure 198 may be because these stakeholders use a different definition of 'in arrears'.

[115] The correlations are 0.22 and 0.13.

[116] It should be noted that the average of the two percentages provided in each bullet point below do not equal 22% which is the overall share of consumers across the EU who have had difficulties paying bills. The reason is that some respondents failed to answer the questions related to awareness and therefore the percentages in the bullet points are not calculated based on the entire sample.

Similarly, the averages of the two percentages quoted in each bullet point are not the same across bullet points because the number of respondents who failed to provide an answer to the awareness question referred to in the first bullet point is not the same as the number of respondents who failed to provide an answer to the awareness question referred to in the second bullet point. Likewise, the number of respondents who failed to provide an answer to the awareness question referred to in the third bullet point is not the same as the number of respondent who failed to provide an answer to the awareness questions referred to in the first and second bullet points.

- Among those who are not well aware of how much electricity they use, 30% have had difficulties paying their electricity bills at some point, compared with 24% among those who are well aware of how much electricity they use;[117]

- Among those who are not well aware of much they pay for electricity, 31% have had difficulties paying their electricity bills at some point, compared with 26% among those who are well aware of how much they pay for electricity; [118]

- Among those who are not generally well informed about the market, 29% have had difficulties paying their electricity bills at some point, compared with 22% among those who are generally well informed about the market.[119]

However, care should be taken when interpreting these findings since the causality could be in either direction: it may be that consumers avoid getting into difficulty with bills because they are aware of how much they are paying and so can budget properly; or it may be that consumers who are having difficulty paying make an extra effort to monitor how much they are paying.

In addition, for the EU-27 as a whole, the survey responses show that consumers who have compared tariffs from different suppliers and from their current supplier are less likely to have difficulty paying bills: [120]

- Among those who have not compared tariffs from different suppliers, 25% have had difficulties paying their electricity bills at some point, compared with 15% among those who have compared tariffs from different providers;[121]

- Among those who have not compared tariffs from their current supplier, 31% have had difficulties paying their electricity bills at some point, compared with 20% among those who have compared tariffs from their current provider;

Furthermore, consumers who are on the cheapest tariff given their electricity usage are less likely to have difficulty paying bills:

- Among those who are not on the cheapest tariff given their usage, 34% had difficulties paying their electricity bills at some point, compared with 19% among those who are on the cheapest tariff given their usage.

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[117] Consumers are defined as well aware (not well aware) of how much electricity they use if they gave a rating of 8 or more (7 or less) out if 10 to the statement: "I know how much electricity I use in kWh".

[118] Consumers are defined as well aware (not well aware) of how much they pay for electricity if they gave a rating of 8 or more (7 or less) out if 10 to the statement: "I know how much I pay for electricity".

[119] Consumers are defined as generally well informed (not generally well informed) if they gave a rating of 8 or more (7 or less) out if 10 to the statement: "I am generally well informed about the retail electricity market".

[120] It should be noted that the average of the two percentages provided in each bullet point below do not equal 22% which is the overall share of consumers across the EU who have had difficulties paying bills. The reason is that some respondents failed to answer the questions related to experience and therefore the percentages in the bullet points are not calculated based on the entire sample.

The averages of the two percentages quoted in each bullet point are not the same across bullet points because the number of respondents who failed to provide an answer to the question referred to in the first bullet point is not the same as the number of respondents who failed to provide an answer to the question referred to in the second bullet point.

[121] Note that these percentages are based on responses from consumers from countries with liberalised markets only.

Finally, those given personalised tariff advice from their supplier are also less likely to have difficulty paying bills:

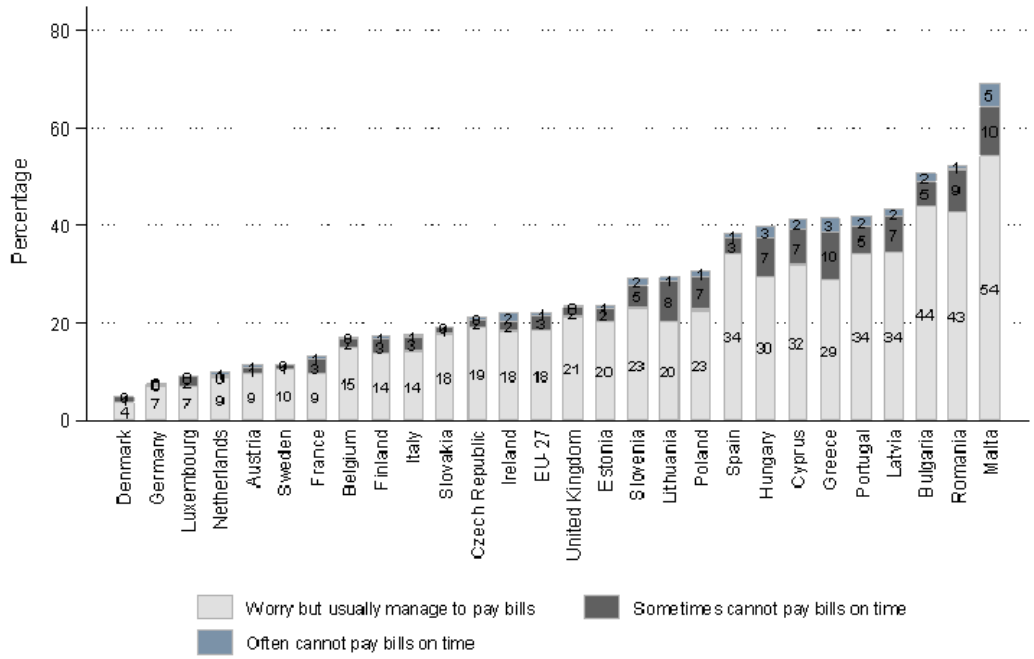
- Among those not given personalised tariff advice from their supplier, 30% have had difficulties paying their electricity bills at some point, compared with 20% among those who have been given tariff advice.[122]

These findings indicate that as well as prices, income level and consumption level, other factors are also important in causing consumers to have trouble paying electricity bills. In particular, if consumers are less aware and do not compare the offers and tariffs available to them, then they are more likely to be unable to pay their bills. Further, the results suggest that suppliers can help reduce the share of consumers having difficulty with electricity bills by providing personalised tariff advice.

The views of consumer associations who responded to the stakeholder survey suggest that generally consumer associations appear to underestimate the share of consumers who struggle to pay electricity bills on time (Table 75). However, the question to consumer associations was subjective, leaving the consumer associations to interpret the meaning of 'struggling to pay', meaning that it is not possible to draw firm conclusions from this observation.

[122] The share of consumers given personalised tariff advice is based on Q8a of the general consumer survey: "Does your electricity provider propose that you switch to the cheapest tariff or a tariff more in line with your preferences and thereby ensure personalised service based on your consumption?"

Figure 185: Proportion of consumers who had difficulty paying theirelectricty bills



Note: Based on Q13: Which of the following situations usually. The EU-27 average is a weighted average using population as the weighting factor.

Source: ECME Consortium general consumer survey

Table 75: Consumer associations' views on the proportion of consumers who struggle to pay elctricity bills on time / Share who had difficulty paying their electricity bills (in parentheses)

Member State	Less than 5%	5% to 9%	10% to 14%	15% to 20%	20% to 24%	more than 25%
Belgium		✓ (17%)				
Greece					✓(42%)	
Hungary						✓(40%)
Ireland			✓(22%)			
Malta				✓(69%)		
Romania						✓(53%)
Slovakia	✓(19%)					
Spain						✓(38%)
United Kingdom					✓(23%)	

Note: Responses from consumer associations in the respective Member States. Also received another response from Spain and one from Denmark, both stating that they were unsure of an answer to this question. Figures in parentheses give the share of consumers who have had difficulties paying their electricity bills according to the results of the general consumer survey (Figure 185).

Source: EMCE stakeholder survey and EMCE general consumer survey.

9.2.2 Socio-economic characteristics of consumers in arrears

It is interesting to examine the socio-economic characteristics of the population of consumers who are in arrears. This may help to inform policy making by helping to target assistance at groups who are at risk of falling into arrears. Further, it may help to show whether assistance that is currently directed at certain groups is helping to keep the rate of arrears low among this group relative to other groups.

Clearly, an important factor affecting whether an individual is likely to struggle to pay their electricity bills is their income level. Data from the EU-SILC survey show that, in every Member State, the proportion in arrears with utility bills is higher among the population with incomes below 60% of the median equivalised income than for the population as a whole (Figure 186). [123]

The difference in the rate of arrears between those with incomes above and below 60% of the median equivalised income is at least double in 19 Member States.[124] This observation highlights the importance of income as well as prices for electricity affordability, and that policy may be more effective if it is targeted towards those with low incomes.

A second observation is that a higher proportion of those from households with dependent children are in arrears on utility bills than those without dependent children (Figure 186). This is especially true in the case of single parents with dependent children. Again, this may help to target assistance towards certain groups of consumers (Figure 187).

However, it should be recognised that this relationship may be linked to the previous observation about income level. Specifically, single parents with dependent children have, on average, lower income than the population as a whole, and are therefore more likely to be in arrears.[125]

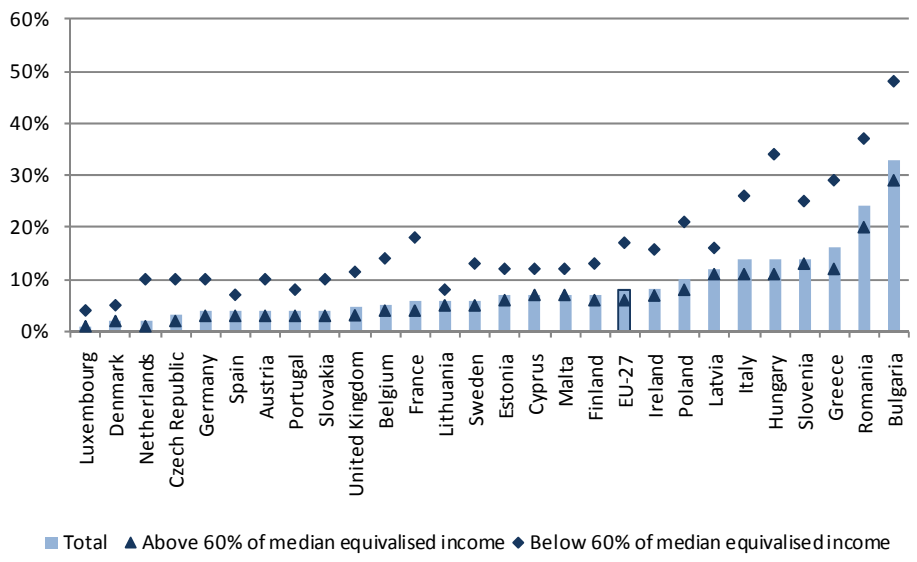
Finally, the rate of arrears is lower among those from elderly households (Figure 188). This may reflect the diligence of the elderly in paying bills on time, but it may also be due to special protection measures such as special tariffs which are offered to elderly consumers in some Member States.

[123] The EU-SILC survey is completed at the household level. Equivalised income is the income attributed to each member of the household. In order to take into account differences in household size and composition, the equivalised income of each household member is calculated by dividing the total disposable income of the household by an equivalisation factor (Eurostat applies an equivalisation factor according to the OECD-modifed scale first proposed in 1994).

[124] In the previous section, it was noted that the correlation between arrears and income or prices is relatively low whereas in the present section income appears to be an important driver of arrears. The differences in results are likely to be due to the fact the relationship between arrears and income is non-linear in the sense that above a certain threshold level, income plays a much less important role in explaining the level of arrears.

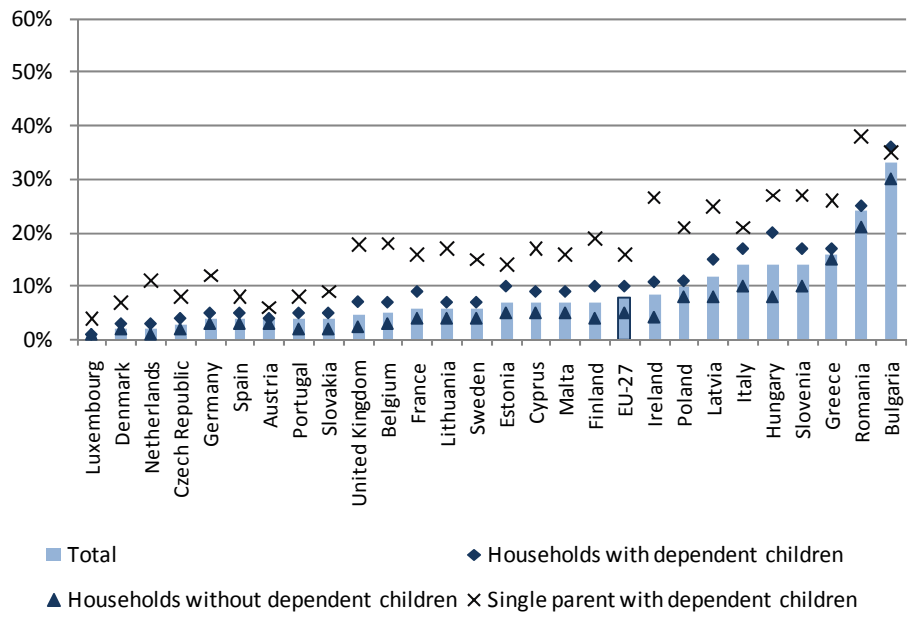
[125] According to Eurostat data, for the EU-27 as a whole, the median equivalised net income of single parents with dependent children is 17% lower than the median equivalised net income of the total population.

Figure 186: Percentage of population in arrears with utility bills: populations above and below 60% of median equivalised income (2008)



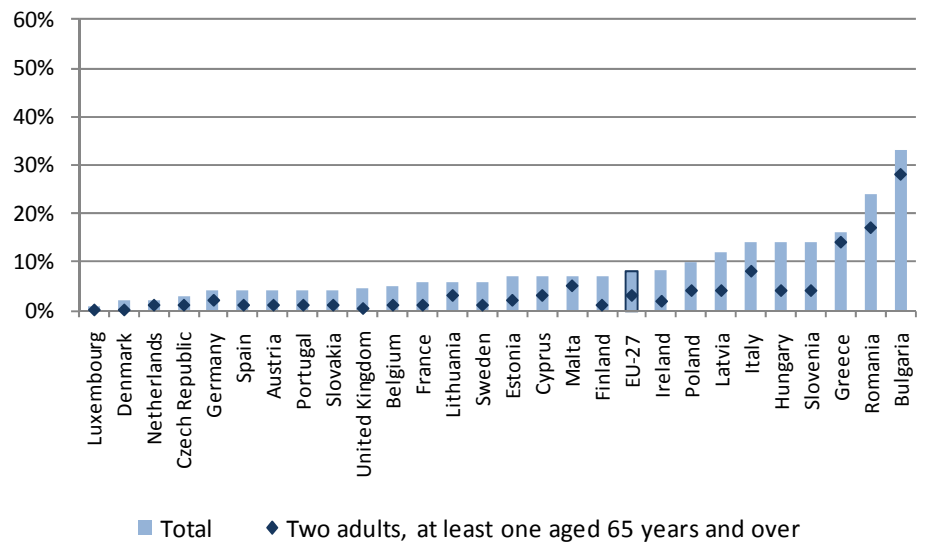
Note: Question: "In the last twelve months, has the household been in arrears, i.e. has been unable to pay on time due to financial difficulties for utility bills (heating, electricity, gas, water, etc.) for the main dwelling?"
Source: Eurostat.

Figure 187: Percentage of population in arrears with utility bills: households with and without dependent children (2008)



Note: Question: "In the last twelve months, has the household been in arrears, i.e. has been unable to pay on time due to financial difficulties for utility bills (heating, electricity, gas, water, etc.) for the main dwelling?"
Source: Eurostat.

Figure 188: Percentage of population in arrears with utility bills: households with an elderly member (2008)



Note: Question: "In the last twelve months, has the household been in arrears, i.e. has been unable to pay on time due to financial difficulties for utility bills (heating, electricity, gas, water, etc.) for the main dwelling?"
Source: Eurostat.

9.2.3 Amount that consumers are behind with payment for electricity

There is very little information available on the amount that consumers are in arrears with electricity bills since the stakeholders that were surveyed for the study were unable to provide any such information. Information for one Member State, the United Kingdom, was found through desk research.

In the United Kingdom, the regulator monitors suppliers' compliance with their social obligations. Suppliers have to keep a record of their operation against certain licence conditions and to report on their performance. This included suppliers' debt collection and disconnection performance. According to the latest annual report published by the regulator at the end of 2008:

- 4.8% (1.3 million) of electricity customers were repaying a debt, showing a 3% reduction in the number of customers repaying electricity debt.
- The average electricity debt (for those repaying a debt) was £230, compared to £224 at the end of 2007.
- Most (60%) of electricity customers in arrears owe £100 or less, but 11% owe over £600.

9.3 Consumer views on affordability

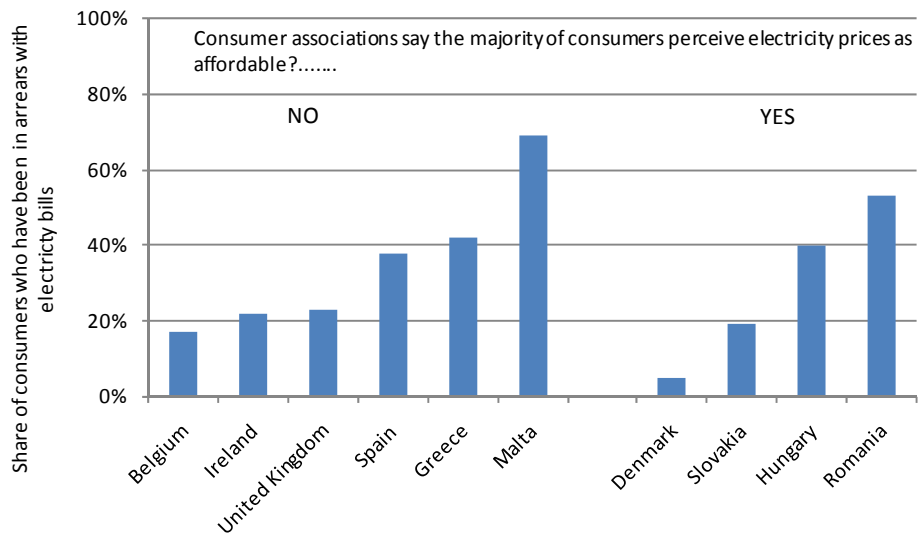
This section assesses consumers' views on affordability of electricity, including whether prices are perceived by consumers as affordable, fair and reasonable.

9.3.1 Consumer associations views' on affordability of prices

It is interesting to examine whether the views of consumer associations on whether consumers perceive electricity prices to be affordable provide a similar picture to the responses from the consumer survey.

It does not seem to be the case that where consumer associations report that consumers perceive electricity prices to be affordable, a low share of consumers said that they had difficulty paying their electricity bills (Figure 189). For example, in Romania, the consumer association reported that consumers perceive prices to be affordable, but the share of consumers who had difficulty paying their bills is 53%.

Figure 189: Share of consumers who had difficulty paying their electricty bills and consumer association views on whether the majority of consumers perceive electricity prices as affordable



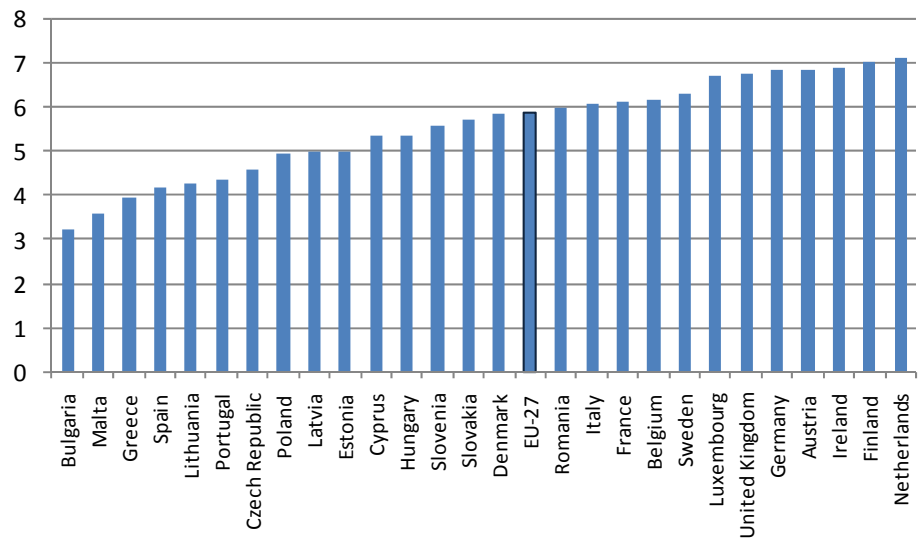
Note: Consumers are defined as having been in arrears if they reported that: a) they worry about paying their electricity bills but usually manage to do so, or b) they sometimes cannot pay their electricity bills on time, or c) they often cannot pay their electricity bills on time
Source: EMCE Consortium stakeholder survey and ECME general consumer survey.

9.3.2 Consumer views whether prices are fair and reasonable

Although consumers may feel that electricity prices are difficult to afford, they may still accept that these prices are fair. However, across the EU-27 as a whole, consumers rated the fairness and reasonableness of their current suppliers' prices at 5.9 on average on a scale of 1 (low) to 10 (high) (Figure 190). This is considerably lower than the average rating given by consumers for most other aspects covered by the consumer survey (see for example the ratings given for overall quality of service in Figure 99 in Chapter4).

The results of general consumer survey also show that, on average, consumers in Ireland, Finland and the Netherlands feel most strongly that prices are fair and reasonable, whereas consumers in two new Member States least believe that prices are fair and reasonable (Bulgaria and Malta) (Figure 190).

Figure 190: Consumers' views on whether prices are fair and reasonable



Note: Average rating from respondents for the statement "your current supplier offers fair and reasonable prices", from 1 (low) to 10 (high). The EU-27 average is a weighted average using population as the weighting factor.
Source: ECME general consumer survey.

It seems that whether consumers in each Member State feel that prices are fair and reasonable is not related to the average price in PPS (Figure 191).

However, whether consumers think that prices are fair and reasonable is very closely linked to whether they believe the prices from their supplier are competitive. At the Member State level, there is a close relationship between the average ratings given to these two aspects by respondents to the consumer survey (Figure 191). Further, for individual respondents, the ratings given to these aspects show a correlation of 0.76.

Another interesting observation is that, on average, the consumers think that prices are more fair and reasonable in Member States where household retail prices are not regulated (Figure 192). Excluding Ireland, 80% of Member States without regulated prices have higher average ratings on fair and reasonable prices than any Member State with regulated prices. Ireland is an exception, since here some prices are regulated and the average rating on fair and reasonable prices is the third highest of any Member State.

An important finding is that where consumers believe prices are fair and reasonable, the overall level of consumer satisfaction with electricity services is high (Figure 193). This suggests that a key to improving the electricity retail market for consumers is to make sure that they do not feel that they are being overcharged by suppliers. Actions to ensure this may take the form of increasing information and transparency about how prices are set.

In markets with regulated retail prices for household consumers, this could involve making consumers more aware of the price setting process and why prices are set at a given level. In markets without regulated household prices, this could involve making consumers aware that suppliers do compete with one another on price.

Figure 191: Average Member State ratings for fair and reasonable prices vs. a) average Member State ratings for competitive prices, and b) average prices for the Member State (in PPS)

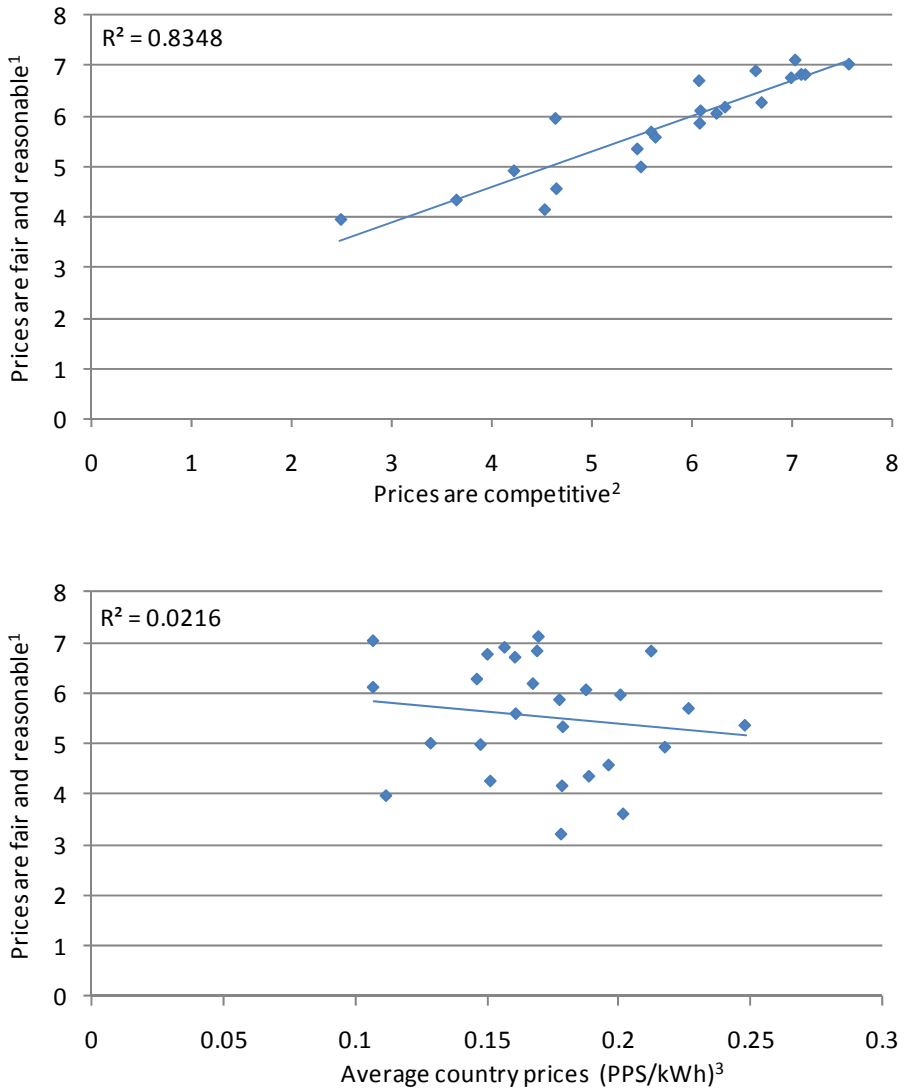
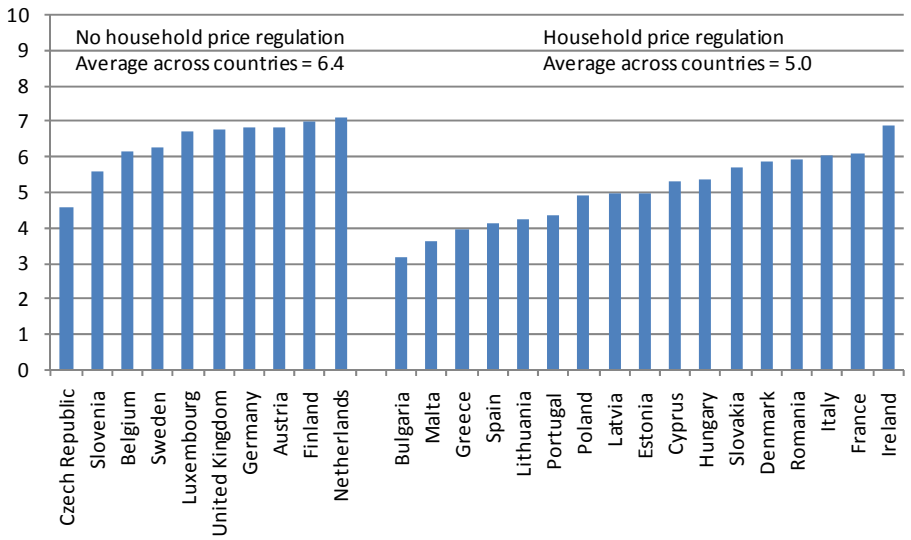


Figure 191

Note: 1. Average rating from respondents in the Member State to the statement: "your current supplier offers fair and reasonable prices". 2. Average rating from respondents in the Member State to the statement: "your current supplier offers competitive prices". 3. Average price including taxes and levies in the Member State for consumers with consumption between 2,500kWh/year and 5,000kWh/year.

Source: ECME general consumer survey and Eurostat.

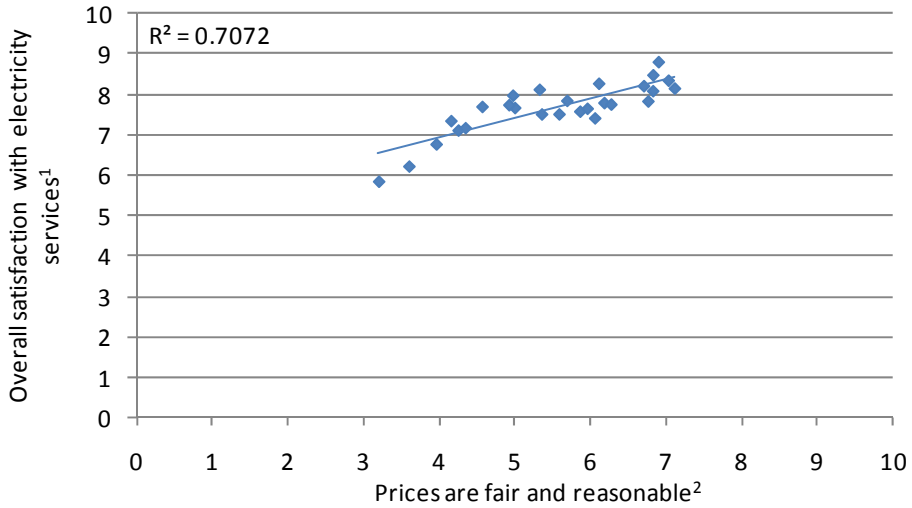
Figure 192: Consumers' views on whether prices are fair and reasonable in Member States with and without price regulation



Note: Average rating from respondents for the statement "your current supplier offers fair and reasonable prices", from 1 (low) to 10 (high).

Source: ECME general consumer survey.

Figure 193: Average Member State ratings for overall satisfaction with electrcity services vs. average Member State ratings for fair and reasonable prices



Note: 1. Average rating from respondents in the Member State to the statement: "electricity services from your current supplier live up to what you want". 2. Average rating from respondents in the Member State to the statement: "your current supplier offers fair and reasonable prices".

Source: ECME general consumer survey

9.4 Definitions of energy-poor

Having official definitions of 'energy-poor' or 'non-affordable energy income threshold' may help to focus authorities' strategies for addressing the issue of electricity affordability. Further, it is interesting to compare different interpretations of these concepts between Member States, as these differences may influence the type of interventions that are introduced. Therefore, this section addresses:

- whether an official definition of 'energy-poor' or 'non-affordable energy income threshold' exists, and
- what is the share of the population below this threshold, and what are the socio-economic characteristics of that population?

9.4.1 Official definitions of energy-poor or non-affordable energy income threshold

Most Member States do not have official definitions of energy-poor or non-affordable energy income threshold. The survey of regulators and desk research identified 10 Member States where an official definition of energy-poor or non-affordable energy income threshold exists, compared to 13 Member States where there is no such a definition (no information on this was found for the remaining 4 Member States) (Table 76).[126]

Among the Member States where an official definition was identified, several different types of criteria are used to classify consumers as being part of a group that is at risk of having problems paying energy bills. These include the following:

- Income thresholds;
- Share of income required to meet adequate fuel requirements;
- Consumer characteristics (age, illness, etc.);

The first is used in France, Greece, Malta and Romania, where consumers fall within the definition of energy-poor or non-affordable energy income threshold based on whether their income is below a certain level. For France, those with incomes below a certain threshold (€7,521 on 1st July 2009) qualify for a special tariff. In Greece, consumers must also only consume a low volume of electricity to fall within the definition. In Malta, the impact assessment of proposed regulated electricity prices for 2010 made a specific analysis of the impact on households in defined low income bands.[127]For Romania, the income threshold is the same as the Government set minimum wage.

The second criterion is used in the United Kingdom. Households are described as living in fuel poverty if they need to spend more than 10% of their income on fuel in order to maintain an

[126] Where information obtained from the survey of regulators and information obtained the Member State fiches were contradictory, the information from the survey was used. This was the case for Hungary, Ireland and Slovenia.

[127] See "*Impact Assessment: Summary Analysis - Residential Sector (11th December 2009)*", which is available at: http://www.mra.org.mt/energy_tariffs.shtml.

adequate level of warmth.[128] For this measure fuel costs are modelled by combining the fuel requirements of the household with corresponding fuel prices, rather than based on actual spending.[129] If the ratio of modelled fuel costs to income is greater than 10%, then the household is defined as fuel poor.

The third type of criteria are applied in Belgium, Romania, Slovenia and Spain where consumers are defined as 'vulnerable' if they have health problems or because of their age or their socio-economic situation.

9.4.2 Share of the population classed as energy-poor/below the non-affordable energy income threshold

The share of the population falling within the official definition of energy-poor or non-affordable energy income threshold was identified for three Member States. The shares ranged from 6.6% to 18% (Table 76). However, these shares cannot be used to compare fuel poverty rates between these Member States due to the differences in the definitions used in each Member State.

Information on the socio-economic characteristics of those classed as energy-poor/below the non-affordable energy income threshold is available for the United Kingdom only. In the United Kingdom, of the 4.5 million households defined as in fuel poverty in 2008 (the latest published data), 3.75 million (or 83%) are also classed as vulnerable households, where a vulnerable household is defined as one that contains the elderly, children or somebody who is disabled or long term sick. Further, the largest number of fuel poor households in England fall into the category of a single person over the age of 60, with over one third of all fuel poor households in England falling into this category. Conversely, the lowest rate of fuel poverty is found amongst couples under the age of 60 with no children, of which around 6% are fuel poor.[130]

[128] See the Ofgem report entitled "*Energy prices, fuel poverty and Ofgem*", or the report from the UK Department for Energy and Climate Change entitled "*Annual Report on Fuel Poverty Statistics 2010*".

[129] The modelled costs cover four areas of fuel consumption: space heating; water heating; lights and appliances; and cooking. The modelling ensures that households achieve an adequate level of warmth (21 degrees for the main living area and 18 degrees for other occupied rooms).

[130] See the report from the UK Department for Energy and Climate Change entitled "*Annual Report on Fuel Poverty Statistics 2010*".

Table 76: Official definitions of energy-poor or non-affordable energy income threshold

Member State	Is there a definition?	Population within the definition	Description of the definition:
Austria	No	N.A.	N.A.
Belgium	Yes	:	Households in specific social conditions
Bulgaria	Yes	:	Consumers who are "socially poor"[1]
Cyprus	:	:	:
Czech Republic	No	N.A.	N.A.
Denmark	No	N.A.	N.A.
Estonia	No	N.A.	N.A.
Finland	No	N.A.	N.A.
France	Yes	6.6%	Consumers whose household income is below a threshold, equal to the income ceiling for benefitting from the complementary universal health insurance are defined
Germany	No	N.A.	N.A.
Greece	Yes	:	Consumers fall within the definition if they have low consumption (<1000kWh/4month) and low annual income (<12000€).
Hungary[2]	No	N.A.	N.A.
Ireland[2]	No	N.A.	N.A.
Italy	:	:	:
Latvia	:	:	:
Lithuania	No	N.A.	N.A.
Luxembourg	No	N.A.	N.A.
Malta	Yes	16.8%[3]	Based on a household's disposable income band and the number of persons in the household.
Netherlands	No	N.A.	N.A.
Poland	No	N.A.	N.A.
Portugal	No	N.A.	N.A.
Romania	Yes	:	1) Consumers with an average monthly wage less than or equal to the minimum wage set by Government. 2) Consumers who for reasons of illness, age or of other nature and through decision of the authorities benefit from facilities related to electricity supply.
Slovakia	No	N.A.	N.A.
Slovenia[2]	Yes	N.A.	Consumers with "weak social status" and whose health is seriously endangered without electricity supply.
Spain	Yes	:	Households in specified social conditions[4]
Sweden	No	N.A.	N.A.
United Kingdom	Yes	18%[5]	Defined as households who must spend more than 10% of their income on fuel to maintain an adequate fuel level of warmth.

Note: 1. The Bulgarian provide no further definition (no definition of a "socially poor" consumer). 2. Contradictory answers were provided in the Member State fiche and in the survey of regulators. Information used comes from the survey. 3. Share calculated from information from 2 separate sources, the regulator's website for the number of households within the definition and Eurostat (for the total number of households in Malta). 4. The Spanish regulator indicated that there is an official measure, but provided no description. 5. Figure refers to 2008 (which is the latest published data).

Source: ECME Consortium desk research (Member State fiches).

9.5 Measures for consumers with problems paying energy bills

Measures to support consumers having difficulty paying energy bills may be either economic measures or non-economic measures. Economic measures generally focus on ensuring that prices are affordable and this can take several forms (specific prices, boosting incomes or energy efficiency). Further, governments may also choose to apply economic measures that specifically target those in arrears.

In addition, non-economic measures may be taken, including regulation of connection and disconnection, the process for dealing with arrears, contractual terms and conditions of contract. The next two sub-sections deal first with economic measures and second with non-economic measures.

9.5.1 Economic measures

This section examines economic measures to support consumers having difficulty paying energy bills. The section covers:

- Measures to ensure that prices are affordable and the share of consumers who benefit from such measures (and the socio-economic characteristics of these consumers)
- Economic measures to help consumers in arrears and the share of consumers who benefit from such measures (and the socio-economic characteristics of these consumers)

Measures to ensure prices are affordable

Several types of measures are taken to ensure prices are affordable for consumers who have difficulty paying energy bills. Some of these measures address prices, whereas others address other factors affecting the affordability of electricity, such as income. The analysis in section 9.1 shows that prices, income and consumption level are all important for affordable prices. The main types of measures are:

- **Specific prices offered to certain groups:** Regulated prices which are specifically available to certain groups of consumers (beyond the general price regulation for domestic consumers which exists in many Member States but is not targeted at particular consumer groups). Specific prices also include non-regulated prices which are offered to certain consumer groups. For example, this occurs in the United Kingdom where there are no regulated prices, but suppliers, in agreement with government, offer social tariffs to particular consumers. Such measures (referred to as 'social tariffs') were found in 22 Member States during the mystery shopping exercise, where mystery shoppers were instructed to tell their supplier that they are in financial difficulty and require assistance to reduce their bill. (Table 78).
- **Assistance to find a cheaper tariff:** This measure refers to help from suppliers to assist consumers who are having financial difficulty to switch to a cheaper tariff. Such measures were identified in 25 Member States during the mystery shopping exercise (Table 78).
- **Energy related payments:** These refer to payments to consumers which are directly linked to meeting their energy needs. For example, in Ireland a Fuel Allowance is paid to people who are dependent on long-term social welfare or Health Service Executive payments and who are unable to meet their own heating needs to help with the cost of

heating their home. Eligible claimants of Fuel Allowance in Ireland include, among others, pensioners, the disabled, one-parent families, the unemployed, those with low incomes.

- **Grants to improve home energy efficiency:** These measures help consumers to reduce the amount of energy they require meaning overall bills are lower. For example, in 2009 the Danish Government set up a temporary Renovation fund with DKK 1.5 billion to provide grants for the renovation of homes, including energy-saving measures. The fund provided a subsidy of 40% of labour costs (up to DKK 15,000) for all renovation work, plus an additional 20% of material costs (up to DKK 10,000) for energy saving measures.
- **Social security benefits:** Financial assistance that helps to ensure affordable prices is not necessarily specific to the energy sector. In most Member States, financial assistance is available to consumers who are likely to have difficulty paying energy bills (such as those on low incomes) via the social security system. In a survey by ERGEG, all Member States apart from Slovenia reported having economic support systems for certain customer groups which are not specific to the energy sector.[131]
- **Deferred payment:** The opportunity for consumers who are having difficulty paying for electricity to deferred payment. This may give consumers respite and time to plan their repayments. This measure was identified in every Member State during the mystery shopping exercise, where mystery shoppers were instructed to tell their supplier that they are having financial difficulty and need help to reduce their bill. The measure was most commonly found in Lithuania and Sweden, where such assistance was offered to 70% and 78% of mystery shoppers respectively (Table 78).
- **Simulation of cost savings:** Simulations offer by suppliers to consumers who are having financial difficulties to calculate cost saving they could make from, for example, changing their consumption patterns. Such measures were found in every Member State during the mystery shopping exercise (Table 78).

Although they are likely to be important for consumers who have difficulty paying energy bills, the social security systems in each Member State are not considered further, since the present study is concerned only with measures that are specific to the energy sector.

A recent survey of national authorities by ERGEG asked whether mandatory economic support is provided within the energy sector for certain customer groups and found that such support is provided in 10 Member States.[132] In addition, the survey also asked at what level this support exists (primary law, secondary law or other) and found that in most cases (8 out of 10) it exists at the level of primary law and in half of cases it exists in both primary and secondary law (Figure 194).

Where there is missing information from the research for the present study, information from the ERGEG survey has been added. The collated information indicates that the most common

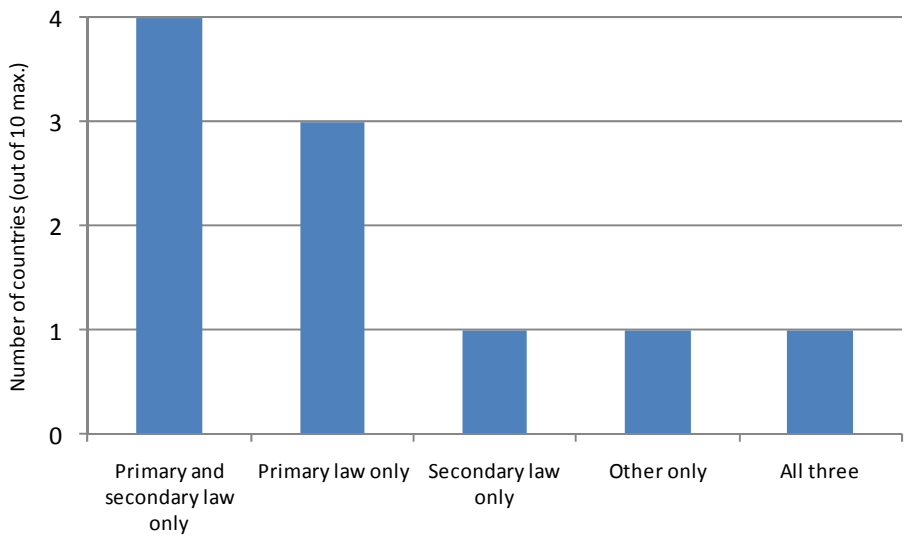
[131] ERGEG report "Status review of the definitions of vulnerable consumer, default supplier and supplier of last resort" (2009). Do you have an economic support system for certain customer groups (vulnerable customers) not specific to the energy sector (social systems, benefits etc)? No information from the survey for Malta and Cyprus.

[132] See the ERGEG report "*Status review of the definitions of vulnerable consumer, default supplier and supplier of last resort*" (2009). The question asked was: "*Do you have a special mandatory economic support system for certain customer groups (vulnerable customers) within the energy sector?*" Measures within the energy sector mean measures which relate specifically to the energy sector such as specific prices and energy related payments, but not social security benefits.

measures to ensure that prices are affordable for those with problems paying energy bills are temporary financial arrangements such as deferred payment and simulations of cost savings. Both these measures were found in all 27 Member States (Table 77). The second most common measure is specific prices offered to certain groups of consumers, which was found in 23 Member States.

Finally, where support is provided to consumers with problems paying energy bills, this support is usually provided to all households with incomes below a defined threshold (Table 79). Other factors making households eligible for support are having children, being disabled or being senior citizens, whilst in some cases support is provided depending on consumers having a combination of these characteristics.

Figure 194: At what level does mandatory economic support provided within the energy sector exist (number out of 10 Member States).



Source: ERGEG 2009.

Table 77: Measures to ensure prices are affordable

Type of measure	Member States where such assistance is available
Specific prices offered to certain groups	Austria, Belgium, Cyprus, Czech Republic, Denmark[1], Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, United Kingdom
Assistance to find a cheaper tariff	Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom
Energy related payments	Austria, Bulgaria, Denmark, Germany, Ireland, Italy, Lithuania, Netherlands[2], Romania, Sweden[3], United Kingdom
Grants to improve home energy efficiency	Denmark, Ireland, United Kingdom
Deferred payment	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom
Simulation of cost savings	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom

Note: 1. Identified through the Danish country fiche. 2. In the Netherlands there are programs designed to help people with low income, including paying the energy-bill. 3. For some municipalities only.

Source: ECME Consortium research including mystery shopping scenario 4, survey of regulators, price collection exercise and Member State fiches). ERGEG (2009).

Table 78: Measures to help consumers having financial difficulty indentified through the mystery shopping exercise – percentage of mystery shoppers who found such measures

	Proposed a social tariff	Proposed to switch to a cheaper tariff	Offered a temporary financial arrangement	Simulation of cost savings based on customized information
Austria	4%	26%	46%	34%
Belgium	10%	25%	40%	15%
Bulgaria	0%	0%	50%	42%
Cyprus	15%	15%	33%	33%
Czech Republic	24%	47%	33%	35%
Denmark	0%	16%	6%	42%
Estonia	0%	31%	27%	39%
Finland	4%	17%	52%	21%
France	36%	30%	48%	36%
Germany	10%	46%	26%	22%
Greece	4%	30%	22%	18%
Hungary	35%	0%	51%	43%
Ireland	5%	21%	56%	14%
Italy	23%	44%	25%	40%
Latvia	16%	4%	58%	44%
Lithuania	2%	6%	70%	36%
Luxembourg	0%	4%	32%	22%
Malta	20%	10%	46%	24%
Netherlands	10%	42%	8%	48%
Poland	12%	36%	28%	50%
Portugal	4%	38%	15%	8%
Romania	66%	30%	30%	18%
Slovakia	10%	43%	31%	43%
Slovenia	6%	28%	25%	25%
Spain	31%	31%	20%	4%
Sweden	0%	14%	78%	26%
United Kingdom	9%	57%	43%	35%
Total	13%	26%	37%	30%

Source: Mystery shopping scenario 4 undertaken by the ECME Consortium.

Table 79: Consumer categories included in support systems within the energy sector

Member State	LI	SC/LI	SC	CH/LI	CH	All	DP/LI	DP	Other
Belgium	Yes							Yes	yes
Bulgaria									Yes
Cyprus	Yes			Yes				Yes[1]	
Denmark[2]			Yes					Yes[3]	
France	Yes								
Greece									Yes
Hungary	Yes[4]								
Ireland	Yes	Yes	Yes		Yes[5]		Yes		
Italy	Yes			Yes					Yes
Malta	Yes		Yes				Yes		Yes
Romania	Yes		Yes[6]						Yes[6]
Slovenia	Yes								
Spain		Yes		Yes	Yes	Yes	Yes		Yes
United Kingdom	Yes		Yes				Yes		

Note: Information for Cyprus, Denmark, Hungary and Malta is taken from the Member State fiches. Unless stated otherwise in notes 1 to 6 below, information for the remaining Member States is from ERGEG (2009), in which case the information is valid as of the first quarter 2009.
Groups:
LI: All households with a defined low income
SC/LI: Senior citizens with a defined low income
SC: Senior citizens irrespective of income
CH/LI: Households with children with a defined low income
CH: Households with children irrespective of income
All: All households
DP/LI: Disabled persons with a defined low income
DP: Disabled persons irrespective of income
1.Those receiving severe motor disabilities allowance from the Department for Social Inclusion of Persons with Disabilities.
2. In Denmark, during the first half of 2009, there was also an energy efficiency scheme which was open to all.
3. Only for those who retired due to disability before 2003.
4. Refers specifically to gas consumption subsidies.
5. Specifically single parent households (information from Member State fiche).
6. Information from Member State fiche.
Source: ERGEG (2009) and Member State fiches.

Share of consumers benefiting from measures to ensure prices are affordable

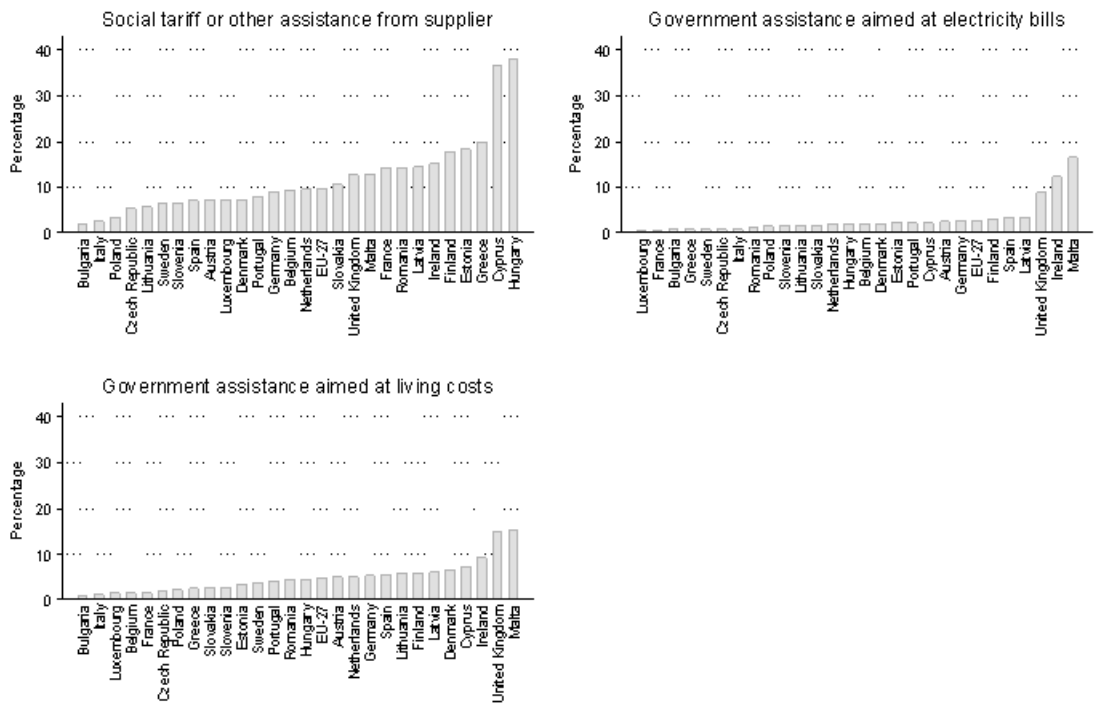
An estimate of the share of the entire population of consumers who have, at some point, benefited from financial measures can be drawn from the general consumer survey. The results of the survey show the most common financial measures provided to consumers are in fact provided by suppliers (Figure 195). These measures include social tariffs and other forms of assistance such as staggered payment plans. More than 10% of consumers have benefited from such measures in 12 Member States.

The second most common form of financial assistance is government assistance aimed at living costs in general (not specific to payment for electricity). In 12 Member States, at least 5% of consumers have benefited from such measures.

Finally, on average across the EU Member States, the least common form of assistance is government assistance aimed at electricity bills. In a majority of Member States (16 out of 27), at most 2% of consumers have benefited from this type of measure. However, in three Member

States (Ireland, Malta and the United Kingdom) the share who have benefited from such assistance is particularly high relative to other Member States.

Figure 195: Percentage benefitting from financial measures



Note: Based on Q14. Percentage that said 'yes' to the following statements: 'I benefit from a social tariff or other assistance (for example a staggered payment plan) from my provider', 'I benefit from financial assistance (subsidies, grants, tax credits, etc.) from the government aimed at helping me with my electricity bill', and 'I benefit from financial assistance (subsidies, grants, tax credits, etc.) from the government aimed at helping me with my general living costs'

Source: ECME Consortium general consumer survey

In a few cases, the share who benefit from government assistance among those classed as energy-poor or with incomes below the non-affordable energy income threshold was report by regulators. These shares ranged from just 3% to 20% (Table 80). Further, some additional information was provided through the country fiches at Annex A.

- In Denmark, the government paid 0.5 billion DKK in general heating subsidy in 2005.
- In Ireland, the average number of recipients of the Fuel Allowance, which is paid to eligible claimants on grounds of age, disability, household type (one-parent families), unemployed and low income, was 216,756 in 2008.[133] In addition, 15,000 homes are expected to benefit from the Warmer Homes Scheme which includes a program to tackle fuel poverty by improving the energy efficiency of low income housing, and 50,000 homes

[133] Department of Social and Family Annual Report 2008:
www.welfare.ie/EN/Policy/CorporatePublications/StrategicPlansAndReports/Documents/ar2008.pdf

are estimated to benefit from the National Insulation Programme for Economic Recovery which is also aimed at improving home energy efficiency.[134]

- In Italy, the Ministry for Economic Development estimated that up to 5 million households (21% of the total of around 24 million households) may benefit from the Social Electric Bonus which is available to low income households.

Table 80: Share of consumers classed as energy-poor or with incomes below the non-affordable energy income threshold who benefit from government assistance

Member State	Share
Belgium	3%
Spain	10%
United Kingdom	15%
Romania	16%
Ireland	20%

Source: ECME survey of regulators

Economic measures to assist customers in arrears

Each of the measures to ensure prices are affordable, which were presented above,, will assist consumers in arrears. However, here we examine measures which are specifically aimed at consumers in arrears, rather than at consumers who have difficulty paying their energy bills in general. Research for the present study identified two types of measure specifically aimed at supporting consumers who are in arrears:

- Assistance to help with managing debt repayment
- Financial assistance

Assistance with managing debt repayment

The main type of measure which is specifically aimed at consumers in arrears is assistance with managing debt repayment. This means help to organise repayment, but provides no supplementary income.

These measures help those who have electricity debts to manage their repayments to ensure that current fuel use is covered, and also to ensure that a certain amount of the debt is paid off on a regular basis. Such measures were identified for six Member States through research for the present study:[135]

- In **Austria**, suppliers offer payment by instalments to customers struggling to pay their bills. This is not a regulatory requirement, but is offered consensually by suppliers.
- In **Belgium**, payment plans for consumers in arrears are arranged through intermediation by social services.

[134] See the Annual Update on Fuel Poverty and Health (December 2009) from the Institute of Public Health in Ireland: http://www.publichealth.ie/publications/annualupdateonfuelpovertyandhealth0

[135] Information from the stakeholder survey and the Member State fiches.

- In **Cyprus**, suppliers offer payment by instalments to consumers in arrears.
- In **Germany** suppliers may offer payment by instalments and debt counselling, though this is not mandatory and will be subject to negotiations between the customer and the supplier.
- In **Hungary**, it is a regulatory requirement that suppliers offer assistance with an indebted consumer's schedule of payments. Consumers in arrears are offered the opportunity to make delayed payments.
- In **Ireland**, there are around 30,000 "budget controllers" in situ in consumers' premises which help the customer manage their electricity expenditure. These are installed for customers that get into difficulty with debt. Further, is also a free service for people in debt or who are in danger of getting into debt (meaning debt in general, including debt to electricity suppliers). This service ensures that families have access to money advice and budgeting services.
- In the **United Kingdom**, consumers with unpaid fuel bills who receive social security benefits may ask their benefits office to pay the supplier directly out of their benefits. In addition, under the suppliers' licence conditions, suppliers must offer to receive payment directly out of social security benefits and also offer payment by regular instalments taking into account the consumer's ability to pay.

Financial assistance

Research for the present study also found that in three Member States special financial assistance is available to consumers in arrears with electricity bills: [136]

- In **France**, consumers in arrears with electricity bills can seek financial assistance from the Solidarity Fund for Housing (Le Fond de Solidarité pour le Logement).
- In **Austria**, the electricity association reported that financial government aid is available to assist consumers in arrears with electricity bills.
- In the **United Kingdom**, the electricity association reported that suppliers provide grants and trust funds to support indebted consumers.

Share of consumers benefiting from measures to assist consumers in arrears

There is limited information on the share of consumers benefiting from measures to assist consumers in arrears. According to the stakeholder surveys, in Belgium and France the share of consumers in arrears who benefit from assistance from the government is 3.2% and 0.8% respectively, whereas in Cyprus 65% of consumers in arrears benefit from assistance from the industry. In Ireland, in the first quarter of 2010 the money advice and budgeting service helpline received 7,828 calls and the service received 5,550 new customers.

[136] Information from the stakeholder survey and the Member State fiches.

9.6 Non-economic measures

As well as economic measures, non-economic measures are also used to assist consumers that have difficulty paying electricity bills. Such measures are covered in this sub-section, which addresses:

- Regulation of the process for dealing with arrears and disconnection for non-payment
- Measures to help consumers find the best tariff
- Measures to help consumers reduce their energy consumption

9.6.1 Regulation of the process for dealing with arrears and disconnection for non-payment

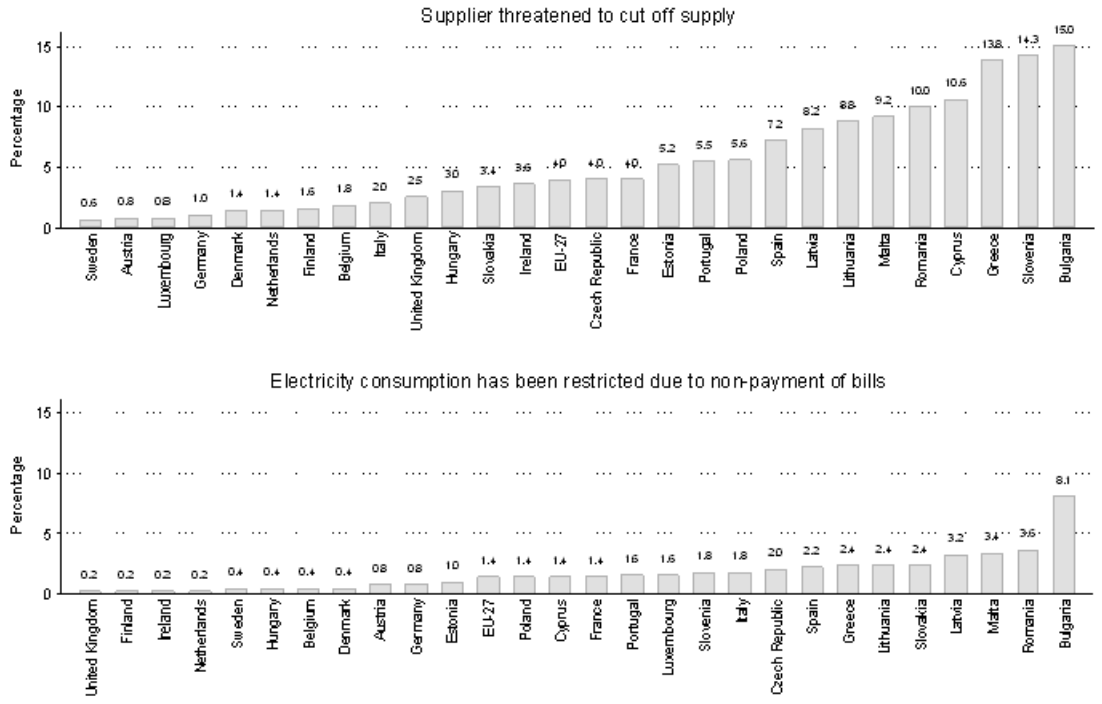
One of the most common measures for protecting consumers having difficulty paying energy bills is protection against disconnection. A recent survey of national authorities by ERGEG asked whether there are any non-economic support mechanisms for certain groups of consumers and 15 out of 25 Member States that responded reported that they have protection against disconnection.[137]

The importance of protection against disconnection is illustrated by the share of consumers who have been threatened that their supply will be cut off (Figure 196). In most Member States this proportion is low (less than 5% in 15 Member States).

However, in some Member States the share of consumers who have been threatened with disconnection is well over 10% (Bulgaria, Greece and Slovenia). Therefore, regulation of the disconnection process is especially important in these Member States.

[137] See the ERGEG report "*Status review of the definitions of vulnerable consumer, default supplier and supplier of last resort*" (2009). The question asked was: "*Is there any non-economic support system for certain customer groups (vulnerable customers) within your energy system?*"

Figure 196: Need for non-financial measures



Note: Based on Q14. Percentage that said 'yes' to the following statements: 'My provider threatened to cut off my supply' and 'My electricity consumption has been restricted due to non-payment of my bills'.
Source: ECME Consortium general consumer survey

The research for the present study investigated whether the process for dealing with arrears and disconnection for non-payment is regulated in each Member State. Further, the research examined how such issues are regulated and by whom.

In 21 of the 22 Member States for which relevant was found there is regulation in this area. The only exception is Greece, where there is no regulation but where the State owned incumbent supplier that dominates the market has its own set of practices, and these practices can be seen as descriptive of the practices in the market in general.

Notification of disconnection

The most common type of provision in the regulations sets out the notice period which must be given to consumers before they can be disconnected. Rules on the notice that must be provided were identified for sixteen Member States (Table 81). For example:

- In Estonia, the customer must be informed of the grounds for the disconnection and the planned time of the disconnection after which they can be disconnected only after 15 days at the earliest.

- In Finland, the consumer must be sent written notification of the payment default and there must also be a second, separate warning of disconnection sent 2 weeks after the original notification at the earliest.

- In France, 14 days after the date that payment is due the consumer must be reminded by letter, after which they can be disconnected after 15 days at the earliest.

- In Romania the consumer must be issued with a warning 35 days after the payment deadline and can then disconnect the consumer in another 5-10 days time.

- In Luxembourg, a reminder is sent at least 15 days after the date that payment is due, and if the bill is still outstanding 15 days later then the supplier informs the consumer of its intention to disconnect them in a further 15 days.

The only Member State where no notice period is required is Malta, where if payment is not made within 14 days of the bill being presented to the consumer then the supply can be suspended without further notice.

Attenuating circumstances for disconnection

In several Member States, provisions in the regulations were identified that prevent disconnection in a number of attenuating consumer circumstances. The range of attenuating circumstances identified includes (see also Table 81):

- a limit on the minimum amount which of debt for which a consumer can be disconnected (found in Germany);

- preventing disconnection of the vulnerable (such as the elderly, ill and disabled) who would suffer disproportionately from disconnection, especially during winter time (found in Germany, Ireland, Slovenia and the United Kingdom);

- preventing disconnection of consumers who are in dispute over their payment before the dispute is resolved (found in Germany and Ireland);

- preventing disconnection during winter time (and if the consumer has some other circumstances such as electric heating, being old/sick/disabled or having low income) (found in Belgium, Estonia, Ireland, Slovenia and the United Kingdom);

- preventing disconnection if the consumer agrees to some form of repayment plans, such as payment by instalments, pre-payment methods, debt restructuring and deducting charges directly from social security benefits (found in Denmark, Ireland, Luxembourg, the Netherlands, Sweden and the United Kingdom).

- Preventing disconnection, under certain conditions, of consumers on welfare/social security benefits (found in Germany, Luxembourg, Slovenia and the United Kingdom).

Table 81: Regulation of disconnection for non-payment

Member State	Regulation (body responsible if information provided)	Notice to be given	Limit on sum that can be chased	Special provisions regarding:				
				Vulnerable consumers	Disputed bills	Winter	Payment plans	Social security
Austria	Yes	Yes	:	:	:	:	:	:
Belgium	Yes (regulator)	Yes	:	Yes	:	Yes	:	Yes
Bulgaria	Yes (regulator)	:	:	:	:	No	:	:
Cyprus	:	:	:	:	:	:	:	:
Czech Republic	:	:	:	:	:	:	:	:
Denmark	Yes (regulator)	:	:	:	:	:	Yes	:
Estonia	Yes (regulator)	Yes	:	:	:	Yes	:	:
Finland	Yes (regulator)	Yes	:	:	:	:	:	:
France	Yes (Ministers)	Yes	:	:	:	:	:	Yes
Germany	Yes[1]	Yes	Yes	Yes	Yes	:	:	:
Greece	No[2]	Yes	:	:	:	No	:	:
Hungary	Yes	:	:	:	:	:	:	:
Ireland	Yes (regulator)	Yes	:	Yes	Yes	Yes	Yes	:
Italy	Yes	Yes	:	:	:	:	:	:
Latvia	Yes (Ministers)	Yes	:	:	:	:	:	:
Lithuania	:	:	:	:	:	:	:	:
Luxembourg	Yes (regulator)	Yes	:	:	:	:	Yes	Yes
Malta	Yes	None	:	:	:	:	:	:
Netherlands	Yes	:	:	:	:	:	Yes	:
Poland	Yes	Yes	:	:	:	:	:	:
Portugal	Yes[1]	Yes	:	:	:	:	:	:
Romania	Yes	Yes	:	:	:	:	:	:
Slovakia	Yes	:	:	:	:	:	:	:
Slovenia	Yes (regulator)	Yes	:	Yes	:	Yes	:	Yes
Spain	:	:	:	:	:	:	:	:
Sweden	Yes (consumer agency)	Yes	:	:	:	:	Yes	:
United Kingdom	Yes (regulator)	:	:	Yes	:	Yes	Yes	Yes

Note: ":" means no information is available. 1. Relevant for consumers on the universal service from the incumbent only. 2. However the state owned supplier which dominates the market has its own practices which can be seen as descriptive of the market in general.
Source: Member State fiches.

9.6.2 Measures to help consumer find the best tariff

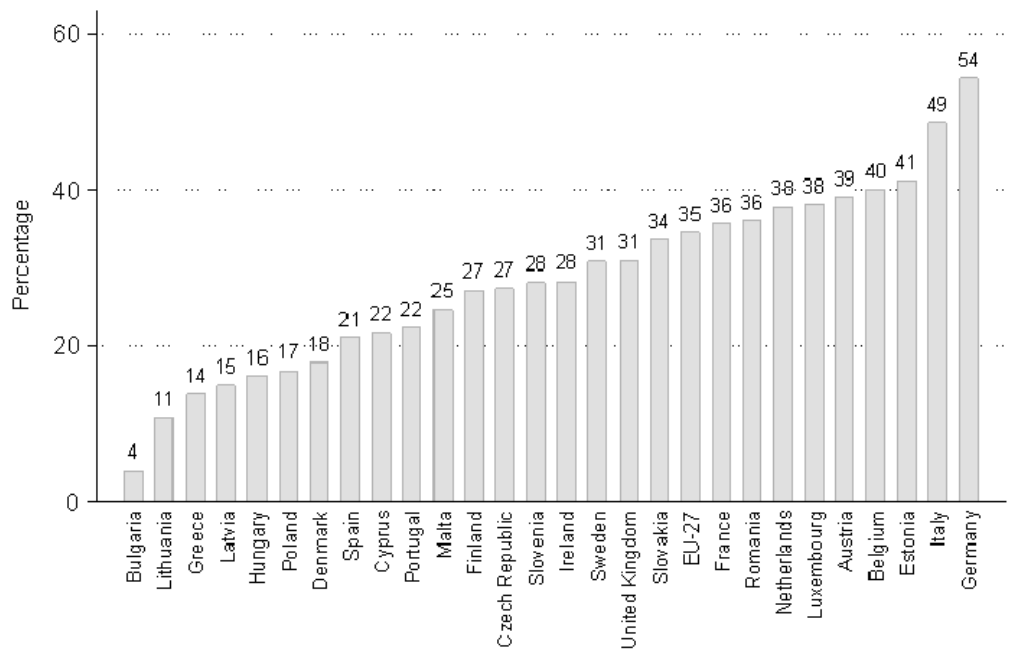
Consumer having difficulty paying their electricity bills are likely to benefit especially from assistance to find the best tariff. In some Member States suppliers often provide personalised tariff advice, including proposing that consumers switch to the cheapest tariff. This service is

particularly common in Germany and Italy, but much less common in some new Member States such as Bulgaria and Lithuania (Figure 197).

Consumers who did not report in the consumer survey having received this service were asked whether they would want to their supplier to do this. In each Member State, the average response given by consumers was that they would want their supplier to do this either "definitely" or "to a great extent" (Figure 198).

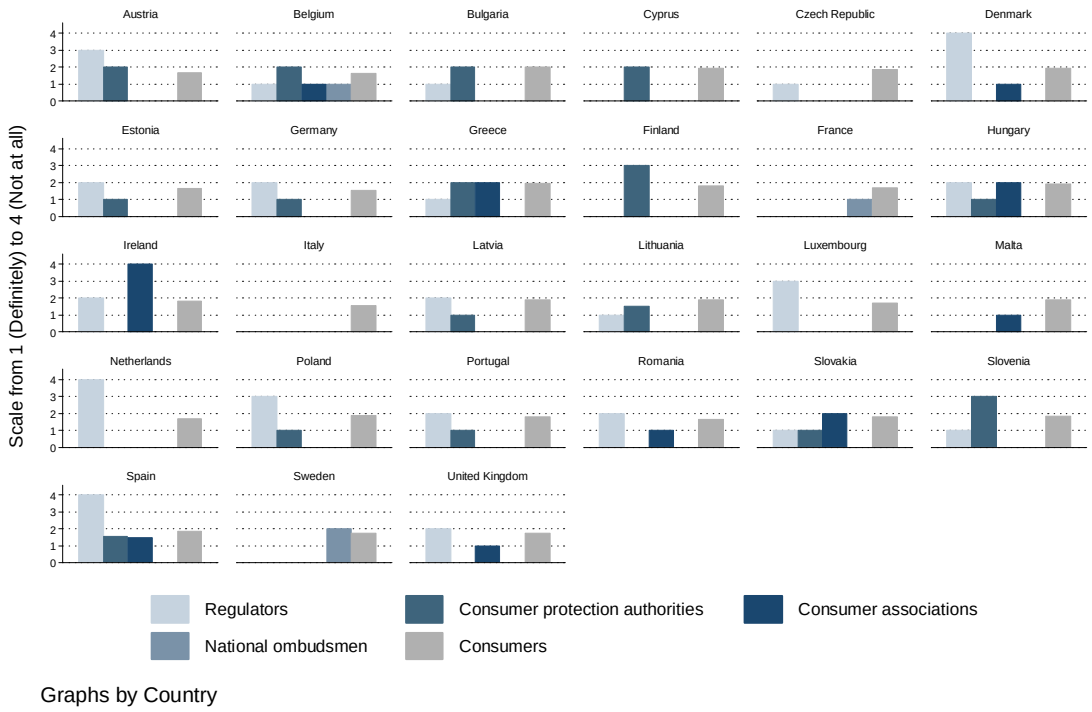
This observation highlights the value that consumers place on assistance from their supplier to find the best tariff.

Figure 197: Share of consumers given personalised tariff advice (including proposing the cheapest tariff)



Note: Based on Q8a. Percentage that said 'yes' to the following question: "Does you electricity provider propose that you switch to the cheapest tariff or to a tariff more in line with your preferences and thereby ensure personalised service based on your consumption".
Source: ECME Consortium general consumer survey.

Figure 198: Should electricity suppliers propose consumers a cheaper tariff or a tariff more in line with their preferences and thereby ensure a personalised service based on the type of consumption



Note: Based on Q8b in the consumer questionnaire and the corresponding question in the stakeholder questionnaire. The regulator in France and Finland responded 'Don't know'. Responses from consumers were only provided by those consumers who said that their supplier did not already offer the service.

Source: ECME Consortium general consumer survey and stakeholder surveys

9.6.3 Measures to help consumers reduce their energy consumption

A key factor determining whether consumers can afford to pay for their electricity consumption is the total volume of electricity that they use. Therefore, measures to assist consumers in reducing their overall consumption will help those who are having difficulty paying their electricity bills (as well as having environmental benefits). This section examines whether such measures provided in different Member States. The section covers:

- Legal responsibility for providing energy saving programs
- Energy savings programs run by suppliers
- Share of consumers who have received advice on reducing their energy consumption

Legal responsibility for providing energy saving programs

In some Member States, certain parties in the electricity industry are legally responsible for providing energy saving programs. Electricity associations were asked who has legal responsibility for providing energy saving programs and responses were received from 10 Member States (with

the Cypriot response indicating that they did not know who was responsible for such programs) (Table 82).

In Belgium, Denmark and France, it is the legal responsibility of DSOs to provide energy saving programs, whereas in Austria, Germany and the United Kingdom the responsibility is with suppliers (though not the "legal" responsibility in the case of Austria). In Finland, both DSOs and suppliers are responsible for such programs.

However, in the Netherlands and the Czech Republic neither DSOs nor suppliers are responsible for energy saving programs (with the duty falling to the Ministry of Environment in the Czech Republic).

Table 82: Body who is legally responsible for providing energy saving programs

Member State	DSOs	suppliers	both	Ministry of Environment	neither
Austria		✓			
Belgium	✓				
Czech Republic				✓	
Denmark	✓				
Finland			✓		
France	✓				
Germany		✓			
Netherlands					✓
United Kingdom		✓			

Note: The Austrian electricity association removed the word "legally" from the question. The Cypriot electricity association responded that it was not sure who was legally responsible for providing energy saving programs.
Source: EMEC stakeholder survey

Energy savings programs run by suppliers

Although the legal responsibility may not always fall on the suppliers of electricity to provide energy saving programs, this does not necessarily stop them from providing them. Therefore, a further question in the survey of electricity associations asked electricity associations to provide details of the energy saving programs run.

Unsurprisingly, they are offered by suppliers in Austria, Finland, Germany and the United Kingdom, since it is their legal responsibility to do so. In fact, all of the responses received from electricity associations indicated that suppliers in their Member State offer energy saving programs.

The electricity associations were asked to elaborate if they indicated that suppliers do provide energy saving programs. The responses from Belgium, the Netherlands and France, where it is the responsibility of DSOs to provide such programs, indicate that whilst suppliers are involved in such programs, they are generally more limited initiatives. In the Netherlands, suppliers are involved in helping fund the "More for less" initiative, and where possible do try to raise awareness of the national energy saving program.

In both Austria and the Czech Republic, suppliers provide tools for saving energy, such as low energy light bulbs, free of charge. In Germany and Austria suppliers also have an energy related

advisory service to promote, for example, high-efficiency gas boilers, heat pumps, photovoltaic systems, solar thermal systems and domestic appliances.

Other activities undertaken by suppliers include TV advertising campaigns, promotions at schools and fliers that are included with bills, which are all carried out in Cyprus.

In the UK, numerous initiatives related to energy saving are being carried out by electricity suppliers. However, suppliers have two specific obligations for domestic customers which are known as CERT and CESP. The Carbon Emissions Reduction Target (CERT) obliges all domestic energy suppliers with a customer base in excess of 50,000 customers to make savings in the amount of CO2 emitted by householders. CESP is a new £350m Community Energy Saving Programme aimed at helping households in areas of low income.

In Finland, electricity suppliers (and also DSOs) have joined an Action Plan for Energy Services. A company that joins the agreement commits to drawing up a plan on energy efficiency improvement measures to be offered to customers.

Share of consumers who have received advice on reducing their energy consumption

According to the results of the general consumer survey, the proportion of consumers who have received advice on how to reduce their electricity consumption is often quite high. In 19 Member States at least half of consumers have received such advice at some point (Figure 199).

This suggests that, of all the measures which may help consumers who are having difficulty paying their electricity bills, advice on reducing their energy consumption is most forthcoming. However, there is a lot of variation between Member States, with the share of consumers who have received this type of advice ranging from 81% in Malta to 13% in Bulgaria.

Additional evidence on this can be drawn from the mystery shopping exercise (Table 83). The information from the mystery shopping exercise generally supports findings from the consumer survey, since it also suggests that a high proportion of consumers are offered energy saving advice (Table 83).

The most common type of assistance offered to the mystery shoppers was verbal explanations of ways to reduce energy consumption. In most Member States, at least 50% were given this type of advice, and in four Member States (Denmark, Estonia, France and Hungary) more than 75% of were given this type of advice. In comparison, only 38% of mystery shoppers in Belgium were given energy saving advice.

In a smaller number of cases, mystery shoppers were sent written advice on how to reduce energy consumption, with results ranging from 0% of mystery shoppers in Romania and 2% in Spain and Greece to 62% of mystery shoppers in Luxembourg.

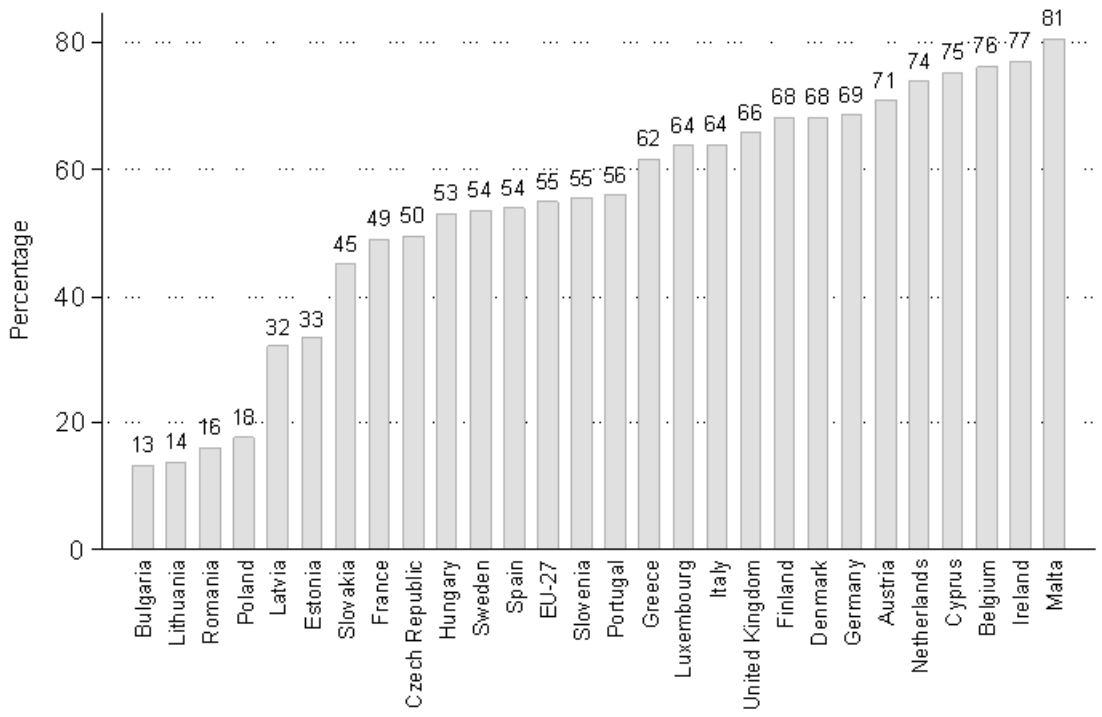
Consumers who have not received advice on reducing their energy consumption were asked whether they would want to their supplier to do this. For all Member States, the average response given by consumers was that they would want their supplier to do this either “definitely” or “to a great extent” (Figure 200).

Table 83: Energy saving advice provided during the mystery shopping exerceise

	Verbally explained good practices to reduce consumption	Given/sent written guidance to save electricity consumption	Offered a free energy audit	Offered a paying energy audit
Austria	58%	32%	34%	2%
Belgium	38%	15%	13%	6%
Bulgaria	64%	22%	10%	12%
Cyprus	59%	20%	2%	0%
Czech Republic	57%	29%	12%	0%
Denmark	76%	28%	16%	6%
Estonia	84%	35%	0%	31%
Finland	52%	27%	10%	2%
France	86%	28%	12%	28%
Germany	44%	24%	10%	4%
Greece	54%	2%	0%	0%
Hungary	80%	12%	6%	22%
Ireland	58%	14%	9%	4%
Italy	71%	21%	19%	4%
Latvia	69%	36%	18%	0%
Lithuania	56%	12%	0%	0%
Luxembourg	74%	62%	46%	4%
Malta	44%	24%	10%	8%
Netherlands	64%	12%	8%	4%
Poland	70%	10%	2%	6%
Portugal	62%	25%	2%	4%
Romania	74%	0%	0%	0%
Slovakia	59%	39%	6%	0%
Slovenia	68%	28%	19%	2%
Spain	63%	2%	0%	0%
Sweden	42%	26%	14%	6%
United Kingdom	48%	19%	22%	2%

Source: Source: Mystery shopping scenario 4 undertaken by the ECME Consortium.

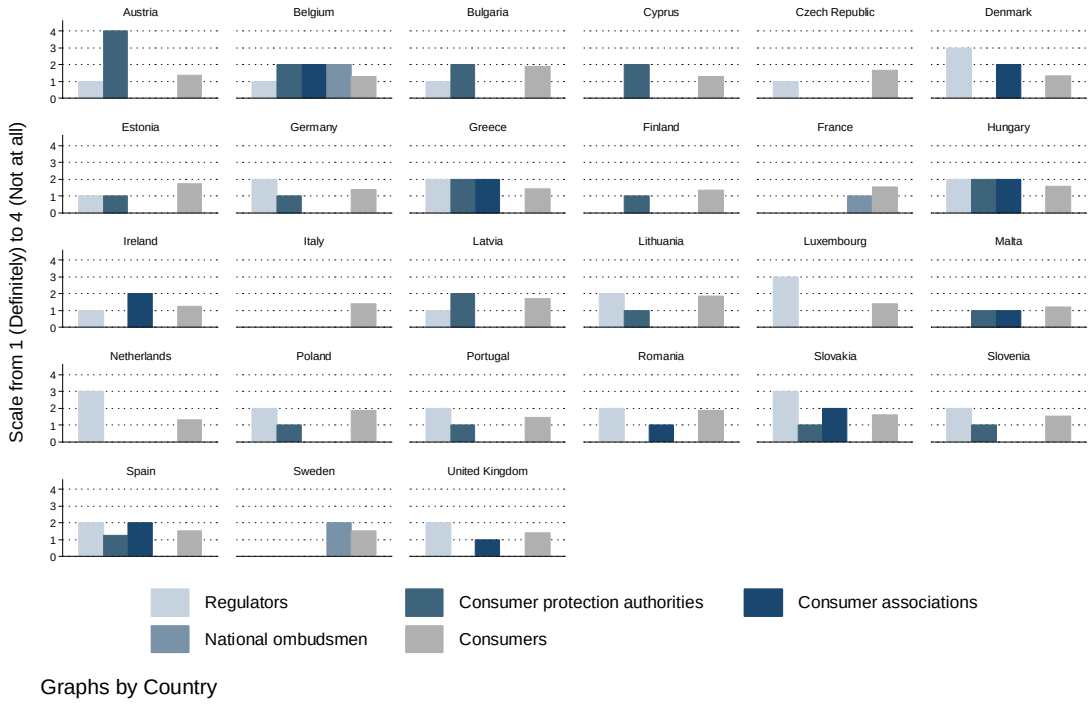
Figure 199: Share of consumers who have received advice on reducing their energy consumption



Note: Based on Q8a. Percentage that said 'yes' to the following questions: 'Does your electricity provider give you tips/advice on ways to reduce your electricity consumption'.

Source: ECME Consortium general consumer survey

Figure 200: Should electricity suppliers give tips/advice to consumers on ways to reduce their energy consumption



Note: Based on Q8b in the consumer questionnaire and the corresponding question in the stakeholder questionnaire. The regulator in France and Finland responded 'Don't know'. Responses from consumers were only provided by those consumers who said that their supplier did not already offer the service.

Source: ECME Consortium general consumer survey and stakeholder surveys

10 Conclusions and recommendations

This chapter provides the key conclusions of the study and policy recommendations. The discussion of the conclusions relates to the two overarching questions of the study:

1) Can consumers benefit from a well-functioning electricity market in terms of price, choice and innovation?

2) Are consumers able to make informed, rational and empowered decisions?

The last part of this section provides a number of policy recommendations based on the discussion of the conclusions.

Our main conclusions can be summarised as follows:

1. In terms of price and product competition, consumers would like more choice of suppliers and tariffs and have difficulty in comparing offers. In spite of good availability of comparator tools there seems to be very low usage of these tools. Overall, while some of the important conditions to enhance competition seem to be present in most Member States, there is a general view that competition is not as strong as it could be

2. Price structure – we identified some potentially negative aspects in the pricing structure of retail electricity. Consumers with lower electricity usage pay higher per unit prices which result from the fixed charges levied by some suppliers. In addition, there is low availability of green electricity tariffs and peak/off-peak tariffs are not on offer in three countries.

3. Choice complexity and tariff proliferation seem to increase as markets become more developed. This may be at the root of the apparently paradoxical result that, in some of the most mature and seemingly most competitive markets, the unrealised gains from switching are highest.

4. There are still a number of Member States where consumers find that it is not easy to switch suppliers. This is a situation that clearly deserves addressing.

5. Consumers feel poorly informed about the electricity retail market, have trouble understanding the terms of their current supply contract and claim to have low awareness and understanding of the available tariff choices. These different observations suggest that consumers may require information to be more tailored to their personal situation and provided to them more proactively.

6. Regarding the quality of service, we find that, in terms of the technical aspects of electricity supply (e.g. reliability of service), electricity suppliers rate quite highly (apart from very few exceptions). However, they fare far worse in terms of customer service and dealing with complaints.

7. Some aspects of supplier behaviour appear to contribute to weaken or distort competition, particularly, the use of misleading advertising and unfair contract terms.

Furthermore, in a few countries, consumers report a strikingly high incidence of perceived pressure by suppliers into signing contracts.

8. Satisfaction with complaint handling is low and consumers show little awareness of other organisations to which they could direct unresolved complaints.

10.1 Price competition

A key driver of consumer satisfaction is whether prices are perceived as fair and reasonable. Generally, price competition would be expected to lower prices and this could contribute to a perception of fairer and more reasonable prices. However, in non-competitive markets appropriate price regulation could also lead to a perception of fair and reasonable prices.

The analysis in this study suggests that there are varying degrees of competition in the retail electricity sector. The markets in Estonia, Cyprus and Malta are not liberalised and dominated by a monopoly (or near monopoly) supplier. Furthermore, the markets in Latvia, Lithuania, Greece, Romania and Bulgaria can be characterised as national or regional monopolies. In these countries, there cannot be expected to be a high level of price competition.

At the other extreme, markets in Germany, Finland, Austria, Sweden and the United Kingdom are the least concentrated electricity markets and this would generally suggest that there could be significant price competition in these countries.

If price competition in the retail market is fierce, one might also expect that high supplier switching rates and low market concentration would be associated with lower prices. However, this study shows that when taking account of differences in standard of living, taxes and network costs, cross-country price differences can mainly be explained by differences in energy mix and hence the variable costs of production. Other factors, such as concentration, price regulation switching activity, information availability etc., have no significant effect on prices for a given level of consumption.

However, price competition does not only depend on structural market factors; it also depends on price transparency and consumer behaviour. Active consumers who search for the best offer would in general tend to enhance competition. Furthermore, transparency would tend to make it easier for consumers to make comparisons and be active consumers.

Box 1 summarises information about price competition from the consumer survey. Generally, price-competition appears to be relatively weak across the 27 Member States and this is illustrated by relatively dark shadings in the table.

A number of additional conclusions emerge:

- Consumers would like more **choice of alternative suppliers** and more **choice of alternative tariffs** from the current supplier.

- Consumers across the 27 Member States are generally more satisfied with the choice of suppliers than with the **comparability of suppliers** and it seems to be easier for consumers to **compare different tariffs** from the same supplier than different suppliers. This is not surprising given the added complexity involved with comparing, for example, levels of

customer service and different terms and conditions. Both the comparability of tariffs and the comparability of suppliers could be improved.

- In most Member States, consumers have very little experience comparing **offers from the same or alternative suppliers**. A larger share of consumers in Germany and Sweden has tried to compare offers from their current supplier and from alternative suppliers than consumers in other Member States.

- Consumers also have limited experience using **price comparison tools** (and other assistance), although the results of the mystery shopping exercise showed that such tools can be found in most Member States for which data was collected, with the possible exception of Hungary where only 27% of mystery shoppers found a price comparison tool.

  However, there is indication that use of price comparison tools may make it easier for consumers to compare alternative offers from different suppliers.

- Overall, the findings suggest that the markets are not very transparent and that consumers are not very active in terms of comparing alternatives. This indicates that, although there is competition in the markets (in terms of alternative offers and suppliers), the level of competition in practice is limited.

- This may explain why suppliers rarely suggest that consumers switch to a **cheaper tariff or a tariff more in line with their preferences**. If there were strong competitive pressures in the market, suppliers might be more active in terms of ensuring that their consumers got the best deal they could offer them.

- The conclusion that there may in fact be limited price competition is supported by the fact that consumers across EU-27 generally rate the **competitiveness of prices** and the **fairness and reasonableness of prices** relatively low.

- Furthermore, consumers are generally relatively uncertain that they are on the **cheapest tariff**. This suggests that consumers expect that there are cheaper tariffs in the market. In light of this finding, it is surprising that more consumers have not searched for alternative offers from the same supplier or from alternative suppliers.

- **Germany**, **Finland** and the **Netherlands** and to a lesser extent **Austria**, **Belgium**, **Ireland**, **Sweden** and the **United Kingdom** stand out as Member States with a relatively high level of price competition.

Box 1: Indicators of price competition

	Sufficient choice of suppliers	Easy to compare offers from different suppliers	Sufficient choice of tariffs from current supplier	Easy to compare tariffs from current supplier	Have compared offers of different suppliers	Have compared tariffs from current supplier	Have used a price comparison site	Have recieved assistance to choose tariff	Prices of current supplier are fair and reasonable	Prices of current supplier are competitive	Supplier proposes switch to cheapest/ preferred tariff	On cheapest tariff
Austria	0.67	0.47	0.70	0.64	0.43	0.48	0.28	0.20	0.68	0.71	0.42	0.51
Belgium	0.68	0.50	0.66	0.59	0.46	0.46	0.36	0.24	0.62	0.63	0.41	0.47
Bulgaria	///	///	0.36	0.42	///	0.15	0.14	0.03	0.32	///	0.04	0.21
Cyprus	///	///	0.59	0.62	///	0.14	0.04	0.04	0.53	///	0.25	0.32
Czech Republic	0.53	0.61	0.68	0.60	0.32	0.45	0.21	0.06	0.46	0.46	0.31	0.34
Denmark	0.61	0.43	0.53	0.51	0.28	0.27	0.23	0.05	0.59	0.61	0.20	0.52
Estonia	0.27	0.30	0.65	0.64	0.09	0.37	0.10	0.18	0.50	0.55	0.44	0.53
Germany	0.78	0.59	0.71	0.71	0.60	0.71	0.40	0.18	0.68	0.71	0.58	0.50
Greece	///	///	0.54	0.51	///	0.18	0.05	0.03	0.40	///	0.15	0.22
Finland	0.79	0.60	0.72	0.71	0.49	0.47	0.34	0.17	0.70	0.76	0.29	0.40
France	0.60	0.41	0.65	0.58	0.17	0.28	0.08	0.04	0.61	0.61	0.37	0.65
Hungary	0.45	0.34	0.47	0.46	0.09	0.16	0.05	0.04	0.54	0.54	0.18	0.41
Ireland	0.67	0.61	0.62	0.60	0.53	0.42	0.15	0.10	0.69	0.66	0.31	0.54
Italy	0.62	0.48	0.62	0.58	0.26	0.34	0.11	0.09	0.61	0.62	0.51	0.37
Latvia	///	///	0.43	0.43	///	0.13	0.06	0.03	0.50	///	0.16	0.10
Lithuania	///	///	0.52	0.56	///	0.34	0.14	0.06	0.42	///	0.11	0.40
Luxembourg	0.42	0.37	0.56	0.54	0.13	0.31	0.08	0.07	0.67	0.61	0.41	0.54
Malta	///	///	0.30	0.28	///	0.11	0.07	0.07	0.36	///	0.29	0.18
Netherlands	0.81	0.58	0.72	0.70	0.46	0.52	0.38	0.12	0.71	0.70	0.40	0.39
Poland	0.31	0.28	0.52	0.49	0.10	0.29	0.11	0.05	0.49	0.42	0.17	0.40
Portugal	0.34	0.29	0.53	0.51	0.08	0.32	0.10	0.06	0.43	0.36	0.23	0.34
Romania	0.26	0.27	0.48	0.49	0.02	0.33	0.05	0.10	0.60	0.46	0.37	0.23
Slovakia	0.44	0.41	0.67	0.65	0.13	0.42	0.09	0.04	0.57	0.56	0.38	0.35
Slovenia	0.63	0.55	0.67	0.67	0.19	0.45	0.13	0.05	0.56	0.56	0.33	0.66
Spain	0.50	0.34	0.45	0.40	0.17	0.23	0.11	0.08	0.42	0.45	0.22	0.35
Sweden	0.82	0.52	0.66	0.63	0.61	0.58	0.44	0.20	0.63	0.67	0.33	0.47
United Kingdom	0.80	0.59	0.63	0.59	0.55	0.52	0.40	0.14	0.68	0.70	0.33	0.59

Note: Darker blue shadings are associated with lower levels of price competition. /// indicates that the indicator is not applicable. All indicators have been normalised to a scale from 0 to 1, where 1 indicates the highest possible level of price competition. From left to right, the columns of the table refer to:

1. Average rating for the statement: "I can chose from a sufficient number of electricity providers".
2. Average rating for the statement: "it is easy to compare offers from different electricity providers".
3. Average rating for the statement: "my current supplier offers a sufficient choice of tariffs".
4. Average rating for the statement: "It is easy to compare different tariffs offered by my current supplier".
5. Percentage of consumers who replied yes to the statement: "I have compared offers from different providers".
6. Percentage of consumers who replied yes to the statement: "I have compared tariffs from my provider".
7. Percentage of consumers who replied yes to the statement: "I have used price comparison websites to compare providers and/ or tariffs".
8. Percentage of consumers who replied yes to the statement: "I have received any other assistance or advice to choose my tariff (regulator, public advisory bureau, consumer organisation, private advice, etc)".
9. Average rating for the statement: "my current supplier offers fair and reasonable prices".
10. Average rating for the statement: "my current supplier offers competitive prices (compared to other providers)".
11. Percentage of consumers who replied yes to the statement: "does your electricity provider propose that you switch to the cheapest tariff or to a tariff more in line with your preferences and thereby ensure a personalized service based on the type of consumption".
12. Percentage of consumers who replied yes to the statement: "I am on the cheapest tariff in the market given my usage".

Source: ECME Consortium general consumer survey.

10.2 Price structure

The discussion above suggests that consumers would like more choice in terms of tariffs and suppliers. Furthermore, the analysis has shown that there is an appetite among consumers for green energy and a willingness to pay for it. However, in some countries no green energy options appear to be available. This could be an area in which policy makers could encourage the industry to provide more choice.

Access to peak/off-peak tariffs is a potentially important dimension of choice for consumers. However, our analysis suggests that such tariffs are not available in Denmark, Malta and Sweden.

A very notable finding of this study is that average prices per kWh are generally higher for consumers with lower consumption levels. This feature is unfortunate for two reasons:

- Firstly, it means that low consumption consumers pay a disproportionately high share of the costs of the electricity supply chain. If consumers with low electricity consumption are also consumers with a low income, this has unfortunate distributional consequences.
- Secondly, it reduces the incentives to reduce electricity consumption.

This suggests that there may be a benefit in adjusting the price structure to encourage energy-saving and to assist economically disadvantaged consumers.

In Italy, Portugal and Spain, prices also vary according to the intensity of the power supplied to the consumer. In these countries, lower prices (per kWh) are available to consumers who have lower power intensity and this may be a way to recognise low consumption levels. The discount is especially large for consumers who also have low consumption.

This means that, in some cases, the average tariff available to low consumption consumers has a lower price per unit than the average price on offer to medium consumption consumers, or, at least, the prices available to low consumption consumers are closer to the prices available to medium consumption consumers:

- In Italy, rather than being more expensive, the price per unit of the average tariff available to low consumption consumers is actually less than the price to medium consumption consumers if low consumption consumers also have low power intensity.[138]
- In Portugal and Spain, the difference between the price per unit of the average tariff available to low consumption consumers and the price per unit of the average tariff available to medium consumption consumers is reduced significantly if low consumption consumers also have low power intensity.[139]

10.3 Choice complexity

The results of the consumer survey indicate that consumers like to have choice of tariffs and suppliers and a positive link appears to exist between the extent to which consumers are satisfied with services and tariffs provided by their supplier and choice available to consumers.

Furthermore, there is evidence that there may be too little choice of suppliers and tariffs in some countries, most notably in Greece, Cyprus and Malta where a large share of consumers indicate that they would like to change electricity supplier in the future but they are currently unable to do so because the markets are characterised by national monopolies.

There is evidence that the variety and complexity of choice increases with the maturity of the liberalised market and that consumers in markets which have been liberalised longer generally tend to have more choice in terms of suppliers, contract types and tariffs.

[138] Whilst medium consumption consumers are assumed to have medium power intensity. For Italy, medium power intensity is defined as 3-4.5kw, whereas low power intensity is defined as 1.5kw.

[139] Whilst medium consumption consumers are assumed to have medium power intensity. The difference is reduced from 44% to 5% in the case of Portugal, and from 31% to 17% in the case if Spain). For Portugal, medium power intensity is defined as 6.9-13.8kva, whereas low power intensity is defined as 1.15-3.45kva. For Spain, medium power intensity is defined as 4kw, whereas low power intensity is defined as 2.5kw.

However, if the choice is too complex, it may be difficult for consumers to choose the best alternative. In particular, evidence suggests that the average possible savings associated with switching supplier increases with the complexity of the market. So despite having a large variety of choice, consumers in mature, liberalised markets are not, on average, on the cheapest tariff and there are large potential benefits associated with choice which are not currently being realised.

Although the existence of large potential savings suggests that consumers find it difficult to compare offers, the survey results also suggest that, on average, consumers actually find it easier to compare tariffs in countries where there is a high complexity of tariffs. This may be because consumers in mature and complex markets also have access to good price comparison tools and have more experience comparing offers.

This result, however, makes it even more paradoxical that consumers in mature and highly complex markets on average do not appear to take full advantage of the benefits associated with choice.

One explanation might be that consumers in mature, liberalised markets are reassured by the high perceived level of competition and therefore expect that prices are low in general regardless of the supplier selected. Indeed, the results of the study show that the average possible savings from switching tend to be higher in Member States where consumers, on average, believe that their prices are competitive.

10.4 Switching

The analysis has suggested that consumers are relatively loyal to their suppliers and that consumers are most interested in switching in countries where there is no real possibility to switch (Greece, Cyprus, Malta and Bulgaria). This may be because the quality of service and supplier behaviour is particularly poor in some of these countries. In particular, Greece, Malta and Bulgaria appear to have relatively low quality of service, perhaps due to the lack of competition. However, despite having no competition Cyprus does not stand out as an example of a country where conditions for consumers appear to be particularly poor.

Box 2 summarises indicators of switching from the consumer survey and there are a number of interesting conclusions:

- The percentage of consumers who have **switched tariff** with their current supplier or **switched supplier** varies considerably with relatively high switching rates in countries such as Ireland, Germany, Sweden and the United Kingdom and low switching rates in Estonia, Greece, Hungary, France, Luxembourg, Portugal, Slovakia, Slovenia and Spain.

  The overall low switching rates are consistent with the conclusions, presented earlier, that consumers are not particularly active in terms of searching the market. This finding further supports the conclusion that the actual level of competitive pressures arising from consumers in the market may be limited.

- There is evidence that switching is not as easy as it could be in some Member States and switching procedures could therefore be improved and simplified. Unsurprisingly, there is also evidence that it is easier for consumers to switch tariff with their current supplier than to switch to alternative suppliers.

- However, consumers in Luxembourg, Denmark, and Ireland indicate that supplier switching is quite easy. However, despite this observation, consumers in Luxembourg and Denmark rarely switch.
- Another reason why switching rates are relatively low may be that the **savings achieved** by those consumers who have switched tariff appear to be quite small. Consumers may thus perceive that the financial incentives to switch are too small given the costs and hassle implied by switching.
- However, as we note in relation to 'choice complexity', there appears to be the potential for large gains from switching. This may be because consumers who have switched did not switch as a result of a fully informed choice.
- The evidence suggests that consumers are generally not threatened to be prevented from switching by suppliers and hence this does not appear to be an important barrier to switching.

Box 2: Indicators of switching

	Percentage tried to switch supplier in the last 2 years	Ease of switching supplier	Percentage tried to switch tariff with current supplier in the last 2 years	Ease of switching tariff with current supplier	Size of the saving made by switching tariff	Suppliers not threatened to prevent consumers from switching
Austria	0.11	0.83	0.08	0.86	0.62	1.00
Belgium	0.09	0.74	0.12	0.93	0.58	0.99
Bulgaria	///	///	0.03	0.70	0.53	0.99
Cyprus	///	///	0.03	0.84	0.58	0.99
Czech Republic	0.08	0.80	0.08	0.90	0.69	1.00
Denmark	0.07	0.95	0.07	0.94	0.57	1.00
Estonia	0.01	0.60	0.07	0.91	0.51	0.99
Germany	0.16	0.87	0.23	0.94	0.57	0.99
Greece	///	///	0.03	0.64	0.60	1.00
Finland	0.18	0.92	0.10	0.89	0.64	0.99
France	0.04	0.71	0.09	0.91	0.57	0.99
Hungary	0.01	0.56	0.01	0.87	0.63	1.00
Ireland	0.28	0.98	0.03	0.94	0.64	1.00
Italy	0.08	0.77	0.13	0.83	0.42	0.99
Latvia	///	///	0.02	0.80	0.21	1.00
Lithuania	///	///	0.07	0.77	0.58	0.99
Luxembourg	0.00	1.00	0.08	0.90	0.66	1.00
Malta	///	///	0.02	0.63	0.73	0.97
Netherlands	0.15	0.82	0.13	0.94	0.62	0.99
Poland	0.01	0.33	0.05	0.89	0.60	1.00
Portugal	0.02	0.50	0.13	0.85	0.58	0.99
Romania	0.01	0.33	0.11	0.84	0.49	1.00
Slovakia	0.02	0.70	0.07	0.91	0.61	1.00
Slovenia	0.04	0.67	0.06	0.83	0.57	0.99
Spain	0.05	0.49	0.08	0.76	0.48	0.99
Sweden	0.18	0.90	0.19	0.93	0.59	1.00
United Kingdom	0.22	0.88	0.13	0.92	0.61	0.98

Note: Darker blue shadings are associated with lower levels of switching or larger barriers to switching. /// indicates that the indicator is not applicable. All indicators have been normalised to a scale from 0 to 1, where 1 indicates the highest possible level of switching or low barriers to switching. From left to right, the columns of the table refer to:

1. Percentage of consumers who have tried to switch electricity supplier in the last 2 years excluding those who switched because they moved house.
2. Average rating for the question: "which of the following best reflects your experience of switching supplier: you switched and it was easy (rating = 3), you switched but it was difficult (rating = 2), you tried to switch but you gave up because it was too difficult (rating = 1)".
3. Percentage of consumers who have tried to switch tariff while staying with the same electricity supplier in the last 2 years.
4. Average rating for the question: "which of the following best reflects your experience of switching tariff: you switched and it was easy (rating = 3), you switched but it was difficult (rating = 2), you tried to switch but you gave up because it was too difficult (rating = 1)".
5. Average rating for the question: "would you say the saving you made by switching tariff is: very large (rating = 6), fairly large (rating = 5), neither small nor large (rating = 4), fairly small (rating = 3), very small (rating = 2), no saving at all (rating = 1)".
6. Percentage of consumers who reported that their supplier threatened to prevent me from switching to another supplier.

Source: ECME Consortium general consumer survey.

Another reason for low switching rates may be that consumers are generally happy with their current supplier and therefore are uninterested in switching supplier. However, the analysis suggests that satisfaction with suppliers is not a statistically significant variable explaining supplier switching.

Instead the analysis suggests that the most important driver of supplier switching is awareness of alternative suppliers that consumers can switch to. This suggests that in order to make consumers more active awareness of alternative suppliers should be improved.

Furthermore, supplier switching rates increase with the maturity of the market; possibly because switching procedures become easier with time and consumers become more familiar with switching and the possibility of switching. The analysis also shows that consumers who have switched supplier in the past also are less loyal to their current supplier.

Finally, supplier switching rates depend positively on the market share of the largest four suppliers when controlling for awareness of alternative and the maturity of the market.

10.5 Consumer awareness

The evidence also suggests that consumers across the 27 Member States feel very poorly informed about the retail electricity market. This may cause significant problems of informational asymmetry where suppliers are in a position to exploit consumers' lack of knowledge to their benefit.

Box 3 summarises indicators of consumer information from the consumer survey. Generally, the shadings in the figure are relatively dark, illustrating the general lack of knowledge. The following particular conclusions emerge:

- Consumers across EU-27 have a relatively good understanding of the **amount** they pay for electricity.
- In comparison, consumers have less knowledge of the **volume** of electricity they consume in kWh. The consumer focus groups for smart metering also suggest that consumers mainly think in monetary terms (rather than volume terms) when evaluating their consumption and measures to reduce consumption.
- Consumers across EU-27 also generally find it relatively easy to **find and understand information on the bill**. It should be noted that this indicator relies partly on responses from the billing and payment survey and there is a tendency that respondents found it easier to find and understand billing information during the billing survey than during the general consumer survey. This may be because the billing survey was undertaken while the consumer had the bill in front of them.
- Consumers' knowledge and understanding of their **current electricity agreement**, the **awareness and transparency of alternative tariffs**, and the extent to which consumers feel **generally informed** about the market are rated much less favourably across the 27 Member States.
- There are large variations across the 27 Member States in terms of consumers' ability to **name an alternative supplier**. In Ireland, the Netherlands and the United Kingdom consumers are generally able to do so but consumers' ability to name alternative suppliers is low or very low in Hungary, France, Luxembourg, Poland, Portugal, Slovakia and Slovenia.
- Although consumers generally feel relatively poorly informed, the indicator of the **availability of information from suppliers and third parties** is relatively more positive. This suggests that if consumers searched more actively for information they could also be better informed.

- Overall, the analysis has suggested that consumers do not feel well informed by suppliers. Instead consumers have to actively seek the information they need from suppliers and third parties. Furthermore, the information provided by suppliers in contract terms, on electricity bills and about tariffs could be clearer.

- It is worth noticing that **Latvia** and **Lithuania** stand-out as countries with a high level of awareness of the volume of electricity consumed, the amount consumers pay, understanding of the bill. This suggests that the metering and payment system in these countries works relatively well in terms of keeping consumers informed despite the fact that consumers do not receive a bill.

- **Ireland**, **Germany** and **Cyprus** also stand out as examples of countries where consumers seem relatively well-informed.

Box 3: Indicators of consumer information

	Consumers know their consumption volume	Consumers know how much they pay	Consumers know & understand their current agreement	Ease to find & understand information on the bill	Awareness & transparency of different tariffs	Consumers generally informed about the market	Information available from suppliers and third parties	Consumers can name another provider
Austria	0.58	0.80	0.61	0.75	0.57	0.46	0.75	0.64
Belgium	0.61	0.81	0.61	0.74	0.63	0.51	0.65	0.82
Bulgaria	0.61	0.79	0.43	0.66	0.43	0.50	0.49	///
Cyprus	0.54	0.89	0.52	0.79	0.61	0.63	0.66	///
Czech Republic	0.64	0.85	0.55	0.69	0.51	0.50	0.68	0.65
Denmark	0.63	0.71	0.48	0.72	0.50	0.40	0.61	0.60
Estonia	0.74	0.86	0.69	0.82	0.56	0.50	0.66	0.07
Germany	0.64	0.80	0.71	0.83	0.65	0.51	0.72	0.80
Greece	0.56	0.84	0.46	0.71	0.54	0.53	0.52	///
Finland	0.66	0.79	0.69	0.82	0.67	0.48	0.77	0.63
France	0.58	0.84	0.53	0.80	0.53	0.51	0.60	0.40
Hungary	0.69	0.82	0.48	0.66	0.42	0.33	0.61	0.23
Ireland	0.41	0.74	0.59	0.84	0.65	0.61	0.68	0.91
Italy	0.58	0.79	0.53	0.71	0.58	0.48	0.60	0.62
Latvia	0.82	0.91	0.70	0.88	0.64	0.48	0.68	///
Lithuania	0.88	0.91	0.57	0.88	0.51	0.40	0.63	///
Luxembourg	0.44	0.83	0.51	0.77	0.52	0.45	0.71	0.26
Malta	0.52	0.67	0.46	0.71	0.49	0.52	0.59	///
Netherlands	0.56	0.68	0.65	0.78	0.75	0.54	0.63	0.92
Poland	0.64	0.89	0.56	0.70	0.43	0.37	0.56	0.20
Portugal	0.53	0.76	0.54	0.71	0.49	0.47	0.62	0.18
Romania	0.75	0.85	0.67	0.80	0.54	0.48	0.62	0.06
Slovakia	0.67	0.86	0.58	0.77	0.64	0.48	0.70	0.26
Slovenia	0.63	0.88	0.51	0.76	0.63	0.55	0.70	0.57
Spain	0.53	0.74	0.44	0.66	0.45	0.34	0.62	0.71
Sweden	0.68	0.75	0.67	0.77	0.60	0.51	0.61	0.88
United Kingdom	0.48	0.76	0.60	0.77	0.60	0.49	0.63	0.91

Note: Darker blue shadings are associated with lower levels of information. /// indicates that the indicator is not applicable. All indicators have been normalised to a scale from 0 to 1, where 1 indicates the highest possible level of information. From left to right, the columns of the table refer to:

1. Average rating for the statement: "I know how much electricity I use (per month, year or any other frequency) in kWh".
2. Average rating for the statement: "I know how much I pay for electricity (per month, year or any other frequency)".
3. Average of: a) the average rating for the statement: "I know the main characteristics of the tariff I am on", b) the average rating for the statement: "I know how the price I pay for electricity is calculated", c) the percentage who said yes to the statement: "I have read the terms and conditions of my contract", d) the percentage who said yes to the statement: "I know the advance notice period in case I want to terminate my contract with my electricity provider", and e) the average rating for the statement: "the information in my contract with my current supplier are, complete and easy to understand".
4. Average of: a) the average rating for the statement: "I understand the information provided on my electricity bill", b) the average rating for the statement: "bills of my current supplier are clear and easy to understand" c) the average rating for how easy it is to find and understand the following elements on the bill: the name of your supplier; the contact details of your supplier; the amount to be paid; whether the amount is calculated on actual meter reading or estimated; consumption during the billing period; type of tariff applied; the amount of any fixed charges; price per kWh; standing charge element; the price breakdown; the billing period; the deadline for payment; the penalties in case of late payment; information about the methods of payment; how to contact your electricity provider in case of questions or complaints.
5. Average of: a) the average rating for the statement: "I am aware of the different tariffs offered by my current supplier and by other electricity supply providers", and b) the average rating for the statement: "tariffs of my current supplier are clear and easy to understand".
6. Average rating for the statement: "I am generally well informed about the retail electricity market".
7. Average of: a) the percentage who said yes to the statement: "I can name an organisation (regulator, ombudsman, consumer protection body) that I could turn to for advice or help about my electricity bill", b) the average rating for the statement: "the current supplier informs you regularly about their services and tariffs", and c) the average rating for the statement: "the current supplier has a website on which you can easily find the information you want".
8. The percentage who said yes to the statement: "I can name another provider I could switch to for electricity supply".

Source: ECME Consortium analysis of data from general consumer survey and billing and payment survey.

Electricity bills provide consumers with differing details of information and there is a slight tendency for consumers to feel better informed about the retail electricity market when more information is easily available on the bill.

Analysis of the billing survey also suggests that:

- Basic billing information such as the amount due, the supplier name, the billing period, supplier contact details and the payment deadline is relatively easy to find and understand for consumers.
- Information which may assist consumers being active in the market is less easily available on the bill. In particular awareness of switching, complaining and consumption is likely to be particularly important for consumers wanting to play an active part in the market.

  However, the analysis shows that information on electricity bills related to switching is generally lacking or too difficult to understand. Similarly, bills rarely contain the name of a third party organisation that consumers can complain to. Furthermore, bills do not always contain in an easily understandable way supplier contact details, information about complaint procedures and information about consumption.
- Less frequent billing does not result in a systematically lower awareness of the amount of electricity consumed or the amount paid. Nor does it impact on consumers' assessment of the usefulness of the information provided on the bills.
- In contrast, the use of estimated consumption does reduce consumers' awareness of the volume of electricity consumed and the consumers' assessment of the usefulness of the information provided on the bill. However, it has only a very small impact on consumers' awareness of the amount paid.
- The reception of regular bills in addition to the reconciliation bill does not contribute to increase consumers' awareness or assessment of the usefulness of the billing information.
- The survey results show clearly that consumers who are not aware whether the amount they have to pay for their electricity consumption changed after receiving a reconciliation bill are also less aware of the amount of electricity they consume and the overall amount they have to pay, and also find the information on the bill less useful.

Finally, consumers who have chosen an automatic payment means (direct debit or standing order) which does not require them to take even a cursory look at their bill are clearly less aware of their electricity consumption and somewhat less aware of the amount they have to pay.

10.6 Quality of service and consumer satisfaction

Assessments of the quality of service and the extent to which consumers have experienced problems with their electricity suppliers give an indication of the functioning of the market. In well-functioning markets, quality of service would be expected to be high and the number of problems experienced by consumers would be expected to be low.

In particular, in liberalised markets competitive pressures would be expected to lead to a high quality of service and in non-liberalised markets proper regulation could also ensure a high quality of service.

Box 4 summarises quality of service and consumer satisfaction measures from the consumer survey. Darker shadings in the table indicate areas with quality problems. A number of conclusions are evident:

- The study has shown that **reliability of service** is an important determinant of customer satisfaction and with a few exceptions consumers across EU-27 rate the reliability of service highly. Notable exceptions are Malta, Bulgaria and Greece.

- In comparison, **other quality measures** such as the extent to which the supplier can be reached when needed, the speed of service in relation to connection and disconnection, overall service quality and staff quality are rated slightly less favourable by consumers in EU-27.

- The quality of **technical support** is rated relatively poorly by consumers in all Member States and although consumers generally are quite happy with their current supplier, there is also indication that consumers do not think that their supplier offers a **good customer service**.[140]

- In the area of **complaint handling**, there is considerable variation in speed with which problems are dealt with. Countries such as Lithuania, Luxembourg and the Netherlands fare relatively well on this component whereas the response time in Belgium and Spain are much less favourable. It is particularly of note that consumers in all Member States are generally not satisfied with the process of complaint handling and the rating of suppliers' reaction to problems and questions is also less favourable than in other areas.

- The survey results also indicate that relatively few consumers have experienced serious **quality problems**[141] within the last 2 years. However, although these types of problems are infrequent, when they do occur they can cause significant consumer detriment. For example, in Malta 23%[142] of consumers have experienced such problems which might actually be considered very serious. In fact, quality of service problems such as power interruptions and poor customer service were among those problems that consumers most frequently indicated were the most serious problems they had experienced.

- **Bulgaria** and **Malta**, and to a lesser extent, **Greece** and **Spain** stand out as countries with a relatively poor quality of service and customer service. At the other end of the scale **Austria** and **Cyprus**, and to some extent **Ireland**, **Germany,** the **United Kingdom** and **Finland** stand out as cases with a high quality of service. It is notable that Cyprus appears to have a generally high level of quality of service despite being characterised as non-liberalised market with a national monopoly.

[140] We are awaiting clarification from local offices on how this question was asked.

[141] Quality problems are defined as problems with 'quality of customer service', 'interruptions in electricity supply', 'long gaps between bills', 'inaccurate estimates of electricity consumption', 'infrequent meter readings', 'absence of notification for interruption' and 'time to be connected to the network'

[142] Hence the figure in Box 1 is 0.77= 1- 0.23.

Box 4: Indicators of quality of service

	Reliability of service	Technical support	Supplier can always be reached	Speed of service	Overall quality of service	Suppliers provide good overall customer service	Staff professional helpful and friendly	Supplier reacts quickly and accurately to problems	Electricity services live up to what consumers want	Speed of response to complaints	Satisfaction with complaint handling	Frequency of problems
Austria	0.95	0.76	0.88	0.85	0.87	0.68	0.87	0.83	0.85	0.74	0.65	0.98
Belgium	0.86	0.65	0.71	0.75	0.76	0.56	0.76	0.70	0.78	0.55	0.49	0.95
Bulgaria	0.61	0.41	0.51	0.52	0.54	0.22	0.56	0.51	0.58	0.64	0.45	0.84
Cyprus	0.86	0.81	0.84	0.80	0.83	0.89	0.82	0.78	0.81	0.76	0.52	0.97
Czech Republic	0.88	0.57	0.84	0.78	0.75	0.43	0.77	0.76	0.77	0.67	0.44	0.96
Denmark	0.93	0.63	0.73	0.74	0.76	0.27	0.77	0.73	0.76	0.82	0.50	0.97
Estonia	0.73	0.59	0.80	0.77	0.81	0.62	0.82	0.77	0.77	0.89	0.56	0.94
Germany	0.95	0.66	0.85	0.81	0.82	0.61	0.84	0.79	0.81	0.64	0.46	0.99
Greece	0.67	0.57	0.66	0.63	0.65	0.58	0.64	0.62	0.68	0.67	0.47	0.83
Finland	0.88	0.70	0.80	0.80	0.83	0.64	0.83	0.79	0.83	0.78	0.59	0.98
France	0.83	0.65	0.71	0.76	0.77	0.65	0.77	0.69	0.83	0.72	0.56	0.93
Hungary	0.80	0.56	0.72	0.77	0.78	0.81	0.80	0.76	0.75	0.61	0.51	0.93
Ireland	0.90	0.73	0.80	0.80	0.86	0.80	0.84	0.80	0.88	0.77	0.53	0.96
Italy	0.81	0.69	0.72	0.73	0.75	0.65	0.75	0.70	0.74	0.76	0.41	0.97
Latvia	0.82	0.66	0.76	0.79	0.80	0.83	0.81	0.76	0.80	0.84	0.48	0.89
Lithuania	0.79	0.60	0.79	0.71	0.80	0.19	0.80	0.74	0.71	0.90	0.53	0.93
Luxembourg	0.87	0.66	0.76	0.80	0.80	0.69	0.77	0.74	0.82	0.93	0.55	0.97
Malta	0.53	0.58	0.54	0.57	0.59	0.42	0.60	0.54	0.62	0.65	0.45	0.77
Netherlands	0.84	0.64	0.73	0.72	0.77	0.47	0.74	0.72	0.81	0.64	0.35	0.98
Poland	0.80	0.55	0.68	0.70	0.71	0.22	0.73	0.68	0.77	0.93	0.48	0.95
Portugal	0.73	0.61	0.78	0.68	0.71	0.70	0.75	0.70	0.72	0.79	0.56	0.93
Romania	0.76	0.63	0.75	0.71	0.75	0.59	0.75	0.70	0.76	0.73	0.46	0.84
Slovakia	0.85	0.59	0.72	0.74	0.75	0.45	0.76	0.74	0.78	0.77	0.59	0.95
Slovenia	0.87	0.70	0.80	0.79	0.80	0.46	0.80	0.78	0.75	0.64	0.53	0.97
Spain	0.76	0.57	0.60	0.60	0.66	0.58	0.67	0.57	0.73	0.53	0.37	0.86
Sweden	0.89	0.60	0.78	0.79	0.81	0.60	0.81	0.79	0.78	0.76	0.51	0.98
United Kingdom	0.86	0.63	0.77	0.74	0.78	0.74	0.80	0.75	0.78	0.64	0.54	0.94

Note: Darker blue shadings are associated with lower service quality. All indicators have been normalised to a scale from 0 to 1, where 1 indicates the highest possible quality rating. From left to right, the columns of the table refer to:

1. Average rating for the statement: "The electricity service is reliable, i.e. it works well, all the time (e.g. no flickering lights or computer screens, cut-offs, etc.)".
2. Average rating for the statement: "my current supplier offers a high quality technical assistance when it comes to new installations, repairs, etc.
3. Average rating for the statement: "my current supplier can always be reached when needed
4. Average rating for the statement: "requests for connections/disconnections/ fixing the power interruptions are rapidly dealt with".
5. Average rating for the statement: "my current supplier offers overall a high quality service".
6. Percentage of consumers who replied yes to the statement: "does your electricity provider offer a better overall customer service".
7. Average rating for the statement: "the staff of my current supplier is professional, helpful and friendly".
8. Average rating for the statement: "when contacting my current supplier with questions or problems, they react promptly and accurately".
9. Average rating for the question: "to what extent would you say that the electricity services from your current supplier live up to what you want".
10. Average number of weeks taken to deal with complaints (from the moment the consumers made a complaint to the moment a decision was taken)
11. Average rating for the statement: "in general, how satisfied were you with the way your complaint was dealt with".
12. Percentage of consumers (out of all respondents) who cited none of the following as a most serious problem in the last two years: a) "quality of the customer service (e.g. poor, no service provided, etc.)", or b) "interruptions in electricity supply", or c) "long gaps between bills", or d) "inaccurate estimates of electricity consumption", or e) "infrequent meter readings", or f) "absence of notification for interruption", or g) "time to be connected to the network".

Source: ECME Consortium analysis of responses to the general consumer survey.

A cross-country analysis of consumer satisfaction ratings suggests that consumer satisfaction increases with:

reliability of supply;

bill transparency; and

perceived fairness and reasonableness of price.

When accounting for these factors, the maturity of the liberalised market (measured by the number of years since liberalisation) does not increase consumer satisfaction. On the contrary, the

evidence suggests that consumer satisfaction decreases with the maturity of the liberalised market (when controlling for the above mentioned factors).

10.7 Supplier behaviour

Our analysis investigated aspects of supplier behaviour that could contribute to weaker competition in the electricity retail markets.

Box 5 summarises indicators of supplier behaviour and a number of conclusions emerge:

- Consumers generally indicate that there is room for improvement of the quality of **advertising and pre-contractual information** as it is sometimes seen as deceiving, misleading or omitting relevant information.
- Similar conclusions hold with regards to the **fairness of contract terms** and the extent to which contract terms guarantee consumer rights. These indicators suggest that consumers do not always trust suppliers to behave in an appropriate way.
- However, few consumers in most EU-27 Member States have actually felt **pressurised into signing a contract** and evidence from the analysis undertaken for this study of data collected in the stakeholder survey, mystery shopping and the consumer survey generally suggests that problems related to unfair commercial practices are relatively rare and mostly not particularly serious.
- The ratings of the consumer trust in suppliers to **respect consumer protection rules** and to ensure that **bills accurately reflect consumption** are relatively good with the latter being slightly better rated than the former.
- Generally consumers have not experienced **problems** with their supplier within the last 2 years and this suggests that supplier behaviour is generally quite good across EU-27. However, there are examples of countries where relatively many consumers have experienced problems.
- Once again **Bulgaria**, **Greece**, **Malta** and **Spain** stand out as examples of countries with poor ratings across the indicators.
- **Latvia** and **Lithuania** stand out as examples with very varied responses across the indicators of supplier behaviour. In particular consumers in both countries on average indicate a poor behaviour in terms of pressuring consumers to sign contacts. However, consumers in both countries give relatively favourable ratings with respect to the accuracy of billing. This may be due to the fact that consumers in these countries generally do not receive bills.
- **Austria**, **Finland** and **Germany** are examples of countries where consumers provide good ratings of supplier behaviour for all indicators.

Box 5: Indicators of supplier behaviour

	Advertsing & pre-contractual documents not misleading	No pressure to sign contracts	Bills accurately reflect real consumption	Trust in suppliers to respect rules protecting consumers	Contract terms are fair (guarantee consumers' rights)	No problems with suppliers
Austria	0.71	0.85	0.84	0.82	0.78	0.96
Belgium	0.67	0.79	0.77	0.72	0.70	0.91
Bulgaria	0.43	0.46	0.55	0.46	0.39	0.76
Cyprus	0.77	0.77	0.74	0.71	0.69	0.93
Czech Republic	0.62	0.86	0.80	0.68	0.68	0.92
Denmark	0.65	0.86	0.82	0.80	0.67	0.95
Estonia	0.68	0.65	0.85	0.75	0.70	0.89
Germany	0.71	0.89	0.84	0.78	0.76	0.95
Greece	0.59	0.71	0.59	0.51	0.51	0.75
Finland	0.78	0.89	0.85	0.85	0.77	0.95
France	0.66	0.75	0.77	0.74	0.70	0.90
Hungary	0.69	0.77	0.77	0.73	0.71	0.87
Ireland	0.75	0.76	0.80	0.85	0.79	0.93
Italy	0.66	0.84	0.71	0.70	0.66	0.95
Latvia	0.72	0.33	0.92	0.77	0.78	0.85
Lithuania	0.59	0.58	0.82	0.68	0.65	0.88
Luxembourg	0.69	0.60	0.78	0.77	0.68	0.97
Malta	0.59	0.68	0.63	0.59	0.48	0.70
Netherlands	0.70	0.79	0.78	0.77	0.73	0.95
Poland	0.60	0.72	0.73	0.69	0.67	0.93
Portugal	0.62	0.65	0.69	0.64	0.64	0.92
Romania	0.70	0.65	0.80	0.69	0.77	0.81
Slovakia	0.72	0.78	0.80	0.78	0.75	0.92
Slovenia	0.64	0.79	0.71	0.68	0.71	0.94
Spain	0.52	0.62	0.53	0.64	0.57	0.79
Sweden	0.59	0.76	0.82	0.81	0.70	0.96
United Kingdom	0.70	0.69	0.75	0.77	0.73	0.87

Note: Darker blue shadings are associated with poorer supplier behaviour. /// indicates that the indicator is not applicable. All indicators have been normalised to a scale from 0 to 1, where 1 indicates the highest possible standard of supplier behaviour. From left to right, the columns of the table refer to:

1. Average rating for the statement: "Advertising and pre-contractual documents from (PROVIDER) do not deceive, mislead or omit relevant information.
2. Average rating for the statement: "I have felt pressurised to sign a contract with a provider
3. Average rating for the statement: "I believe my bills accurately reflect my real consumption
4. Average rating for the statement: "I trust my current supplier to respect the rules and regulations protecting consumers
5. Average rating for the statement: "The terms of the contract I have with my current supplier are fair i.e. they guarantee my rights as a consumer.
6. Percentage of consumers who said yes to the question: "have you experienced any problems with you current supplier in the past two years".

Source: ECME Consortium general consumer survey.

10.8 Complaints

The analysis of consumer satisfaction and quality suggested that, generally, consumers are not satisfied with complaint handling. Other conclusions in the area of complaint behaviour are summarised in Box 6:

- Generally the **complaint propensity** is relatively low, meaning that consumers often do not complain about problems they experience with their suppliers and ask for the problems to be rectified.

- Consumers generally know where and how to complain and do not find **complaint procedures** too difficult. However, there is a positive link between the share of consumers who complain and the share of consumers that do not find complaining too difficult. This suggests that, by improving complaint handling procedures, the complaint propensities may be increased.

- Results from the survey also show that consumers mostly complain to their supplier and rarely **complain to other organisations** such as ombudsmen, courts, consumer associations, regulators or consumer protection agencies. This is even the case when consumers are dissatisfied with the solution offered by suppliers.

- This result may be due to limited awareness of **bodies that consumers can turn to for help and advice** and there seems to be scope for improving awareness in this area and hence improving consumer empowerment.

Box 6: Indicators of complaint handling

	Share who did complain about problem	Not too difficult to complain	Know how or where to address complaint	Did complain to anyone else (billing problems)	Share who can name an organisation to ask for advice or help with their bill
Austria	0.75	0.95	1.00	0.33	0.70
Belgium	0.77	0.94	0.87	0.00	0.56
Bulgaria	0.37	0.91	0.91	0.00	0.45
Cyprus	0.84	0.95	0.97	0.00	0.47
Czech Republic	0.71	0.95	0.98	0.00	0.65
Denmark	0.70	0.96	0.89	0.33	0.46
Estonia	0.48	0.89	0.86	0.25	0.71
Germany	0.91	1.00	0.96	0.67	0.59
Greece	0.66	0.98	0.97	0.00	0.43
Finland	0.59	0.89	0.89	///	0.70
France	0.64	0.90	0.88	///	0.55
Hungary	0.51	0.87	0.96	0.23	0.41
Ireland	0.69	0.89	1.00	0.33	0.54
Italy	0.73	0.85	0.96	0.25	0.46
Latvia	0.38	0.93	0.92	0.00	0.59
Lithuania	0.18	0.88	0.93	1.00	0.59
Luxembourg	0.63	0.81	0.94	0.00	0.67
Malta	0.52	0.92	0.98	0.22	0.52
Netherlands	0.44	0.84	0.92	0.00	0.45
Poland	0.30	0.88	0.94	0.00	0.41
Portugal	0.74	0.90	0.95	0.17	0.68
Romania	0.72	0.92	0.98	0.00	0.53
Slovakia	0.50	0.90	0.95	0.00	0.61
Slovenia	0.32	0.71	0.82	0.00	0.55
Spain	0.55	0.87	0.93	0.00	0.68
Sweden	0.85	0.90	1.00	0.00	0.46
United Kingdom	0.69	0.94	0.91	0.00	0.53

Note: Darker blue shadings are associated with poorer complaint behaviour. /// indicates that the indicator is not applicable to any consumers in the Member State. All indicators have been normalised to a scale from 0 to 1, where 1 indicates the highest possible standard of complaint behaviour. From left to right, the columns of the table refer to:

1. Percentage of consumers who had a problem within the last 2 years and complained to either the supplier or a third party organisation.
2. Percentage of consumers who had a problem and did not say that it was too difficult to complain.
3. Percentage of consumers who had a problem but did not say that they did not know how and where to address their complaint.
4. Percentage of consumers who had a billing problem within the last 2 years and did not make a complaint to anyone else although they were not satisfied with the solution suggested by the supplier.
5. Percentage of consumers who replied yes to the statement: 'I can name an organisation that I could turn to for advice or help about by electricity bill'.

Source: ECME Consortium general consumer survey.

10.9 Regulators' perceptions

Data collected for this study in the following areas of quality of service, show that the views of stakeholders and consumers are often diverging with regards to:

- quality of advertising and price information in advertising;
- reliability of service;
- quality of technical support;
- speed of service for disconnections and connections;
- suppliers can be reached when need;

- speed and accuracy of response to complaints and problems; and
- overall quality of service.

The lack of a positive correlation between consumers' and regulators' perceptions regarding quality of advertising information may imply that regulators fail to recognise the need to assist consumers in interpreting the information that is provided to them by suppliers. There may be a need for clearer guidance on the information that suppliers should provide in their advertising.

In relation to quality of service issues, differences appear in all areas but most notably in the area of quality of technical assistance, speed of service and speed and accuracy of response to complaints and problems. Particularly, the Bulgarian regulator appears to be consistently of the view that the quality of service is higher than what is indicated by the average score of consumers themselves.

If regulators cannot properly identify these problems, it is unlikely that they will be able to act upon them adequately. Their role is most important in the case of non-liberalised markets or in markets with national or regional monopolies, where appropriate regulation is particularly necessary in order to ensure high quality services for consumers.

10.10 Policy recommendations

This study of the retail electricity market has focused on the functioning of the market and consumer decision making in the market.

Below we present a number of recommendations based on our analysis and findings.

The study has highlighted significant informational problems in the retail electricity markets across the EU. Consumers generally do not feel well-informed about the market and this may reduce consumers' ability to make informed, rational and empowered decisions.

- **Recommendation 1: Raise consumer awareness and knowledge about alternative suppliers.** For the awareness campaigns to be effective they would preferably have a local focus and hence make consumers better aware of alternative suppliers in their area.

- **Recommendation 2: Raise consumer awareness and knowledge about possible benefits from switching**.

- **Recommendation 3: Information about suppliers and tariffs should be provided to consumers more proactively and better tailored to particular usage patterns.** This should address the fact that, even though high levels of information are made available to consumers, they seem often unable to take the best possible advantage of that information.

- **Recommendation 4: Improve consumer awareness of third-party organisations such as regulators, ombudsmen and consumer protection agencies that can assist consumers with problems**.

Consumer empowerment could also be enhanced by improving processes in the area of switching and complaint handling. Evidence from the study suggests that it is not always as easy to switch

supplier and tariff as it could be. Furthermore evidence suggests that consumers are generally dissatisfied with complaint handling and that complaint propensities are generally higher when it easy to complain.

- **Recommendation 5: Improve and simplify switching processes**.

- **Recommendation 6: Improve processes for handling complaints and dispute resolution.**

The results of the consumer survey indicate that consumers would like an improved choice of tariffs and suppliers.

- **Recommendation 7: Improve choice of electricity products to consumers for example by encouraging provision of green tariffs and peak/off-peak tariffs to all consumers**.

The analysis has shown that the choice complexity increases with the maturity of the retail electricity market and that use of comparison tools may help consumers compare alternatives. In many Member States price comparison tools are available but are not being used by most consumers.

- **Recommendation 8: Provide tools for consumers to help them compare alternatives and increase awareness of tools provided**. For tools and help available to consumers to be as effective as possible, it is essential that consumers are made aware that the help exists and that the tools are as easy to use and accurate as possible.

- **Recommendation 9: Encourage suppliers to present their tariff offers in a way that is clear and transparent for consumers to interpret and compare across suppliers**.

The study identified some potentially negative aspects in the pricing structure of retail electricity. Consumers with lower electricity usage pay higher per unit prices as a result of the fixed fees charged by a number of suppliers. This is unfortunate both in terms of encouraging reductions in electricity consumption and in terms of the possible distributional consequences if low consumption consumers are also consumers with low income.

- **Recommendation 10: Change tariff structure to avoid higher per unit prices for low-consumption consumers**.

The study also suggests that there may be scope for improving the quality of service and customer service relations.

- **Recommendation 11: Encourage suppliers to improve customer service and customer relations.**

- **Recommendation 12: Discourage suppliers from pressuring consumers into signing contracts.**

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Page

List of Tables, Figures & Boxes

Page

Page

Page

Page

Page

Page

Page

Page

Page

Page

Page

Annex 1 Overview of the regulatory environment

The powers to regulate and enforce regulation relevant to the energy sector are typically shared among different governmental departments and authorities. In this annex we provide a brief overview of the regulatory environment in relation to the roles and responsibilities of the electricity regulators, the competition authorities, the consumer protection authorities and the relevant ministries in the retail electricity market. Further details of how regulation is enforced and implemented are presented where relevant throughout this report.

Other governmental departments and bodies besides the electricity regulators, ministries, consumer protection authorities and competition authorities may also have authority in relation to the electricity sector; however, for the most-part the activities of these other bodies do not relate to electricity supply and are therefore not the main focus of this report.

A1.1 Relevant authorities

In this annex we focus on the following types of authorities:

- **Electricity regulators:** The activities of the electricity sector, or more generally the sector for energy and utilities, are typically overseen by a sector specific regulator (hereafter 'the regulator'). Traditionally, these authorities monitored and regulated the monopolies in the sector. The regulators generally still regulate and monitor the activities of monopoly companies responsible for network services and where applicable also monopolies in electricity supply. In addition, regulators typically have some responsibilities in the liberalised retail market. This annex focuses mainly on responsibilities in the retail electricity market.

- **Competition authorities:** In liberalised markets, the roles and responsibilities of regulators may overlap with the roles and responsibilities of competition authorities. In particular, competition regulation relevant to electricity supply may be detailed both in the general competition laws and in the electricity or energy laws. The regulator is typically responsible for enforcement of the electricity and/or energy laws, whereas the competition authorities are responsible for enforcement of general competition laws.

  In Denmark, the Netherlands and Estonia there are strong organisational links between the regulator and the competition authority.

- **Consumer protection authorities:** Consumer protection authorities (irrespective of whether the authority is within a government department or operates as a separate consumer protection agency) are responsible for enforcing general consumer protection laws that apply to all sectors. However, energy and/or electricity laws may also include consumer protection legislation that is specific to the electricity and/or energy sector. As a result, the regulator may be responsible for some areas of consumer protection enforcement in the electricity sector. It is worth mentioning that, in Romania, the regulator in the electricity arena is also the general consumer protection authority.

  In addition to the consumer protection authorities, there may exist other special bodies with responsibilities in the area of consumer protection. Examples include general

consumer ombudsmen, energy ombudsmen, arbitration boards, and various consumer advice authorities.

A1.2 Regulatory roles and responsibilities

In this section, we initially provide an overview of how the relevant policy areas are split among ministries and what the roles and responsibilities of the ministries are compared to the responsibilities of the regulators. We then provide a brief overview of the responsibilities of the regulator and the extent to which competition and consumer protection authorities have authority in the electricity market.

A1.2.1 Policy responsibilities of ministries

The responsibilities of regulators in relation to the retail electricity market are related to a number of policy areas including energy policy, competition policy and consumer policy. While there may be independent authorities responsible for enforcement of these areas, the government and its ministries generally set the overall policy direction and monitor the activities of the authorities.

Table 84 provides a summary of which ministries are responsible for overall competition, consumer and energy policy respectively in each of the Member States. It should be emphasised that the ministries mentioned in Table 84 may not be responsible for enforcement and regulation and that these activities may instead be undertaken by independent authorities.

In some cases, the same ministry is responsible for energy, competition and consumer policy as is the case in Belgium, Bulgaria, Cyprus, Estonia and Finland, and this co-location of responsibilities greatly eases possible coordination problems within the 3 policy areas (Table 84).

However, in some countries, the three policy areas are located within different ministries. For example, in Denmark, the Ministry of Energy and Climate is responsible for energy policy, while the Ministry of Economy and Business is responsible for competition and consumer policy. However, possible coordination issues are eased because the regulator has strong organisational links with the competition authority.

Another example of split responsibilities occurs in Austria, where the Ministry for Economic Affairs, Family and Youth is responsible for competition policy and energy policy; however, the responsibility for coordination of consumer policy is with the Ministry for Labour, Social Affairs and Consumer Protection.

The responsibility for competition policy typically lies with a ministry responsible for economics, business, industry or enterprise. With the exceptions of Germany, Austria, Hungary, Lithuania and Sweden, the responsibility for consumer protection also lies with a ministry responsible for economics, business or enterprise. In Austria, Hungary and Sweden, consumer protection is instead located alongside social policy and/or equality. In Lithuania, consumer protection is located within the Ministry of Justice, and in Germany, consumer protection is linked to the areas of food and agriculture.

In most cases, energy policy is also the responsibility of a ministry responsible for economic policy and/or industry, businesses, and enterprise. However, Denmark, France, Hungary, Ireland,

Lithuania, Malta and the United Kingdom have a special ministry with responsibilities in the area of energy policy, climate change and natural resources.

Table 84: Ministries with responsibility for overall competition, consumer and energy policy

	Ministry responsible for competition policy	Ministry responsible for consumer policy	Ministry responsible for energy policy
Austria	Ministry for Economic Affairs, Family and Youth	Ministry for Labour, Social Affairs and Consumer Protection[1]	Ministry for Economic Affairs, Family and Youth
Belgium	FPS Economy, SMEs, Independent Professions and Energy	FPS Economy, SMEs, Independent Professions and Energy	FPS Economy, SMEs, Independent Professions and Energy
Bulgaria	Ministry of Economy, Energy and Tourism	Ministry of Economy, Energy and Tourism	Ministry of Economy, Energy and Tourism
Cyprus	Ministry of Commerce, Industry and Tourism	Ministry of Commerce, Industry and Tourism	Ministry of Commerce, Industry and Tourism
Czech Republic	:	Ministry of Trade and Industry	Ministry of Trade and Industry
Denmark	Ministry of Economic and Business Affairs	Ministry of Economic and Business Affairs	Ministry of Climate and Energy
Estonia	Ministry of Economic Affairs and Communications	Ministry of Economic Affairs and Communications	Ministry of Economic Affairs and Communications
Finland	Ministry of Employment and Economy	Ministry of Employment and Economy	Ministry of Employment and Economy
France	Ministry of Economy, Industry and Employment	Ministry of Economy, Industry and Employment	Ministry of Ecology, Energy, Sustainable Development and the Sea
Germany	Ministry of Economics and Technology	Ministry of Food, Agriculture and Consumer Protection	Ministry of Economics and Technology
Greece	Ministry of Development	Ministry of Development	Ministry of Development
Hungary	:	Ministry of Social Affairs and Labour	Ministry of Transport, Communication and Energy
Ireland	Department of Trade, Enterprise and Employment	Department of Trade, Enterprise and Employment	Department for Communications, Energy and Natural Resources
Italy	Ministry of Economic Development	Ministry of Economic Development	Ministry of Economic Development
Latvia	Ministry of Economics	Ministry of Economics	Ministry of Economics
Lithuania		Ministry of Justice	Ministry of Energy
Luxembourg	Ministry of Economy and Foreign Trade	Ministry of Economy and Foreign Trade	Ministry of Economy and Foreign Trade
Malta	Ministry of Finance, the Economy and Investment	Ministry of Finance, the Economy and Investment	Ministry for Resources and Rural Affairs
Netherlands	Ministry of Economic Affairs	Ministry of Economic Affairs	Ministry of Economic Affairs
Poland	:	:	Ministry of Economy
Portugal	Ministry of Economy,	Ministry of Economy,	Ministry of Economy,

Table 84: Ministries with responsibility for overall competition, consumer and energy policy

	Ministry responsible for competition policy	Ministry responsible for consumer policy	Ministry responsible for energy policy
	Innovation and Development	Innovation and Development	Innovation and Development
Romania	Ministry of Economy, and Trade and Business Environment[2]	Ministry of Economy, and Trade and Business Environment	Ministry of Economy, and Trade and Business Environment
Slovakia	:	Ministry of Economy and Construction	Ministry of Economy and Construction
Slovenia	Ministry of Economy	Ministry of Economy	Ministry of Economy
Spain	Ministry of Economy and Finance	Ministry of Health and Social Policy	Ministry of Industry, Tourism and Trade
Sweden	Ministry of enterprise, energy and communication	Ministry of Integration and Gender Equality	Ministry of enterprise, energy and communication
United Kingdom	Department for Business, Innovation and Skills	Department for Business, Innovation and Skills	Department of Energy and Climate Change

Note: 1) responsible for the coordination of national consumer policy, for product safety and the EU-Regulation on Consumer Protection Cooperation. 2) Is responsible for competitiveness A (:) indicates that no information is available.
Source: ECME Consortium

A1.2.2 Role of ministries responsible for energy policy vs. regulators

As mentioned above, ministries are typically responsible for the setting the overall policy direction and strategy in the area. In the context of the market for electricity, the ministry responsible for energy policy typically outlines the overall policy direction.

In addition, ministries responsible for energy policy may appoint directors of the regulatory authority, oversee the activities of the regulator and be more actively involved in the day-to-day regulatory activities. The role of the ministry responsible for energy policy versus that of the regulator varies from country to country.

In some countries like Denmark[143] and Italy[144], the activities of regulators are entirely independent of the ministries, and ministries are only involved in the appointment of directors to the regulatory

[143] The Minister of Energy and Climate appoints the members of the Danish Energy Regulatory Authority but the activities of the authority are entirety independent of the ministry (http://energitilsynet.dk/om-energitilsynet/).

[144] The commissioners of the Energy Authority are appointed by decree of the President of the Republic following nomination by the Council of Ministers on the basis of a proposal by the Minister for Economic Development. Nominations are submitted to the competent Parliamentary Committees for scrutiny, and the appointment is based on a two-thirds majority vote.

The Authority functions with full autonomy and independence of judgement within the general policy guidelines laid down by the Government and Parliament. In its Documento di Programmazione Economico-Finanziaria, the Government draws the Authority's attention to any developments concerning the public utilities that it would be in the country's general interest to promote. The Authority formulates observations and recommendations to the Government and Parliament and presents an annual report to Parliament and the Prime Minister on its activities and on the state of the regulated services (http://www.autorita.energia.it/it/inglese/about/presentazione.htm).

authority. Regulators in these countries have decisive powers in relation to enforcing regulation, whereas the ministries are only responsible for the overall strategic direction and policy design.

In some countries, the regulator may provide advice and assistance to the relevant ministry when new legislation in the area is drafted. The Cypriot regulator, for example, worked with the relevant ministry in 2009 to prepare legislation to assist disadvantaged consumers. In Austria, the ministry responsible for energy oversees the activities of the regulator and sets guidelines for the operations of the regulator while in Romania the minister is kept informed about the operation of the regulator but does not take part in day-to-day regulation. In many countries, the regulator provides advice of the level of social tariffs and regulated tariffs to the ministry responsible for setting the level of such tariffs.

Finally, in some countries the ministries are also involved in regulation of the electricity sector. The Greek regulator can, for example, issue opinions in relation to price regulation and the licensing of suppliers. However, the final decision of what the regulated price should be and which suppliers can obtain a license is taken by the Ministry of Development. Similarly, ministries in France and Hungary[145] are responsible for determining/approving regulated prices based on advice provided by the regulators. Furthermore, the ministry in France is responsible for issuing supply licenses and the Portuguese ministry is responsible for appointing suppliers of last resort and defining their functions in the electricity sector.

It is also worth mentioning that, in Slovenia, the government intervened in 2003 and capped network charges at a lower level than the level suggested by the regulator. The objective was to ensure low inflation.

A1.2.3 Role of competition authorities vs. regulators

In most Member States, competition issues are primarily the responsibility of the national competition authority (Table 85). However, often the regulator undertakes market monitoring and is responsible for referring competition cases to the competition authority. This is for example the case in Spain and Belgium.

The responsibility for competition cases is more formally shared by the regulator and the competition authority in Bulgaria, Denmark, Germany, Ireland, Latvia, the Netherlands and the United Kingdom. For example, the regulators in Denmark and Germany are responsible for competition cases in certain areas that are specified in the relevant electricity laws, while the competition authorities are responsible for all other competition cases. In Ireland, the United Kingdom and Bulgaria, responsibilities overlap and are shared between the regulator and the competition authority.

It is also worth noting that, in some countries, there exist strong ties between the regulator and the competition authority. For example, in Estonia and the Netherlands the regulator is a department within the competition authority.

[145] This is based on the country fiche but it contradicts the information presented in ERGEGs study 'Status Review of End-User Price Regulation as of 1 July 2008' which indicates that the regulator is responsible for price regulation in Hungary.

In Austria, Cyprus, and Greece, competition issues are dealt with by the regulators. However, in Cyprus and Greece, competition is in practice very limited. As the markets become more competitive, it might be the case the powers in the area of competition are gradually transferred to the competition authority.

Table 85: Are competition issues in the retail market adressed by the regulator or the competition authority?

Country	Regulator	Competition Authority	Both
Austria	X		
Belgium		X	
Bulgaria[1]			X
Cyprus[1]	X		
Czech Republic		X	
Denmark			Competition issues specified in the energy law are addressed by the regulator. Other (most) competition issues are addressed by the competition authorities. There are strong organisational ties between the regulator and the competition authority.
Estonia[1]			The regulator operates as a chamber within the competition authority
Finland		X	
France		X	
Germany			Competition issues specified in the energy law such as some contractual details, billing details, and information about the energy mix are addressed by the regulator. Other competition issues are addressed by the competition authorities
Greece[1]	X		
Hungary	X		
Ireland			In accordance with the Irish Competition Act, regulator and completion authority have put in place a co-operation agreement. The agreement provides for the exchange of information and allows each party to forbear to act where it considers the other is investigating or exercising its powers. In practice the competition authority has not taken any case in relation to an energy company.
Italy		X	
Latvia[2]			X
Lithuania		X	
Luxembourg		X	
Malta[1]			X
Netherlands			The regulator operates as a chamber within the competition authority.
Poland		X	
Portugal		X	
Romania		X	
Slovakia		X	
Slovenia		X	
Spain		X	
Sweden		X	
United Kingdom			X

Note: 1) Competition in the retail market is limited either because there is no price competition (Bulgaria), because the market is still closed (Estonia) or because there is only one supplier (Greece, Malta and Cyprus). 2) The regulator in Latvia 'promotes competition'.
Source: Country fiches

A1.2.4 Role of consumer protection authorities vs. regulators

The overall responsibility for enforcement of consumer protection sits with the general consumer protection authorities in the Member States. They are responsible for enforcing general consumer protection laws that apply to all sectors, such as the national transposition of the Unfair Commercial Practices Directive or the Unfair Contract Terms Directive at Member State level.

However, this is not always the case. For instance, in Hungary, the competition authority is responsible for enforcing regulation related to unfair commercial practices. In addition to the general consumer protection authorities, there may exist a number of other bodies with responsibilities in the area of consumer protection. Examples include general consumer ombudsmen, energy ombudsmen, arbitration boards, and various consumer advice authorities.

Furthermore, in the area of retail electricity, regulators may have powers in relation to consumer protection. The discussion of the roles and responsibilities of different authorities in the area of consumer protection is greatly complicated by the existence of a large number of different bodies.

Authorities in the area of consumer protection for retail electricity

Table 86 overleaf provides an overview of the different bodies with responsibilities in relation to protection of electricity consumers. There is a general consumer protection agency in all countries but only the Finnish, Romanian and Hungarian agencies have special powers in relation to retail electricity. In particular, the Hungarian and Finnish consumer protection agencies are responsible for enforcing certain aspects of the electricity law that are related to consumer protection and the Romanian consumer protection authority is also the regulator in relation to electricity retail.

In addition, there a separate bodies undertaking ombudsman services in Belgium, France, Hungary, Greece, Italy, Netherlands, Spain, Sweden and the United Kingdom. Ombudsman services are in this context defined as out-of-court dispute settlement services and are also referred to as alternative dispute resolution. Such services also exist in other Member States; however, they are provided by the national consumer protection authority, the regulator or bodies closely linked to either of these authorities. In Greece, Hungary, Italy, the Netherlands and Spain, the bodies provide ombudsman services to all sectors and in Hungary, Italy and Spain, the services are organised on a regional basis. In comparison, ombudsman services in Belgium, France and the United Kingdom are specific to the energy/electricity sector.

Usually, national ombudsman services receive public funding, however the Energy Ombudsman in the United Kingdom is funded by the industry and all suppliers are obliged to sign up to the scheme, which is also approved by the electricity regulator.

Individual electricity companies may also fund their own company-specific ombudsman who deals with disputes that cannot be easily resolved by the company's own customer service department. Such company-specific ombudsmen can be found in Austria, France, Poland, Spain and Sweden. The companies in these countries are not obliged to provide ombudsman services and consumers who are not satisfied with the solution proposed by the company specific ombudsmen are free to also use the public ombudsman services provided by consumer protection agencies, regulators or separate bodies or to complain to these bodies if no ombudsman service is provided or they do not wish to use such a service.

In addition to the consumer protection authorities and separate ombudsman services, there are a few Member States in which there exist additional public bodies with competencies in the area of protection of retail electricity consumers. For example, in Sweden; the Consumer Electricity Advice Board provides information and advice to consumers and works with the industry on an ongoing basis to improve consumer conditions.

Finally, in Slovakia and Lithuania, the State Energy Inspectorates have responsibilities in the area of *retail* electricity. In particular, the State Energy Inspectorate in Slovakia deals with complaints related to incorrect invoicing of energy services and in Lithuania the State Energy Inspectorate handles disputes between suppliers and consumers.

Table 86: Which bodies have responsibilities in the area of protection of retail electricity consumers and are their powers general or specific to the retail electricity sector?

Country	Consumer protection authority[1]	Separate ombudsman services (not provided by regulator or consumer protection agency)	Company-specific ombudsman (not public bodies)	Other bodies with specific powers in relation to the retail electricity sector
Austria	General	No	Yes	
Belgium	General	Specific to energy	No	
Bulgaria	General	No	No	
Cyprus	General	No	No	
Czech Republic	General	No[5]	No	
Denmark	General	No	No	
Estonia	General	No	No	
Finland	Has special powers in electricity retail[2]	No	No	
France	General	Specific to energy	Yes	Energy-Info
Germany	General	No	No	
Greece	General	General	No	
Hungary[4]	Has special powers in electricity retail[2]	Regional	No	
Ireland	General	No	No	
Italy	General	Regional	No	
Latvia	General	No	No	
Lithuania	General	No	No	State Energy Inspectorate
Luxembourg	General	No	No	
Malta	General	No	No	
Netherlands	General	General	No	
Poland	General	No	Yes	
Portugal	General	No	No	
Romania	Same as regulator	No	No	
Slovakia	General	No	No	State Energy Inspection
Slovenia	General	No	No	
Spain	General	Regional[6]	Yes	
Sweden	General	General	Yes	Consumer Electricity Advice Bureau
United Kingdom	General	Specific to energy[3]	No	

Note: 1) If we have found no mention of special powers in relation to electricity retail, we take the role to be only general. 2) General consumer protection authority but also responsible for enforcement of certain parts of the Electricity Act. 3) Industry funded ombudsman, but all companies must sign up to the scheme. 4) the Hungarian competition authority is responsible for complaints related to unfair commercial practices.5) in process of establishing an alternative dispute resolution scheme and the scheme currently runs as a pilot. 6) undertaken by regional consumer protection authorities.

Source: Country fiches and ECME Consortium survey of stakeholders

Responsibilities in the area of consumer protection

The area of consumer protection can be split into two distinct areas:

- Regulation and enforcement of regulation
- Mediation and dispute settlement

Regulation and the subsequent enforcement of regulation seeks to protect consumer interests by creating market conditions that benefit consumers and reduce the number of problems that consumers experience. Mediation and dispute settlement on the other hand deals with individual consumer problems that have occurred.

The two areas of consumer protection are of course linked, and depending on the nature of the complaint, individual consumer complaints may signal the need for enforcement action and new regulation, as well as require mediation and dispute settlement. Therefore, consumers may be able to submit complaints to both those bodies responsible for enforcement of consumer protection legislation and those bodies responsible for dispute settlement. However, only the parties responsible for mediation and dispute settlement will in general be able to help the consumer resolve the issue.

Mediation and dispute settlement

Table 87 overleaf gives an overview of which public bodies are responsible for dispute settlement in the electricity sector in each of the Member States. In Bulgaria, Germany, Slovakia and Slovenia dispute resolution is mainly undertaken by the courts and this has also traditionally been the case in the Czech Republic. However, the Czech Republic is in the process of introducing an alternative dispute resolution scheme, which is currently running as a pilot scheme.

Consumer protection authorities or mediation boards under consumer protection authorities have the main responsibility for dispute resolution in Estonia, Finland, Hungary, Poland and Spain. In Lithuania the responsibility is shared between the consumer protection authority, the regulator and the State Energy Inspectorate. In Latvia the responsibility is shared between the regulator and the consumer protection authority.

In Austria, Denmark, Ireland, Luxembourg, Malta, Portugal and Romania, the regulator or a mediation board closely linked to the regulator is responsible for dispute settlement. Finally, the main responsibility for dispute settlement is with independent ombudsmen services in Belgium, France, Greece, Italy, the Netherlands, Sweden and the United Kingdom. The ombudsmen services are sector specific in Belgium, France and the United Kingdom.

Table 87: Main dispute settlement responsibilities for the electricity sector	
Country	**Body responsible for dispute settlement (other than company specific ombudsman)**
Austria	Mediation board under the regulator
Belgium	Electricity ombudsman
Bulgaria	Courts
Cyprus	:
Czech Republic	Alternative dispute resolution system[1] and courts
Denmark	Mediation board under the regulator
Estonia	Mediation board under the consumer protection authority
Finland[2]	Mediation board under the consumer protection authority
France	Electricity ombudsman
Germany[3]	Courts
Greece[3]	Consumer ombudsman
Hungary	Consumer protection authority
Ireland	Regulator
Italy	Regional ombudsmen
Latvia	Consumer protection agency or regulator
Lithuania	Consumer protection authority, regulator or State Inspectorate for Energy
Luxembourg	Regulator
Malta	Regulator
Netherlands[4]	Independent mediation board
Poland	Consumer protection authority
Portugal	Regulator
Romania	Regulator
Slovakia	Courts
Slovenia[4]	Courts
Spain	Regional consumer protection authorities
Sweden	Independent mediation board
UK[5]	Energy ombudsman

Note: A (:) indicates that no information is available.1) in process of establishing an alternative dispute resolution scheme and the scheme currently runs as a pilot. 2) The regulator has dispute settlement powers in relation to pricing. 3) The regulator does provide some mediation but has limited powers. 4) The regulator provides mediation in relation to DSOs only. 5) The consumer protection authority, Consumer Focus provides mediation services for vulnerable consumers only.
Source: Country fiches and ECME Consortium survey of stakeholders

Regulation and enforcement of consumer protection regulation

Consumer protection regulation that applies to all sectors is typically enforced by the consumer protection authorities. However, when regulations are specifically designed for the electricity sector it is common for the regulator to have powers in relation to enforcement of these regulations. This is illustrated in Table 88 overleaf.

Price regulation and regulation related to billing and metering generally appears to be within the competencies of the regulator. In this context, it is worth noting that metering often is undertaken by DSOs that are generally regulated by the electricity regulators. If there is sector specific regulation in place in relation to advertising and contract terms and conditions, it is also common for the regulator to have responsibilities in these areas.

Table 88: Responsibilities of the regulator with respect to regulation specific to retail electricity

	Price regulation	Billing and metering	Advertising	Contract terms and conditions	Arrears and disconnection for non-payment
Austria	n.a.	Has powers	Has powers	:	:
Belgium	n.a.	No powers	:	No powers	:
Bulgaria	Price setter	:	Has powers	Has powers	Has powers
Cyprus	Price setter	:	:	Has powers	:
Czech Republic	n.a.	:	No powers	:	:
Denmark	Price setter	Has powers	Has powers	n.a.	Has powers
Estonia	Price setter	Has powers	Has powers	Has powers	Has powers
Finland	n.a.	Has powers	No powers	n.a.	Has powers
France	Gives opinion/ recommendation	Has powers	No powers	:	No powers
Germany	n.a.	Has powers[2]	:	Has powers	:
Greece	Gives opinion/ recommendation	:	:	:	:
Hungary	Prepares mehtodology[1]	Has powers	:	Has powers	:
Ireland	Price setter	Has powers	Has powers	Has powers	Has powers
Italy	Price setter	Has powers	Has powers	Has powers	:
Latvia	Price setter	Has powers	Has powers	:	No powers
Lithuania	Price setter	:	:	:	:
Luxembourg	n.a.	n.a.	Has powers	Has powers	Has powers
Malta	Price setter	:	:	:	:
Netherlands	n.a.	Has powers	Has powers	Has powers	:
Poland	Price setter	:	Has powers	:	:
Portugal	Price setter	Has powers	Has powers	:	:
Romania	Price setter	Has powers	Has powers	:	:
Slovakia	Price setter	Has powers	Has powers	Has powers	:
Slovenia	n.a.	Has powers	Has powers	:	Has powers
Spain	Gives opinion/ recommendation	No powers	:	No powers	:
Sweden	n.a.	Has powers	No powers	:	No powers
United Kingdom	n.a.	Has powers		Has powers	Has powers

Note: A (:) indicates that no information is available. 1) For Hungary, the information provided via the country fiche contradicted the information in ERGEG (2009a). The information from the country fiches in Annex A is used in the table. 2) But not in relation to enforcement.

Source: ECME Consortium

A1.3 Regulation in place

This section provides a brief overview of the regulation in place in the various Member States that applies to the following areas:

- Price regulation
- Metering and billing
- Advertising
- Contractual terms and conditions
- Complaint handling
- Arrears and disconnection for non-payment

Furthermore, details of how regulation is enforced and implemented are presented where relevant throughout this report.

A1.3.1 Price regulation

Price regulation occurs where the prices offered to household consumers (by one or several suppliers) are subject to control by a public authority and must be approved by the public authority before the prices can be charged to customers.

Price regulation is in place in 14 out of 24 Member States with liberalised household markets as well as in the closed markets in Cyprus, Estonia and Malta (see Table 89 overleaf). In most cases, regulated prices are set by the electricity regulator. However, in France, Greece, Hungary and Spain regulated prices are set by the minister. In these cases the regulator provides input into the price setting process either in the form of an opinion or recommendation (France, Greece and Spain) or by preparing the methodology for final approval by the Minister.

Further details of how the prices are regulated are presented in the pricing chapter (Chapter 8).

Table 89: Regulation of household electricity prices

Country	Price regulation[1]	Price setter	Role of regulator if not price setter
Austria	No	n.a.	n.a.
Belgium	No	n.a.	n.a.
Bulgaria	Yes	Regulator	n.a.
Cyprus[3]	Closed	Regulator	n.a.
Czech Republic[4]	No	n.a.	n.a.
Denmark	Yes	Regulator	n.a.
Estonia[3]	Closed	Regulator	n.a.
Finland[5]	No	n.a.	n.a.
France	Yes	Minister	Gives opinion/recommendation
Germany	No	n.a.	n.a.
Greece	Yes	Minister	Gives opinion/recommendation
Hungary	Yes	Minister[7]	Prepares calculation methodology for ministerial approval
Ireland	Yes	Regulator	n.a.
Italy	Yes	Regulator	n.a.
Latvia	Yes	Regulator	n.a.
Lithuania	Yes	Regulator	n.a.
Luxembourg	No	n.a.	n.a.
Malta[3]	Closed	Regulator	n.a.
Netherlands[6]	No	n.a.	n.a.
Poland	Yes	Regulator	:
Portugal	Yes	Regulator	n.a.
Romania	Yes	Regulator	n.a.
Slovak Republic	Yes	Regulator	n.a.
Slovenia	No	n.a.	n.a.
Spain[8]	Yes	Minister	Gives opinion/recommendation
Sweden	No	n.a.	n.a.
United Kingdom	No	n.a.	n.a.

Note: A (:) indicates that no information is available.

1. Information on the existence of price regulation is from the ERGEG report *Status Review of End-User Price Regulation as of 1 July 2008* (2009) for Belgium, Czech Republic, Latvia, Lithuania, Slovak Republic and Spain. The information in this report refers to the situation on 01/07/2008. For all remaining countries, information on the existence of price regulation is from the LE web-sweep.

2. Information on share supplied at regulated prices is from the ERGEG report *Status Review of End-User Price Regulation as of 1 July 2008* (2009) for all countries except France. The information in this report refers to the situation on 01/07/2008. Information on share supplied at regulated prices for France is from LE web-sweep.

3. Malta Cyprus and Estonia have closed household retail markets.

4. Supplier of last resort prices are regulated, but according to the country fiche reviewed by the regulator the supplier of last resort option is rather a matter of theory, and in 2008 no customer used this right.

5. Although there is no regulation in Finland, according to the Section 21 subsection 1 and 2 of the Electricity Market Act suppliers with a dominant position must deliver electricity at "reasonable" prices to consumers.

6. In the Netherlands there is a form of "tariff supervision" whereby the Office of Energy Regulation (OER) "surveys the fairness of supply tariffs" and approves individual tariff proposals. The OER say that this is not regulation, and it is not regulation according to the definition used here. However, it is regulation according to the definition in ERGEG (2009a), pp. 10.

7 For Hungary, the information provided via the country fiche contradicted the information in ERGEG (2009a). The information from the country fiche is used in the table.

8 Supplier of last resort prices and social tariffs are regulated, other tariffs are not regulated.

Source: ERGEG (2009a) "Status Review of End-User Price Regulation as of 1 July 2008" and LE desk research.

A1.3.2 Metering and billing

In most countries, billing and/or metering is regulated in some way and, in most countries, the regulator is responsible for enforcement of the regulation (see Table 90 overleaf). However, in Luxembourg there appears to be no specific regulation of metering or billing, while in Germany, regulation related to metering and billing is enforced by the courts through the ordinary legal process for bilateral contracts under civil law. Usually billing regulation is related to the content of the bill and not its format, although this is not always the case, with the Italian regulatory regime specifying that the bill has to be divided into two parts: a summary box and a box detailing all costs.

With respect to the content of the bill, several Member States have implemented regulation aiming at making billing more transparent. Some regulations provide quite detailed requirements; for example in Finland the Electricity Market Act specifies that the bill must contain:

1) Components of tariffs
2) Number of units invoiced
3) Unit price of various components
4) Sum charged for each price component
5) Total sums of network services and energy price
6) Various taxes and other governmental fees
7) Total sum of the bill
8) Estimated annual costs for electricity and/or transmission of electricity and/or average price per kWh.
9) The contribution of each energy source to supplier's overall fuel mix over the preceding year
10) References to information sources on the environmental impact

Although the specific requirements may vary, similar detailed requirements to the content of the electricity bill are in place in countries such as Austria, Denmark, Germany, Ireland, Portugal, Estonia, Slovenia, Spain, Sweden and the United Kingdom.

The frequency with which billing must be undertaken also varies. Some countries require monthly billing (Estonia, Latvia, Portugal, Romania and Slovenia) while other countries only require annual billing (Austria, Denmark, Germany).

However, billing may take place more frequently in practice and in Germany consumers have the right to chose monthly, bi-monthly or half-yearly billing. In Denmark, consumers usually receive bills more frequently than required by regulation. In particular, Danish consumers typically receive quarterly estimated bills and an annual consolidation bill based on actual consumption.

All of the countries, for which information is available, allow for estimated bills. However, in Sweden self-regulation specifies that bills should be based on actual meter readings and that estimated bills should only be used in special cases. This is the closest than any of the countries, for which information is available, come to rejecting estimated bills, and this is likely to have been facilitated by the introduction of *smart-meters*. Approximately 99% of Swedish consumers had already had smart-meters installed by May 2008.[146]

Self-regulation in Sweden also requires monthly meter readings. This is more frequent than in any of the other countries for which information is available. In Ireland and Italy[147], meters must be read every other month, and in Portugal meters must be read at least quarterly. In Austria, Belgium, Finland, France, Hungary, Latvia, Slovenia and the United Kingdom meters must be read annually or bi-annually. In comparison, meter operators in Germany are only legally required to read meters every 3 years and in Denmark there is no regulation in place in relation to the frequency of meter readings.

In most countries, the DSO is responsible for meter reading and although the function is formally the responsibility of the 'metering operators', in the Czech Republic, Germany, Lithuania and Romania, this in most cases means the DSO (Table 90). For example, in Germany, competition has been introduced into the market for metering operators and consumers can choose freely among competitors in the market. However, the DSO is assigned as the default metering operator in case the consumer does not make an active choice. The United Kingdom is the only country where meter reading is the responsibility of the supplier.

Although the metering operator is formally responsible for meter readings, consumers may also undertake meter readings in all countries for which information is available, with the exception of Italy (Table 91). It is more common for consumers and not metering operators to undertake meter readings in Belgium, Denmark, Estonia, France, Sweden and the United Kingdom. However, in most countries, it is most common for meter readings to be undertaken by the metering operator. In case of supplier switching, it is also common for DSOs/metering operators to undertake the meter reading. However, consumers may undertake meter readings in conjunction with switching in Belgium, Finland, France, Ireland and the United Kingdom. It is worth mentioning that in Austria there was no requirement for meters to be read when consumers switch.[148]

[146] According to ERGEG (2008): 'Status review of regulatory aspects of smart metering (electricity and gas) as of May 2008'.

[147] Annually if no smart meter is installed, else bimonthly. 90% have smart-meters according to ERGEG (2008): 'Status review of regulatory aspects of smart metering (electricity and gas) as of May 2008'

[148] This information is from May 2008.

Table 90: Regulation of metering and billing

Country	Is billing and metering regulated?	Frequency of billing[0]	Can bills be estimated ?	Frequency of meter readings[0]	Who is responsible for metering?	Who is responsible for enforcement?
Austria	Yes	Annually	Yes	Annually[1]	DSO	Regulator
Belgium	Yes	Annually	Yes	Annually/ Biannually[2]	DSO	Ministry
Bulgaria	Yes	:	:	:	DSO	:
Cyprus	:	:	:	:	DSO	:
Czech Republic	:	:	Yes	:	Metering operator[9]	:
Denmark	Yes	Annually[3]	Yes[3]	Not regulated	DSO	Regulator
Estonia	Yes	Monthly	Yes	[4]	DSO	Regulator
Finland	Yes	[5]	Yes[5]	Annually/ Biannually[6]	DSO	Regulator
France	Yes	:	Yes[7]	Annually	DSO	Regulator
Germany	Yes	Annually[8]	Yes	Every 3 years	Metering operator[9]	Courts
Greece	:	:	:	:	DSO	:
Hungary	Yes	[10]	:	Annually	DSO	Regulator
Ireland	Yes	:	Yes	Bimonthly	DSO	Regulator
Italy	Yes	Bimonthly[11]	Yes	Bimonthly[12]	DSO	Regulator
Latvia	Yes	Monthly	:	Biannually	DSO	Regulator
Lithuania	:	:	Yes	:	Metering operator[9]	:
Luxembourg	No	:	Yes	:	DSO	:
Malta	Yes	:	:	:	DSO	:
Netherlands	Yes	:	:	:	DSO	Regulator
Poland	Yes	:	Yes	:	DSO	:
Portugal	Yes	Monthy[11]	Yes	Quarterly	DSO	Regulator
Romania	Yes	Monthly	Yes	:	Metering operator[9]	Regulator
Slovakia	Yes	:	Yes	:	DSO	Regulator
Slovenia	Yes	Monthly	Yes[13]	Annually[13]	DSO	Regulator
Spain	Yes	Monthly –small consumers and bi-monthly larger consumers	Yes	:	DSO	Regional consumer protection agencies
Sweden	Yes	Quarterly[14]	In special cases[14]	Monthly[14]	DSO	Regulator
United Kingdom	Yes	:	Yes	Biannually	Supplier	Regulator

Note: 0) indicates maximum allowed duration between billing and metering, respectively. 1) According to country fiche meters must be read annually but only every 3 years by DSOs. The ERGEG report on smart metering states that meters must be read every 3 years. 2) Annually in Walloon region and biannually in Flemish region. 3) Normally consumers receive an estimated bill quarterly with an annual. 4) Usually consumers undertake meter readings monthly. 5) Unless the consumer and supplier has agreed otherwise, billing is undertaken monthly based on estimated consumption with one yearly adjustment according to action al consumption. 6) Annually for consumers not on the default tariff and biannually for consumers on default tariff. ERGEG report says every fourth year. 7) Must be based on actual consumption at least once per year. 8) Bills must be provided at least for a period 'not significantly exceeding 12 months'. Consumers have a right choose monthly, quarterly or half-yearly billing. 9) Usually the DSO. For the Czech Republic the two ERGEG reports disagree, we report the information from the most recent report. 10) Usually monthly. 11) In the regulated market. There are no rules in the competitive market. 12) Annually, if no smart meter is installed, else bimonthly. 90% have smart-meters. 13) Consumer must receive a monthly bill with an annual reconciliation bill based on actual consumption. 14) According to self-regulation by the industry. The customer has a right to choose monthly invoicing. A (:) indicates that no information is available.

Source: Country fiches, ERGEG (2009): 'Status Review of Regulatory Aspects of Smart Metering (Electricity and Gas) as of May 2009, and ERGEG (2008): 'Obstacles to supplier switching in the electricity retail market: Guidelines of good practice and status review'.

Table 91: Meter reading by meter operator and consumers and meter readings in conjunction with supplier switching

Country	Meter reading by metering operator/DSO	Meter reading by customer	Meter read in conjunction with switching
Austria	Possible	Possible	No
Belgium	Possible	Most common	Yes (DSO or customer)
Bulgaria	:	:	:
Cyprus	:	:	:
Czech Republic	Most common	Possible	Yes (DSO)
Denmark	Possible	Most common	Yes (DSO)
Estonia	Possible	Most common	Yes (DSO)
Finland	Most common	Possible	Yes (DSO or customer)
France	Possible	Most common	Yes (DSO or customer)
Germany	Most common	Possible	Yes (Meter operator)
Greece	:	:	:
Hungary	:	:	:
Ireland	Most common	Possible	Yes (DSO or customer)
Italy	Most common	Not possible	Yes (DSO)
Latvia	:	:	:
Lithuania	Most common	Possible	Yes (DSO)
Luxembourg	Most common	Possible	Yes (DSO)
Malta	:	:	:
Netherlands	:	:	:
Poland	Most common	Possible	Yes (DSO)
Portugal	Most common	Possible	Yes (DSO)
Romania	Most common	Possible	Yes (Meter operator)
Slovakia	Most common	Possible	Yes (DSO)
Slovenia	Most common	Possible	Yes (DSO)
Spain	Most common	Possible	Yes (DSO)
Sweden	Most common*	Possible*	Yes (DSO)
United Kingdom	Possible	Most common	Yes (Customer)

Note: This updated compared to the ERGEG report because meter reading in Sweden is undertaken automatic from 2009 due to the introduction of smart meters. A (:) indicates that no information is available.

Source: ERGEG (2008): 'Obstacles to Supplier switching in the retail electricity market: Guidelines of good practice and status review'.

A1.3.3 Advertising

The Unfair Commercial Practices Directive[149] prohibits unfair, misleading and aggressive commercial practices in the context of business to consumer trade. The Unfair Commercial Practices Directive, among other things, bans misleading advertising, and specifies that advertisements may not include false or deceptive information. Furthermore, the Unfair Commercial Practices Directive specifies that the following information must be provided to the consumer by the trader:

- the main characteristics of the product;
- the name and address of the trader;
- the price inclusive of taxes (or a description of how the price is calculated);
- the arrangements for payment, delivery, performance and complaint handling; and
- the right to cancel or withdraw from the transaction (when applicable).

The provisions of the Unfair Commercial Practices Directive apply to all Member States and all sectors including electricity retail. The national transposition of the Unfair Commercial Practices Directive in national legislation is typically undertaken by general consumer protection authorities rather than by the regulator. An exception from this general rule is the United Kingdom where the regulator has powers to enforce the legislation related to unfair commercial practices.[150]

A few Member States have adopted additional regulation within the energy and/or electricity laws, and such rules are typically enforced by the regulator. For example, in Austria, any material addressed to consumers must be transparent and 'consumer friendly'. If the material includes prices, commodity, transport costs and taxes must be shown separately.[151] Similar requirements are applicable to suppliers in the United Kingdom according to the *Standard Conditions* of the electricity supply licence.

Advertising in Germany and Luxembourg must contain information about the composition of energy (nuclear, fossil, renewable etc.) used over the last year and the environmental impact (at least consisting of the CO2-emissions and radioactive waste that were produced by the energy mix provided). Furthermore, in Germany, figures on the environmental impact must be compared with the German average.[152]

The Irish and Dutch regulators are also actively involved in enforcement of the unfair commercial practices legislation by setting out guidelines for the protection of electricity customers. In Ireland,

[149] Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market. The full text of the Directive is available from the following link: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32005L0029:EN:NOT

[150] According to the provisions on the Enterprise Act 2002.

[151] Article 45c, ElWOG.

[152] Germany: Article 42, Energy Industries Act. Luxembourg: Article 49(2), Electricity Law.

guidelines require suppliers to put in place codes of practice and customer charters guaranteeing a minimum level of service. One of these codes covers marketing and requires suppliers to protect customers against unwanted, unfair or misleading marketing methods.

In the Netherlands, the regulator has drawn up a code of conduct relating to telephone canvassing which has been signed by almost all energy suppliers in the market, with parties that have not signed the code being monitored closely.

A1.3.4 Contractual terms and conditions

In relation to contract terms and conditions, the Unfair Contract Terms Directive[153] provides consumer with a degree of protection. The Unfair Contract Terms Directive specifies that a "contractual term, which has not been individually negotiated, shall be regarded as unfair if, contrary to the requirement of good faith, it causes a significant imbalance in the parties' rights and obligations arising under the contract, to the detriment of the consumer."

The national transposition of the Unfair Contract Terms Directive forms the basis for consumer protection in relation to contractual terms in all sectors; including the retail electricity sector. In some countries there is additional regulation or self-regulation of contract terms. Table 92 provides a summary of whether contractual terms and conditions are regulated over and above the regulatory arrangements set out in the Unfair Contract Terms Directive, and if so, who regulates the contract terms.

Most countries have some additional legislation in place, in order to ensure that contract terms are fair and that basic information is provided within the contract. For example in Luxembourg, electricity law specifies that the contract must include the following information:

1) Identity and address of supplier;

2) The supply point(s);

3) The maximum amount to be supplied, the service provided, the level of quality of the service offered and the time required for an initial connection;

4) If relevant, any maintenance services offered;

5) The means by which up-to-date information over the whole range of prices, tariffs and maintenance charges can be obtained;

6) The contract length, renewal conditions, contract and service interruption conditions, existence of right to cancel the contract;

[153] Council Directive 93/13/EEC of 5 April 1993. The full text of the Directive is available from the following link: http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31993L0013&model=guichett

7) Compensation and formulas for re-imbursements to be applied inc cases the contractual service level is not achieved; and

8) The modalities for launching to launch non-judicial procedures for settling disputes.

Similar information requirements also exist in other Member States (for example, in Denmark, Austria and Estonia). Moreover, the electricity/energy law often specifies that the contractual conditions have to be transparent, fair, and written in a clear and comprehensible language, and have to be communicated to the client before contract signing.

Regulators and web-sweeps have given information about the penalties that apply in Estonia, France, Poland and Slovenia. This information provides an indication of the differences in penalties across the Member States. In Slovenia no penalties may be issued directly and sanctioning requires a court process. In Estonia, penalties of up to 50 000 EEK may be imposed while in Poland penalties for not fulfilling the contractual conditions may vary between 1% and 15% of revenues. In France, an infringement is considered a petty offence and fines may be imposed accordingly.

Table 92: Regulation of contractual terms and conditions		
Country	**Are contractual terms and conditions in retail electricity markets regulated (beyond the Unfair Contract Terms Directive)?**	**Who regulates the contract terms?**
Austria	Yes, suppliers must notify the regulator of it general conditions and DSOs must get their general conditions approved by the regulator.	Regulator
Belgium	Yes, both at the federal and at regional level. Regulation sets out requirements for which details must be included in the contract.	Ministry
Bulgaria	Yes, supply contracts are based on the 'General terms for electricity supply' which were developed and proposed by the electricity supply companies and approved by the regulator.	Regulator
Cyprus	:	:
Czech Republic	Yes	State Energy Inspectorate
Denmark	Yes	Regulator
Estonia	Yes, contract terms must be approved by the regulator.	Regulator
Finland	Yes and the trade organisation, Finnish Energy Industries, has drafted standard contracts which are widely used by the suppliers.	Consumer protection authority
France	Yes	Competition and consumer protection authority
Germany	Yes, universal supply contracts are regulated in detail and other contracts are regulated in less detail	:
Greece	Yes	:
Hungary	Yes	:
Ireland	Yes, contract terms must be approved by the regulator.	Regulator
Italy	Yes.	Regulator
Latvia	Yes, contract terms must be approved by the regulator.	Regulator
Lithuania	:	:
Luxembourg	Yes, the regulator must be notified of the contact at least 1 month before its entry in use.	Regulator
Malta	Yes	:
Netherlands	Yes	Regulator
Poland	Yes	Regulator
Portugal	Yes, but only for suppliers with regulated prices.	Regulator
Romania	Yes, the terms of contracts between suppliers consumers who can buy electricity at regulated prices are regulated	Regulator
Slovakia	Yes, regulated and approved by the regulator.	Regulator
Slovenia	Yes, the regulator gives consent to the 'General Conditions for the Supply and Consumption of Electricity from the Distribution Network'. However, the supplier may also issue its own specific commercial conditions which are not regulated.	Regulator
Spain	No	:
Sweden	Yes, the terms and conditions comply with the general terms and conditions for contracts which have been drawn up jointly by the electricity industry and consumer authority.	Consumer protection authority
United Kingdom	Yes	

Source: Country fiches

A1.3.5 Complaint handling

The complaint handling procedures that electricity suppliers have put in place are regulated in some Member States (see Table 93 overleaf). If the complaint handling procedures are regulated, then they are typically regulated by the electricity regulator. Infringements are typically punishable through the imposition of fines.

Often the regulation sets a time limit by which suppliers must have responded to complaints. This is, for example, the case in Cyprus, Estonia, Italy, and Latvia. In Estonia, the regulation also specifies that consumers have a right to a written acknowledgement of the complaint. Regulation in France requires suppliers to specify what their complaint procedures are in the terms and conditions and to provide contact details for the supplier and electricity ombudsman on electricity bills. In countries such as the Netherlands, Luxembourg and Ireland, the regulatory environment stipulates that suppliers must demonstrate that their complaint handling procedures are adequate and effective.

Complaint handling procedures are not regulated in Denmark and Finland; however, the Danish trade association adopted a self-regulation.

There are a large number of countries for which information about regulation of complaint handling processes was not available.

Table 93: Regulation of suppliers' complaint handling processes		
Country	**Is the complaint handling procedures of electricity suppliers regulated?**	**Who regulates the complaint handling procedures?**
Austria	:	:
Belgium	Yes	Ministry
Bulgaria	Yes	Regulator
Cyprus	Yes	Regulator
Czech Republic	:	:
Denmark	No, but the Danish Energy Association has some rules on good market behaviour	N/A
Estonia	Yes	Regulator
Finland	No	N/A
France	Yes	
Germany	Yes	Regulator
Greece	:	:
Hungary	Yes	Regulator
Ireland	Yes	Regulator
Italy	Yes	Regulator
Latvia	Yes	:
Lithuania	:	:
Luxembourg	Yes	Regulator
Malta	:	:
Netherlands	Yes	Regulator
Poland	:	:
Portugal	:	:
Romania	:	:
Slovakia	Yes	Regulator and State Energy Inspection
Slovenia	:	:
Spain	Yes, at regional level	:
Sweden	:	:
United Kingdom	Yes	Regulator

Note: ':' indicates that no information is available.
Source: Country fiches

A1.3.6 Arrears and disconnection for non-payment

Regulation of the process for dealing with arrears and disconnection for non-payment are is intended to protect consumers by ensuring that electricity is not cut off without proper warning. In 21 of the 22 countries for which relevant was found there exists regulation in relation to processes for dealing with consumers in arrears and disconnection for non-payment. The only exception is Greece, where there is no regulation but where the State-owned incumbent supplier that dominates the market has its own set of practices which can be seen as descriptive of the market in general.

The most common type of provision in the regulations sets out the notice which must be given to consumers before they can be disconnected. Rules on the notice that must be given were identified for fifteen of countries (Table 94). For example, in Estonia, electricity supply can only be disconnected at least 15 days after the customer has been informed of the reasons for disconnection and the planned time of the disconnection. Similarly in Finland, the consumer must be sent written notification of the payment default and there must also be a second, separate warning of disconnection sent 2 weeks after the original notification.

The only country where no notice period is required is Malta, where if payment is not made within 14 days of the bill being presented to the consumer then the supply can be suspended without further notice.

The chapter on affordability of electricity provides discusses the existence of special provisions for vulnerable consumers.

In most cases, the regulator is responsible for the regulation; however, in France and Latvia the regulation in the area of consumer arrears and disconnection is the responsibility of the ministry and in Sweden, the consumer protection agency is responsible for the regulation.

Table 94: Regulation of disconnection for non-payment

Country	Regulation	Notice to be given	Body responsible for regulation
Austria	Yes	Yes	:
Belgium	Yes, regionally	Yes	:
Bulgaria	Yes	:	Regulator
Cyprus	:	:	:
Czech Republic	:	:	:
Denmark	Yes	:	Regulator
Estonia	Yes	Yes	Regulator
Finland	Yes	Yes	Regulator
France	Yes	Yes	Minister
Germany	Yes[1]	Yes	:
Greece	No[2]	Yes	:
Hungary	Yes	:	:
Ireland	Yes	Yes	Regulator
Italy	Yes	Yes	:
Latvia	Yes	Yes	Minister
Lithuania	:	:	:
Luxembourg	Yes	Yes	Regulator
Malta	Yes	None	:
Netherlands	Yes	:	:
Poland	Yes	Yes	:
Portugal	Yes[1]	Yes	:
Romania	Yes	Yes	:
Slovakia	Yes	:	:
Slovenia	Yes	Yes	Regulator
Spain	Yes	:	:
Sweden	Yes	Yes	Consumer protection authority
United Kingdom	Yes	:	Regulator

Note: 1. Relevant for consumers on the universal service from the incumbent only. 2. However the state owned supplier which dominates the market has its own practices which can be seen as descriptive of the market in general.
Source: Country fiches.

Annex 2 Market structure

A2.1 Market liberalisation

A key factor in explaining differences in market structure is to consider the extent and history of market liberalisation. Closed markets hinder entry by potential competitors and hence reduce the number of suppliers. On the other hand, market liberalisation may also lead over time to market consolidation with fewer suppliers. In both cases, market liberalisation may have a direct impact on the number of suppliers in the market.

Furthermore, the experience for consumers in closed markets where competition is limited or non-existent may differ greatly from the experience for consumers in liberalised markets where consumers may be able to choose from a large number of competing electricity suppliers. Similarly, markets that liberalised early may have overcome some of the problems that newly liberalised markets are experiencing.

European Directives require that all Member States should have opened their electricity markets to competition for all customers (household and non-household customers) at the latest by 1st July 2007, so that all customers are free to purchase electricity from the supplier of their choice.[154] Table 95Table 95 provides an overview of when the retail electricity markets for households were opened. Whilst some Member States opened their household retail markets in the late 1990's, many only did so in 2007. The markets in Cyprus, Malta and Estonia are still officially closed markets.

[154] Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, Article 33.

Table 95: Houshold electricity retail market opening

Country	Year of market opening
Finland	1997[1]
United Kingdom	1999
Sweden	1999
Germany	1998
Austria	2001
Denmark	2003
Netherlands	2004
Ireland	2005
Czech Republic	2006
Portugal	2006
Belgium	2007[2]
Bulgaria	2007
Luxembourg	2007
Slovenia	2007
France	2007
Greece	2007
Hungary	2007
Italy	2007
Latvia	2007
Lithuania	2007
Poland	2007
Romania	2007
Slovakia	2007
Spain	2009[3]
Cyprus	Closed[4]
Estonia	Closed[4]
Malta	Closed[4]

Note: [1.] In Finland, all retail customers were officially able to choose their supplier in 1997. However, in practice metering demands prevented households from switching away from the incumbent supplier as an hourly meter was required. This requirement was removed in 1998 with the adoption of load profiles. [2.] In Flanders the year was 2003 [3] See the website of the Comisión Nacional de Energía: http://www.cne.es/cne/contenido.jsp?id_nodo=371&&&keyword=&auditoria=F. [4.]Malta and Cyprus qualify as small isolated systems as defined in point (26) of Article 2 of Directive 2003/54/EC. Both countries have been granted derogations from full implementation of the Directive. Estonia was granted a temporary derogation until 31 December 2012. (see Annala, S. and Viljainen, S. (2008). "Electricity retail markets in Europe – division of duties between suppliers and DSOs").

Source: Multiple sources including ERGEG (2009), Bellantanuono and Boffa (2008) and Annala, S. and Viljainen, S (2008), websites of regulators, information from the country fiches provided in the stand-alone Annex A.[155]

[155] Other sources:

Sahari, A (2010) "The Finnish Electricity Retail Market".
Capgemini (2007). "Opening of the Gas and Electricity Markets to Retail Competition".
http://issuu.com/vaasaett/docs/switching-netherlandsandbelgium-05?mode=a_p.
http://ec.europa.eu/energy/energy_policy/doc/factsheets/market/market_bg_en.pdf.

A2.2 Number of suppliers and market concentration

The number of suppliers in the market gives an indication of the degree of competition in the retail electricity market, in particular market concentration. In addition there are a number of alternative measures of market concentration such as the market share of the largest supplier, the market shares of the four largest suppliers and the Herfindahl index[156] which give indications of the level of competition in the sector.

The sections below provide more detailed information on each of the concentration indicators

A2.2.1 Notes on availability of market structure data

The relevant market to consider for this analysis is the retail electricity market for **household** consumers and hence market structure data should cover all household consumers and household consumers only.

The consumer survey provides a unique opportunity to estimate market shares for electricity suppliers of household consumers in each Member State using a **consistent methodology** across all countries.

Box 7: Methodology for estimation of market shares
The market share is estimated as the percentage of total consumers with each named supplier:
Market share = Number of respondents with supplier/Total number of respondents

This possibility to calculate market shares for electricity suppliers in the household markets in the EU is unique and provides better data than any other existing source(s). Market structure data derived from the survey is thus presented and used as the preferred market structure data throughout the analysis. For validation purposes Eurostat data is also presented in this annex.

Two alternatives to the consumer survey data have been considered:

Eurostat

Eurostat does provide data market structure data such as the number of suppliers to end-users, the number of main suppliers (suppliers with a market share of at least 5%) and the cumulative market share of the main suppliers.

However, for the purposes of this study the data suffers the significant drawback that market shares are calculated based on total consumption of electricity by end-users. Total consumption of electricity includes both consumption from households and consumption from non-household consumers (e.g. industrial consumers).

[156] The Herfindahl index is defined as the sum of the squares of the market shares of all the firms in a market. It ranges from 1 (single supplier) to close to 0 in the case of atomistic competition.

The market structure and the level of competition may be much different in the market for household consumers than in the market for household consumers. Firstly, the market for industrial consumers was typically liberalised much earlier than the market for household consumers and hence non-incumbent suppliers may have a much larger market share in the market for household consumers.

In addition, some suppliers focus solely on the industrial market whereas other suppliers focus only at the household market. Foreign suppliers, for example, typically enter new countries by first targeting the market for industrial consumers. In contrast, local suppliers may primarily target household consumers and small local businesses.

Therefore, although Eurostat provides a common methodology for estimating market shares, the data does not allow for an accurate description of the market structure in the retail electricity market for household consumers.

Combining national sources

As an alternative, national sources may be consulted and combined. At the national level data on the number of suppliers and market shares for suppliers in the household market may be available. However, searches for market structure data at the national level undertaken as part of this study[157], show that there are a number of problems:

- **Incompleteness:** Data is not available for all Member States and when data is available it does not necessarily cover all suppliers in the market.
- **Unclear definitions:** In some cases lists of authorised suppliers are available but it is not clear if the suppliers are active and which market they operate in (household and/or industrial).
- **Incomparability:** A common methodology defining suppliers in the household market and calculating market shares and other market structure measures. In some Member States market shares are calculated based on the number of consumers, while in other Member States market shares are calculated based on the volume consumed.

A2.2.2 Number of suppliers

This section provides estimates of the total number of suppliers and estimates of the number of main suppliers i.e. suppliers with a market share of at least 5%.

It should be noted that compared to the estimates of the number of main suppliers, the estimates of the total number of suppliers from the consumer survey a less reliable because the estimates are based on a limited sample of consumers. Therefore, although estimates of the total number of suppliers are presented, these estimates are not used for further analysis in the report. Instead the

[157] In several cases the Eurostat figures and the results from the consumer survey do not exactly match the information reported in the country fiches in Annex A.

number of main suppliers or market concentration measures presented in the next section are used as measures of market structure.

Total number of suppliers

As mentioned above and discussed in further detail below, estimates of the total number of suppliers based on the consumer survey may be too low. Therefore as a basis for comparison Table 96 overleaf presents:

- the number of suppliers to end-users (i.e. business and public sector users, and households) from Eurostat;
- the estimates of the number of suppliers to households from the consumer survey;
- an estimate of the number of suppliers to households from the mystery shopping exercise;
- the number of different suppliers to households from which consumers were sampled for the mystery shopping exercise;
- and a best estimate calculated as the maximum of the estimate from the consumer survey and the two measures from the mystery shopping exercise.

There is large variation in the total number of electricity suppliers per country with Cyprus and Malta having only 1 supplier regardless of the data source used and Germany having 940 suppliers according to Eurostat and 191 suppliers according to the best estimate based on the consumer survey and mystery shopping.

There are a number of reasons why the results for Germany and other countries differ (as illustrated in Figure 201).

- Firstly, Eurostat provides data on the total number of suppliers to end-users, but these figures may include some suppliers that only supply electricity to industrial consumers and do not have an offering for household consumers. Therefore, in a number of cases, the figures from Eurostat may overestimate the number of suppliers to household consumers.
- Secondly, the estimates from the consumer survey[158] may underestimate the total number of suppliers to household consumers because the estimate is based on a sample of approximately 500 respondents in each Member State. Therefore, there is no 100% certainty that consumers from all the different suppliers have been sampled. The measurement error is likely to be most significant in large countries where a relatively small share of the population is sampled and in countries with a large number of suppliers who supply only locally.

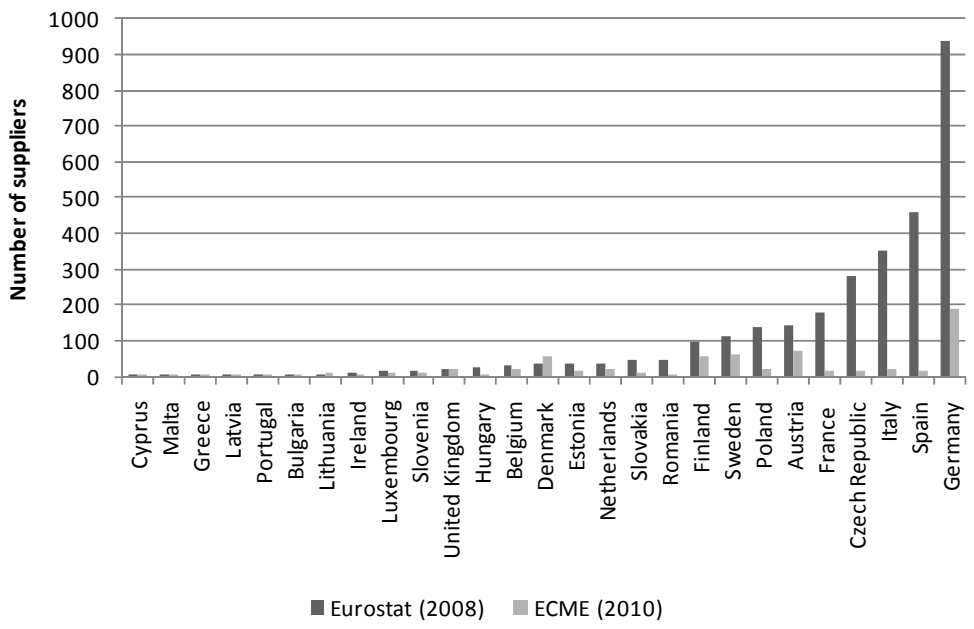
[158] When calculating an estimate of the number of suppliers and other market concentration measures we exclude responses where respondents refused to answer or responded with e.g. 'my supplier' or 'local supplier'. In addition, corrections were made for spelling errors and use of different abbreviations for the same supplier.

- Thirdly, it is important to note that the Eurostat data refer to the year 2008 while the survey data refer to the situation in mid 2010.

As these considerations would suggest, the estimates of the number of suppliers from Eurostat are in most cases larger than the ECME best estmates; most notably in Poland, Austria, France, the Czech Republic, Italy, Spain and Germany.

However, in Denmark, Latvia, Lithuania and Portugal the estimates of the consumer survey are higher than that from Eurostat. This may be because the estimates refer to different periods and, hence, that more suppliers have entered the market since 2008 and it may be because some companies have strategic alliances that we are not aware of but which may have been taken into account in the Eurostat data.

Figure 201: Number of suppliers from Eurostat (2008) and ECME calculations (2010)



Note: For details on the calculation see note to Table 96.

Source: Eurostat (2010): European electricity market indicators 2008 and ECME Consortium consumer survey

Table 96: Estimates of the total number of suppliers

Country	Household and non-household consumers	Household consumers only (2010)			
	From Eurostat (2008)[1]	From consumer survey[2]	Estimate of number of alternative suppliers from mystery shopping[3]	Number of suppliers included in mystery shopping exercise[4]	ECME best estimate[5]
Austria	141	70	44	4	70
Belgium	31	20	23	4	23
Bulgaria	7	3	:	3	3
Cyprus	1	1	:	1	1
Czech Republic	281	18	8	3	18
Denmark	36	57	21	10	57
Estonia	37	14	:	4	14
Finland	>100	56	50	13	56
France	177	13	17	3	17
Germany	940	191	45	7	191
Greece	2	1	:	2	2
Hungary	24	5	4	4	5
Ireland	9	7	:	3	7
Italy	350	23	10	5	23
Latvia	4	5	:	1	5
Lithuania	8	10	:	2	10
Luxembourg	14	11	10	4	11
Malta	1	1	:	1	1
Netherlands	38	16	23	3	23
Poland	137	22	16	10	22
Portugal	4	8	6	2	8
Romania	48	5	:	4	5
Slovakia	47	10	8	3	10
Slovenia	14	7	12	6	12
Spain	459	14	6	7	14
Sweden	113	60	50	9	60
United Kingdom	23	22	22	12	22

Note: 1) In Eurostat, suppliers include all suppliers that supply electricity to final consumers (including both household and industrial consumption).
2) Figures from the survey include only suppliers that sell electricity to household consumers and the estimates are based on a sample of approximately 500 consumers from each Member State.
3) Based on number of alternative suppliers found by mystery shoppers on the internet or in the phone book in mystery shopping exercise 1. To avoid outliers it is the maximum is estimated by the 95th percentile. This mystery shopping exercise was not undertaken in Bulgaria, Cyprus, Estonia, Greece, Ireland, Latvia, Lithuania, Malta, and Romania.
4) Number of suppliers included in mystery shopping exercise 5.
5) Best estimate calculated as maximum of estimate from i) consumer survey, ii) maximum found by mystery shoppers and iii) the number of suppliers included in the mystery shopping exercises.
Source: Eurostat (2010), 'European electricity market indicators 2008', and ECME Consortium consumer survey

Regional suppliers

Regardless of the estimate used there exists a relatively large number of suppliers in countries such as Germany, Belgium, Austria, Denmark, Finland, Italy, Poland and Sweden. Although this might indicate that the market is fragmented and that there is a very high level of competition in these Member States, the number of suppliers in the market may be a misleading indicator of the level of competition in the retail market because some suppliers are only local suppliers and therefore each consumer may in reality only be able to choose from a more limited group of suppliers. This is, for example, the case in Sweden, Denmark and Germany where a large number of suppliers are small local suppliers.

An indication of the importance of the regional suppliers is provided by the results of the mystery shopping exercise reported below in the Table 97 which shows the average number of suppliers each mystery shopper could identify on average in each Member State.

Mystery shoppers in all Member States found a smaller number of suppliers, often a much smaller number, than our best estimate of the total number of suppliers. It is possible that the mystery shoppers did not identify all potential suppliers in their search. However, it is likely that the data reported in Table 97 also reflect to a large extent the degree of regionalisation of suppliers in different countries.

Table 97: Number of suppliers from consumer survey and average number of suppliers identified by mystery shoppers

Country	ECME best estimate of total number of suppliers	Average number of suppliers identified by mystery shoppers	
		On the Internet	In the phone book
Austria	70	14	11
Belgium	23	8	5
Czech Republic	18	5	3
Denmark	57	19	13
Finland	56	21	6
France	17	6	6
Germany	191	38	4
Hungary	5	3	3
Ireland	7	2	4
Italy	23	6	4
Luxembourg	11	6	6
Netherlands	23	13	6
Poland	22	10	7
Portugal	8	3	4
Slovakia	10	4	4
Slovenia	12	6	6
Spain	14	4	2
Sweden	60	28	10
United Kingdom	22	12	8

Note: Mystery shopping exercise 1 was not undertaken for Bulgaria, Cyprus, Estonia, Greece, Latvia, Lithuania, Malta and Romania because switching is limited in these countries.

Source: ECME mystery shopping exercise 1

Number of main suppliers

Instead of comparing the total number of suppliers, it may be more appropriate to consider the number of main suppliers which we will define in the same way as Eurostat, namely the number of suppliers with a market share of at least 5%. It should be noted that market shares in Eurostat are calculated based on total consumption whereas the market shares from the consumer survey are calculated on the basis of the number of household consumers.

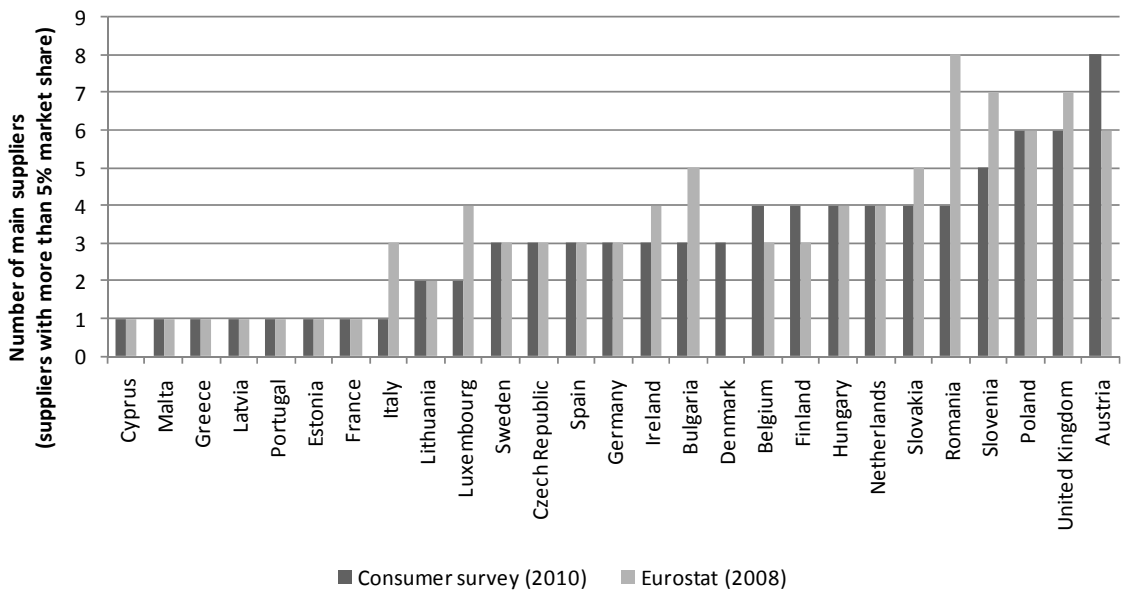
Generally, the number of main suppliers from the two different sources are much more similar than the figures for the total number of suppliers (Figure 202). The reason is that most main suppliers supply both household and industrial consumers and, in addition, the survey is likely to provide good indications of market shares for large suppliers whereas the market share estimates for small suppliers may be relatively poor due to limited sample sizes.

- The survey suggests that there are fewer main suppliers than estimated by Eurostat in Italy, Luxembourg, Ireland, Bulgaria, Slovakia, Romania, Slovenia and the United Kingdom.
- In contrast, the consumer survey suggests that there are more main suppliers for household consumers in Belgium, Finland and Austria.

Overall, the number of main suppliers varies from 1 in Cyprus, Estonia, France, Greece, Latvia, Malta and Portugal[159] to 8 in Romania in the Eurostat data and 1 in Cyprus, Italy, Estonia, France, Greece, Latvia, Malta and Portugal to 8 in Austria in the consumer survey.

[159] According to the Eurostat data and consumer survey data. However, data for Portugal reported in the country fiche in Annex A identified 4 suppliers with market shares greater than 5%. These suppliers are EDP, EDP Commercial, Iberdrola and Endesa. According to the consumer survey the largest supplier by far was EDP (market share of approximately 94%).

Figure 202: Number of main suppliers from Eurostat (2008) and the consumer survey (2010)



Note: In Eurostat, suppliers include all suppliers that supply electricity to final consumers and main suppliers are suppliers that sell at least 5% of the total national electricity consumption (including both household and industrial consumption). Figures from the survey include only suppliers that sell electricity to household consumers and the estimates are based on a sample of approximately 500 consumers from each Member State. Eurostat data for Denmark is not available.

Source: Eurostat (2010): European electricity market indicators 2008 and ECME Consortium consumer survey

It should be mentioned that while suppliers with a large market share are often national suppliers this is not always the case. For example, in Bulgaria, Romania and Lithuania the market is in practice split between a few large but local suppliers and as a result consumers have no possibility to switch between the main suppliers (unless they move to a different region).

Table 98: Estimated number of main suppliers (i.e. suppliers with a market share of at least 5%)

Country	From Eurostat (2008)	From consumer survey (2010)
Austria	6	8
Belgium	3	4
Bulgaria	5	3
Cyprus	1	1
Czech Republic	3	3
Denmark	:	3
Estonia	1	1
Finland	3	4
France	1	1
Germany	3	3
Greece	1	1
Hungary	4	4
Ireland	4	3
Italy	3	1
Latvia	1	1
Lithuania	2	2
Luxembourg	4	2
Malta	1	1
Netherlands	4	4
Poland	6	6
Portugal	1	1
Romania	8	4
Slovakia	5	4
Slovenia	7	5
Spain	3	3
Sweden	3	3
United Kingdom	7	6

Note: In Eurostat, suppliers include all suppliers that supply electricity to final consumers and main suppliers are suppliers that sell at least 5% of the total national electricity consumption (including both household and industrial consumption). Figures from the survey include only suppliers that sell electricity to household consumers and the estimates are based on a sample of approximately 500 consumers from each Member State.

Source: Eurostat (2010): European electricity market indicators 2008 and ECME Consortium consumer survey

A2.2.3 Market concentration

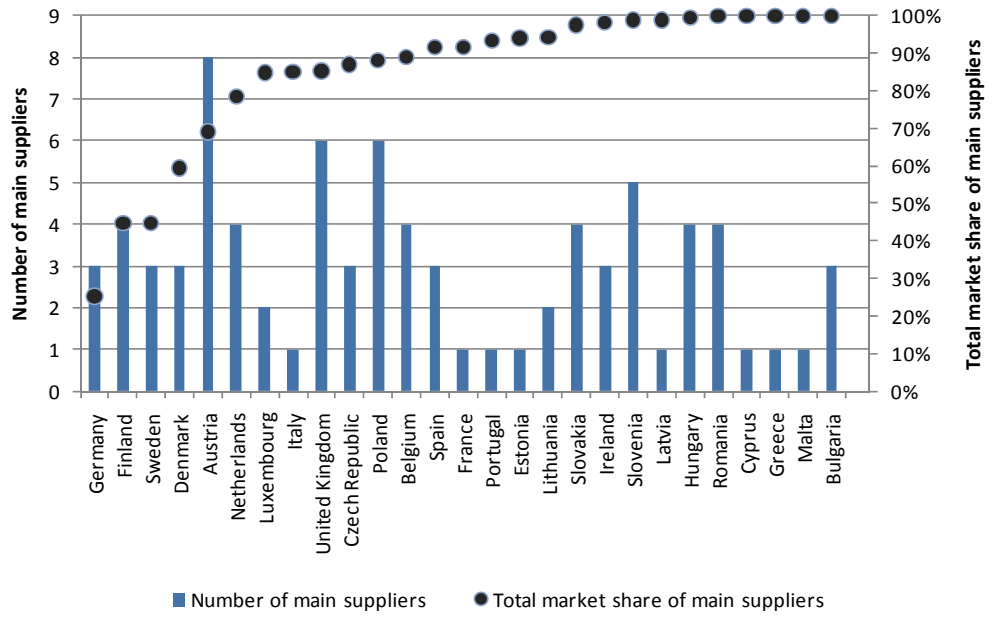
The main suppliers together account for between 25% and 100% of the total electricity market with the main suppliers accounting for more than 85% of the market in most of the Member States (Figure 203).

Only in the Netherlands, Austria, Denmark, Sweden, Finland and Germany do the main suppliers account for less than 85% of the market. With the exception of the Netherlands, these are all

countries with a large number of incumbent suppliers that traditionally only supplied electricity in a limited area.

There is no clear link between the number of main suppliers and the total market share of the main suppliers. This might be because the market structure prior to liberalisation and the process of liberalisation are important factors determining market concentration in the liberalised markets.

Figure 203: Number of main suppliers and total market share of main suppliers (2010)



Note: Main suppliers are suppliers with a market share of 5% (in terms of number of consumers).
Source: ECME Consortium general consumer survey[160]

Usually the Herfindahl index is typically the preferred measure of market concentration in competition analysis because it takes into account not only the market share of the largest company(s) but also the total number of suppliers in the market. However, in this case it is should be noted that, as the consumer survey did not necessarily sample consumers of all active suppliers, the market shares of small suppliers may not be estimated correctly and, hence, the Herfindahl index may be overestimated. However, given the relatively large survey sample sizes, this bias in the estimation of the Herfindahl index is unlikely to affect the overall conclusions.

It should also be noted that the number of suppliers is only relevant to market concentration if suppliers are national and they all compete in the same geographical areas.

[160] A similar graph could be produced using Eurostat data but market shares in this case would be calculated based on total national consumption including industrial consumption. In our view the consumer survey therefore provides a better measure of market shares for the main suppliers.

In some of the Member States this is not the case and the market is geographically split between different suppliers. In this case the Herfindahl index may be of less relevance. Therefore, we also use two other standard measures of concentration. Figure 204 illustrates three different measures of market concentration calculated based on the consumer survey, namely:

- the market share of the largest supplier (C1);
- the total market share of the four largest suppliers (C4); and
- the Herfindahl index.

Generally, the different market concentration measures tell a very similar story in terms of which countries have highly concentrated markets and which have less concentrated markets.

- The retail electricity markets in Malta, Greece and Cyprus are the most concentrated markets because there is only one supplier.

- In Latvia, Estonia, Portugal, France and Italy there is a dominant supplier which has at least 85% of the market and the four largest suppliers together account for more than 90% of the market. As a result the Herfindahl index is greater than 0.7 (on a scale from 0 to 1 where 1 implies that one company holds the entire market).

- Market concentration is also relatively high in Luxembourg, Ireland, Lithuania, Belgium, Bulgaria, the Czech Republic, Spain, Hungary, Romania, Slovakia and Slovenia. In these countries the largest four suppliers together account for more than 85% of the market and the market share of the largest supplier is at least 35%.

  However, this does not mean that the market structure in these countries is necessarily very similar. For example,

  - In Belgium, Ireland and Luxembourg, the largest supplier has a market share of more than 60% but the second largest supplier has a market share of less than 25%.

  - In contrast in Lithuania, Bulgaria and Romania the market is geographically split between 2, 3 and 4 suppliers, respectively, who have approximately the same market share.

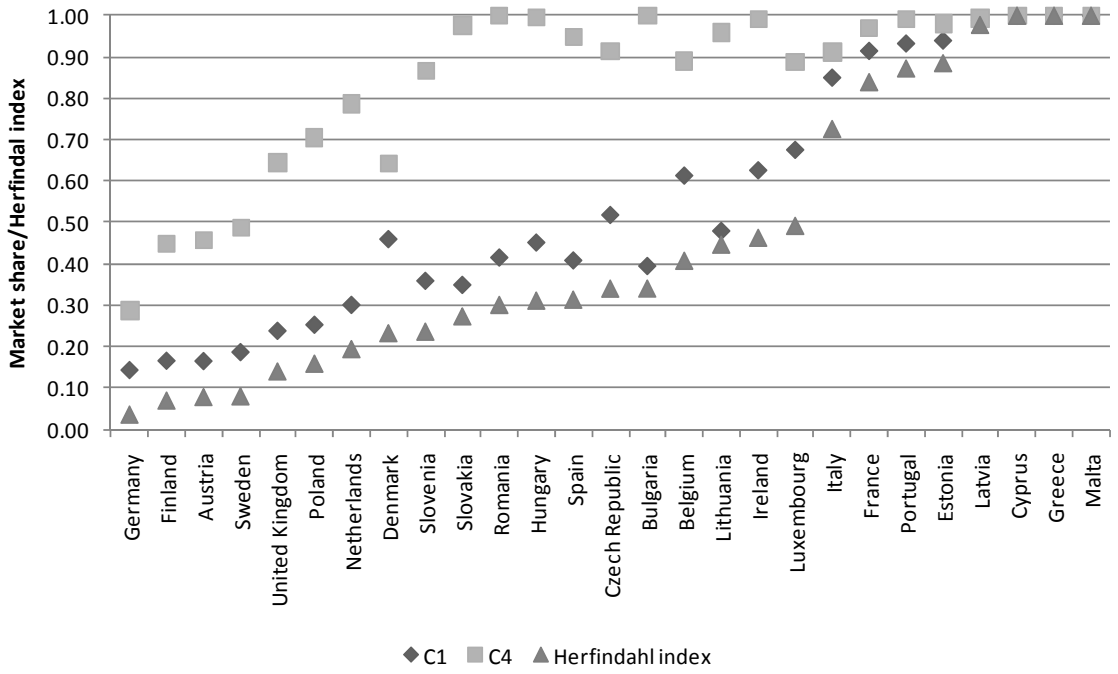
- The electricity markets in Denmark, the Netherlands, Poland, the United Kingdom, Sweden, Austria, Finland and Germany are less concentrated when concentration is measured by the Herfindahl index, and, in all of these countries, the four largest suppliers account for less than 80% of the market.

  Furthermore, the largest supplier has a market share of no more than 30% in all of these countries with the exception of Denmark where the largest supplier has a relatively high market share of 46%. However, the market share of the four largest suppliers in Denmark is relatively low at 64%.

By all measures the market concentration is lower in Sweden, Austria, Finland and Germany than in any other Member States. This reflects the fact that there are a large number of small local incumbent suppliers in these Member States and all of the suppliers may not operate in the

national market. In comparison, the United Kingdom has a slightly higher market concentration. However, in this case, suppliers are generally national suppliers that all consumers can choose as their supplier.

Figure 204: Market concentration (2010)



Note: C1 is the market share of the largest supplier, C4 is the market share of the four largest suppliers and the Herfindahl index is calculated as the sum of the market shares squared for all suppliers identified in the consumer survey.

Source: ECME Consortium general consumer survey

Annex 3 Empirical analysis of determinants of consumer satisfaction

Table 99: Summary statistics

	Observations	Mean	Standard deviation	Minimum	Maximum
Satisfaction rating	27	7.660	0.646	5.846	8.800
Reliability of service	27	8.161	0.980	5.290	9.530
Availability of supplier	27	7.424	0.858	5.113	8.795
Professionalism of supplier's staff	27	7.649	0.727	5.608	8.710
Supplier's handling of problems	27	7.205	0.788	5.135	8.302
Supplier's quality of service	27	7.594	0.769	5.365	8.653
Choice of tariffs from supplier	27	5.797	1.130	2.973	7.232
Fair and reasonable prices	27	5.534	1.130	3.199	7.107
Transparency of tariffs	27	6.548	0.738	4.605	7.581
Transparency of bills	27	7.123	0.852	5.261	8.639
Share who can afford electricity bills	27	0.727	0.162	0.308	0.952
Price increased in the last 12 months	27	0.668	0.204	0.255	0.947
Experienced problems in the last two years	27	0.108	0.073	0.032	0.302
Rate of arrears	27	0.085	0.071	0.010	0.330
Years since liberalisation	27	4.519	3.641	0.000	13.00

Source: ECME Consortium analysis of data from the general consumer survey and Eurostat.

Table 100: Correlations

	Satisfaction rating	Reliability of service	Availability of supplier	Professionalism of supplier's staff	Supplier's handling of problems	Supplier's quality of service	Choice of tariffs from supplier	Fair and reasonable prices	Transparency of tariffs	Transparency of bills	Share who can afford electricity bills	Price increased in the last	Experienced problems in the last two years	Rate of arrears	Years since liberalisation
Satisfaction rating	1.00														
Reliability of service	0.83	1.00													
Availability of supplier	0.74	0.79	1.00												
Professionalism of supplier's staff	0.83	0.83	0.93	1.00											
Supplier's handling of problems	0.80	0.83	0.94	0.97	1.00										
Supplier's quality of service	0.87	0.83	0.91	0.98	0.96	1.00									
Choice of tariffs from supplier	0.71	0.75	0.73	0.68	0.72	0.70	1.00								
Fair and reasonable prices	0.84	0.79	0.60	0.70	0.71	0.76	0.73	1.00							
Transparency of tariffs	0.80	0.66	0.77	0.76	0.78	0.83	0.73	0.74	1.00						
Transparency of bills	0.67	0.51	0.69	0.71	0.70	0.77	0.50	0.55	0.89	1.00					
Share who can afford electricity bills	0.66	0.81	0.55	0.59	0.60	0.63	0.81	0.74	0.51	0.37	1.00				
Price increased in the last 12 months	-0.57	-0.54	-0.27	-0.33	-0.38	-0.39	-0.43	-0.70	-0.51	-0.42	-0.54	1.00			
Experienced problems in the last two years	-0.75	-0.86	-0.75	-0.77	-0.80	-0.78	-0.78	-0.72	-0.61	-0.47	-0.83	0.46	1.00		
Rate of arrears	-0.54	-0.50	-0.46	-0.48	-0.43	-0.48	-0.48	-0.41	-0.41	-0.32	-0.57	0.30	0.52	1.00	
Years since liberalisation	0.39	0.57	0.42	0.44	0.47	0.41	0.52	0.63	0.37	0.25	0.56	-0.45	-0.45	-0.24	1.00

Source: ECME Consortium analysis of data from the general consumer survey and Eurostat.

Table 101: General model

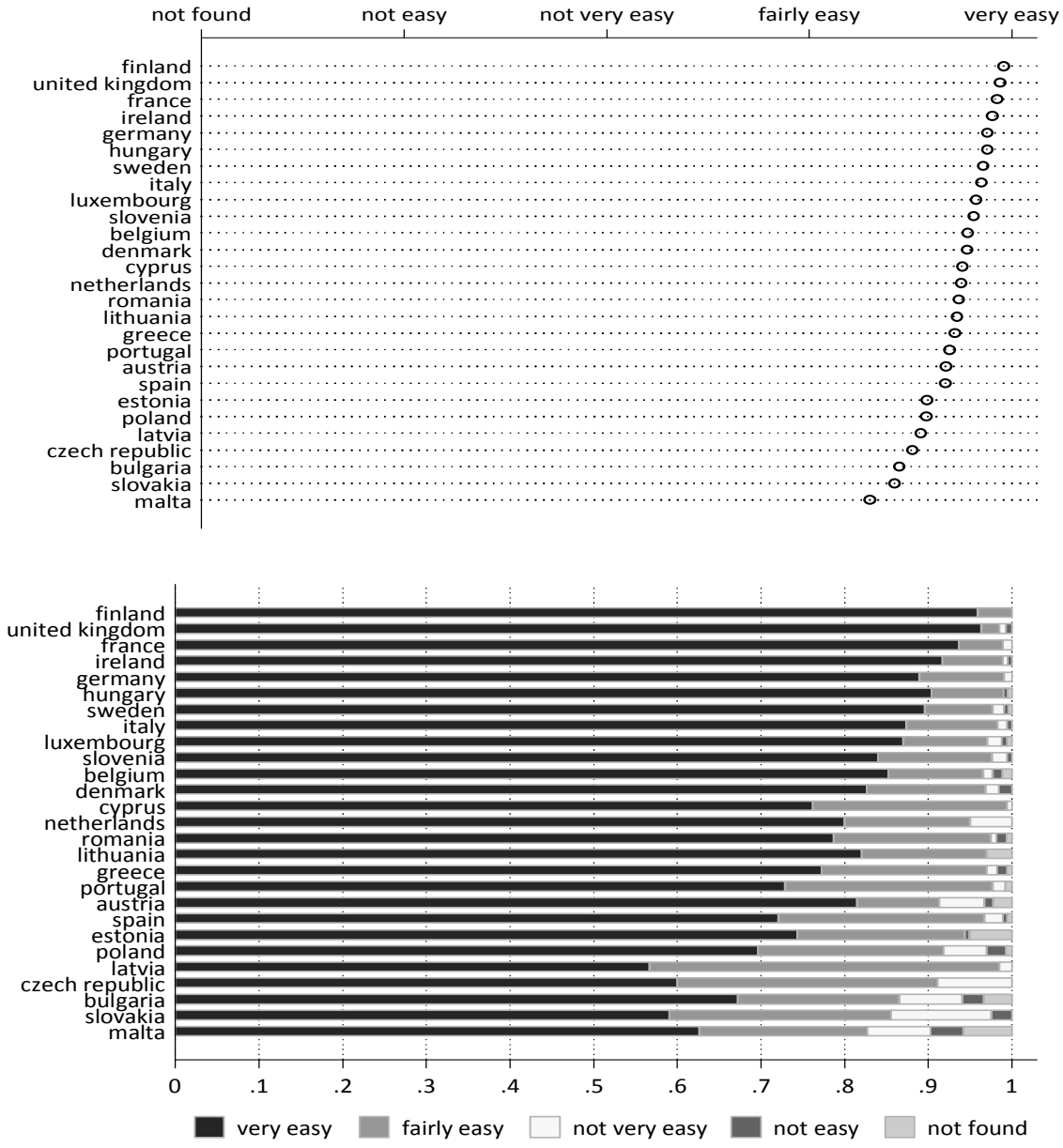
	Coefficient	t statistic
Reliability of service	0.284	1.64
Supplier's quality of service	0.178	0.67
Choice of tariffs from supplier	0.089	0.68
Fair and reasonable prices	0.304**	2.15
Transparency of tariffs	-0.128	-0.41
Transparency of bills	0.121	0.55
Share who can afford electricity bills	-1.022	-1.03
Price increased in the last 12 months	-0.179	-0.38
Experienced problems in the last two years	0.688	0.39
Rate of arrears	-1.485	-1.49
Years since liberalisation	-0.040*	-1.88
Constant	2.874*	2.04
Observations	27	
F (p-value)	11.61 (0.000)	
R2 (Adjusted R2)	0.8949 (0.8178)	
Breusch-Pagan heteroscedasiticy test	0.03 (0.8663)	
Shapiro-Wilk normality test	0.9793 (0.8469)	

Source: ECME Consortium analysis of data from the general consumer survey and Eurostat.

Annex 4 Annex to billing chapter

A4.1 Detailed results of finding information and understanding the bill

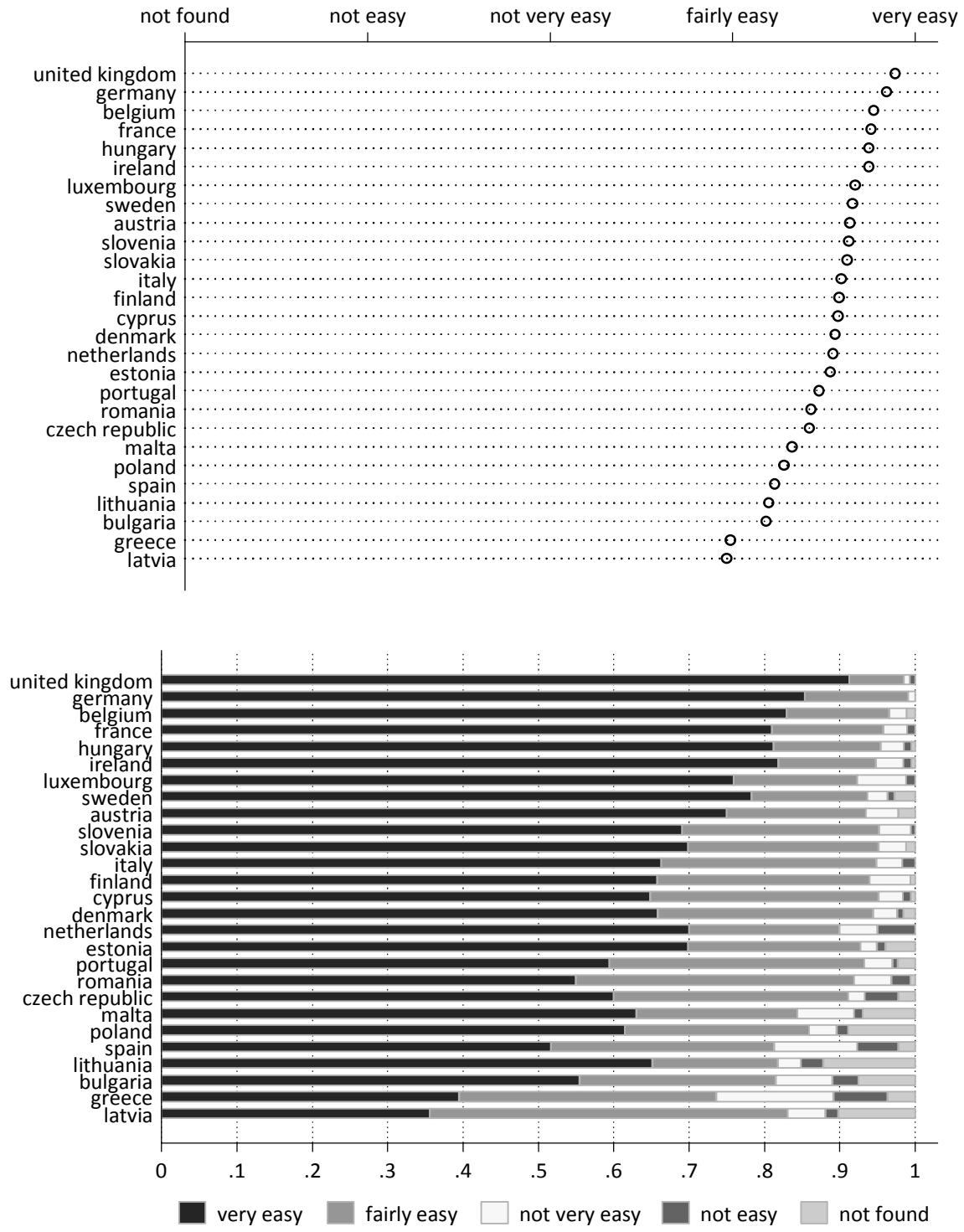
Figure 205: Finding items on your bill: supplier name



Note: QB7. How easy it is to find and understand the following elements on your bill: The name of your supplier

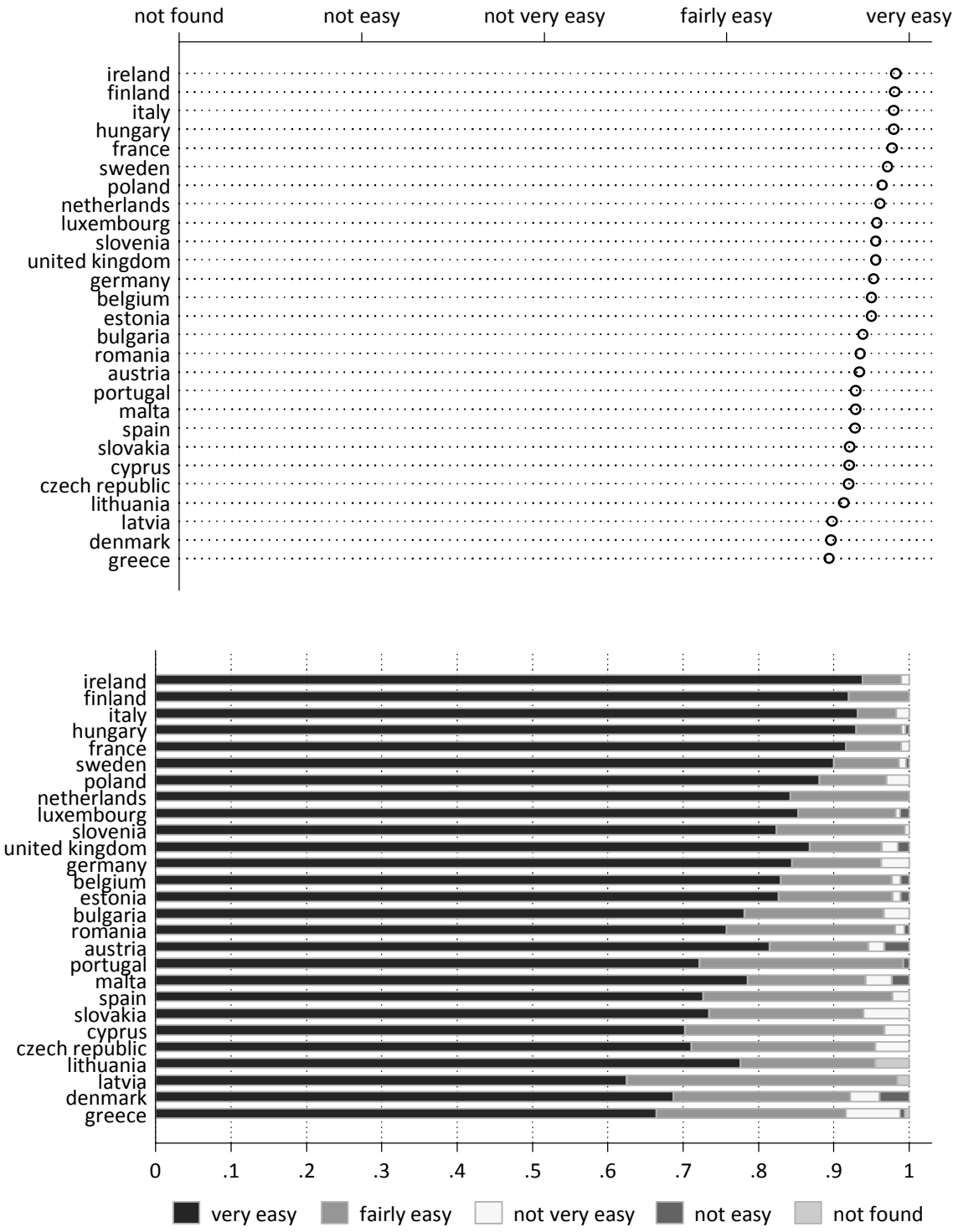
Source: ECME consortium billing & payment survey

Figure 206: Finding items on your bill: supplier contact details



Note: QB7. How easy it is to find and understand the following elements on your bill: The contact details of your supplier
Source: ECME consortium billing & payment survey

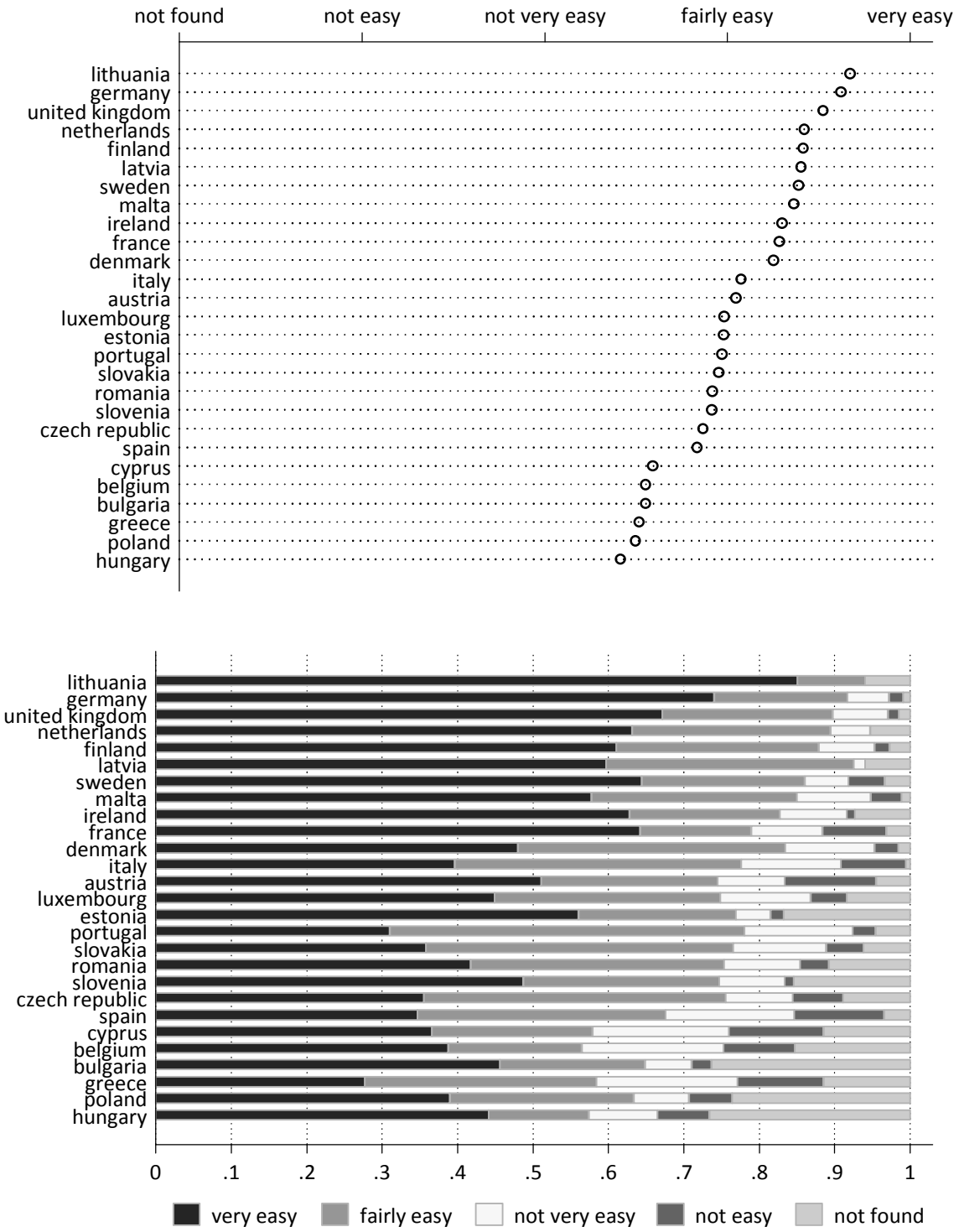
Figure 207: Finding items on your bill: amount to be paid



Note: QB7. How easy it is to find and understand the following elements on your bill: The amount to be paid

Source: ECME consortium billing & payment survey

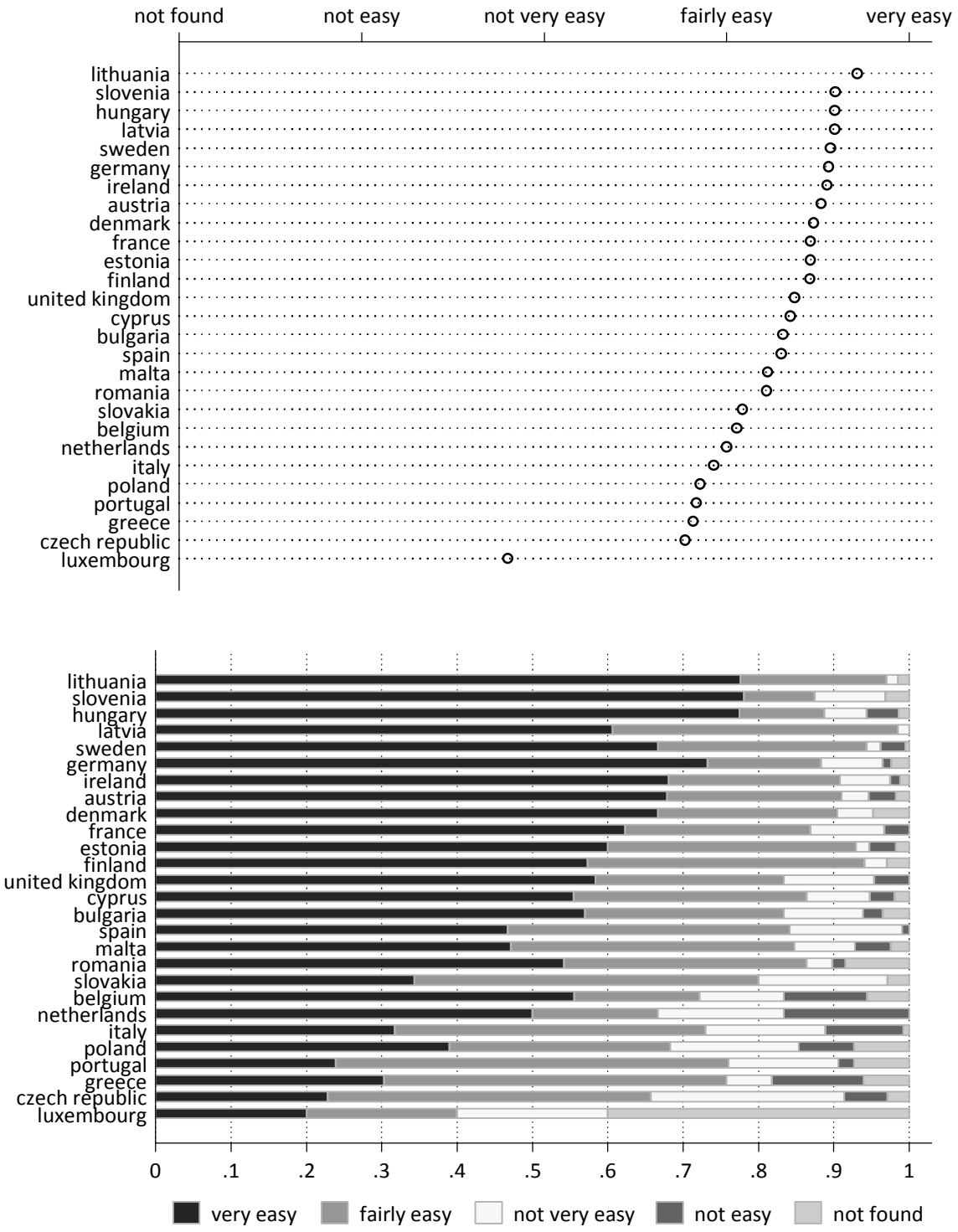
Figure 208: Finding items on your bill: determination of billed amount



Note: QB7. How easy it is to find and understand the following elements on your bill: Whether the amount is calculated on actual meter reading or estimated

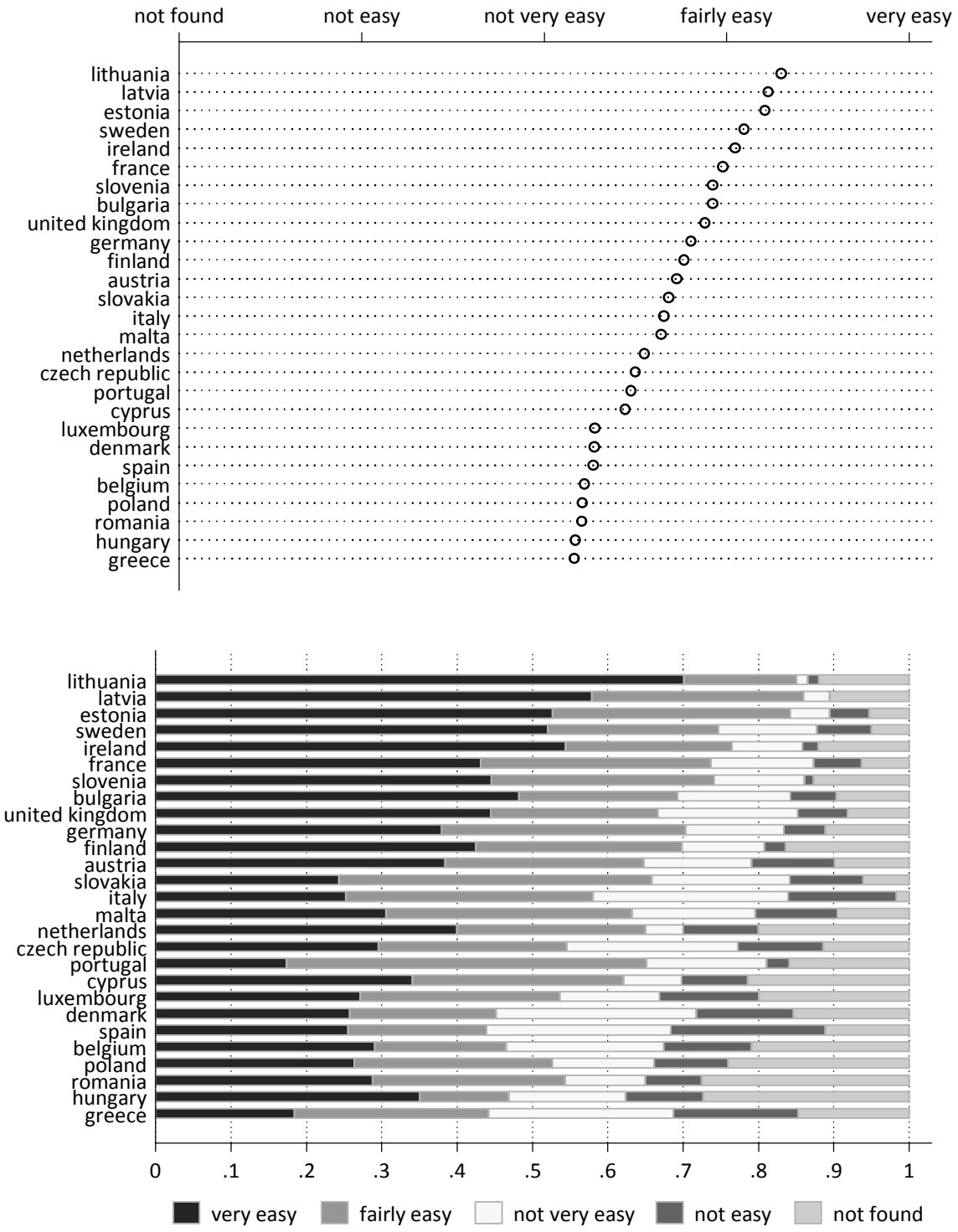
Source: ECME consortium billing & payment survey

Figure 209: Finding items on your bill: consumption



Note: QB7. How easy it is to find and understand the following elements on your bill: Consumption during the billing period
Source: ECME consortium billing & payment survey

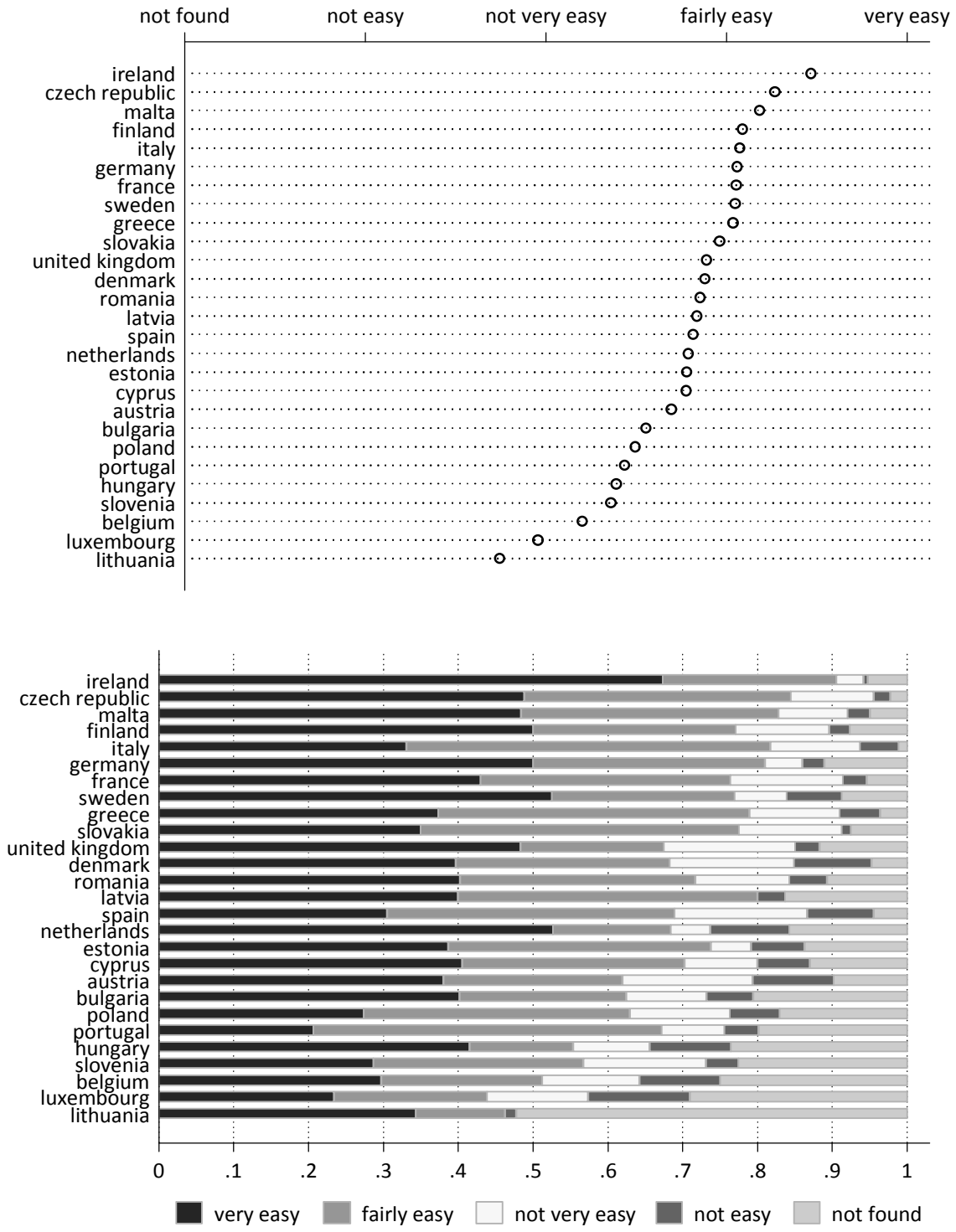
Figure 210: Finding items on your bill: tariff



Note: QB7. How easy it is to find and understand the following elements on your bill: Type of tariff applied

Source: ECME consortium billing & payment survey

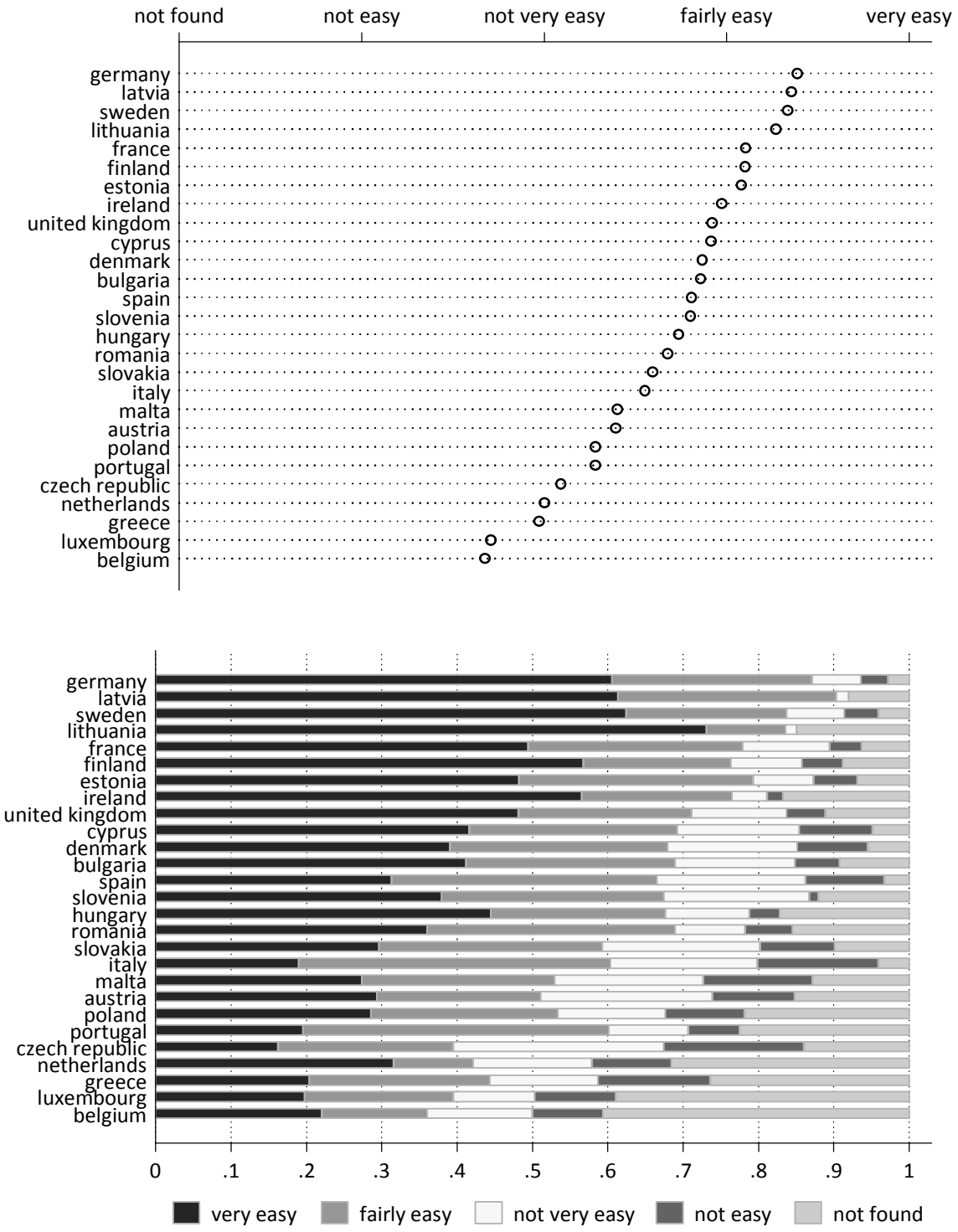
Figure 211: Finding items on your bill: fixed charges



Note: QB7. How easy it is to find and understand the following elements on your bill: The amount of any fixed charges

Source: ECME consortium billing & payment survey

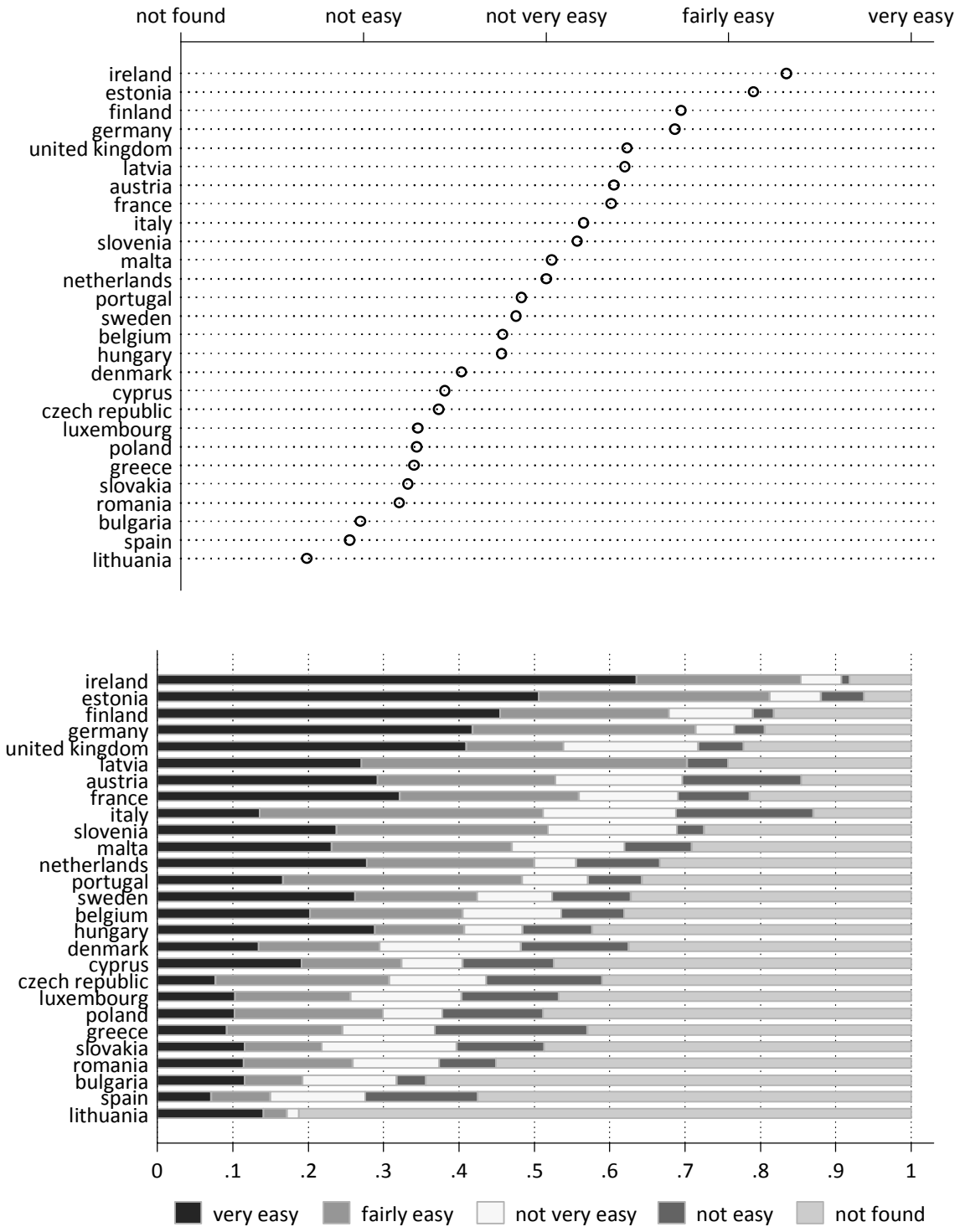
Figure 212: Finding items on your bill: price per kWh



Note: QB7. How easy it is to find and understand the following elements on your bill: Price per kWh

Source: ECME consortium billing & payment survey

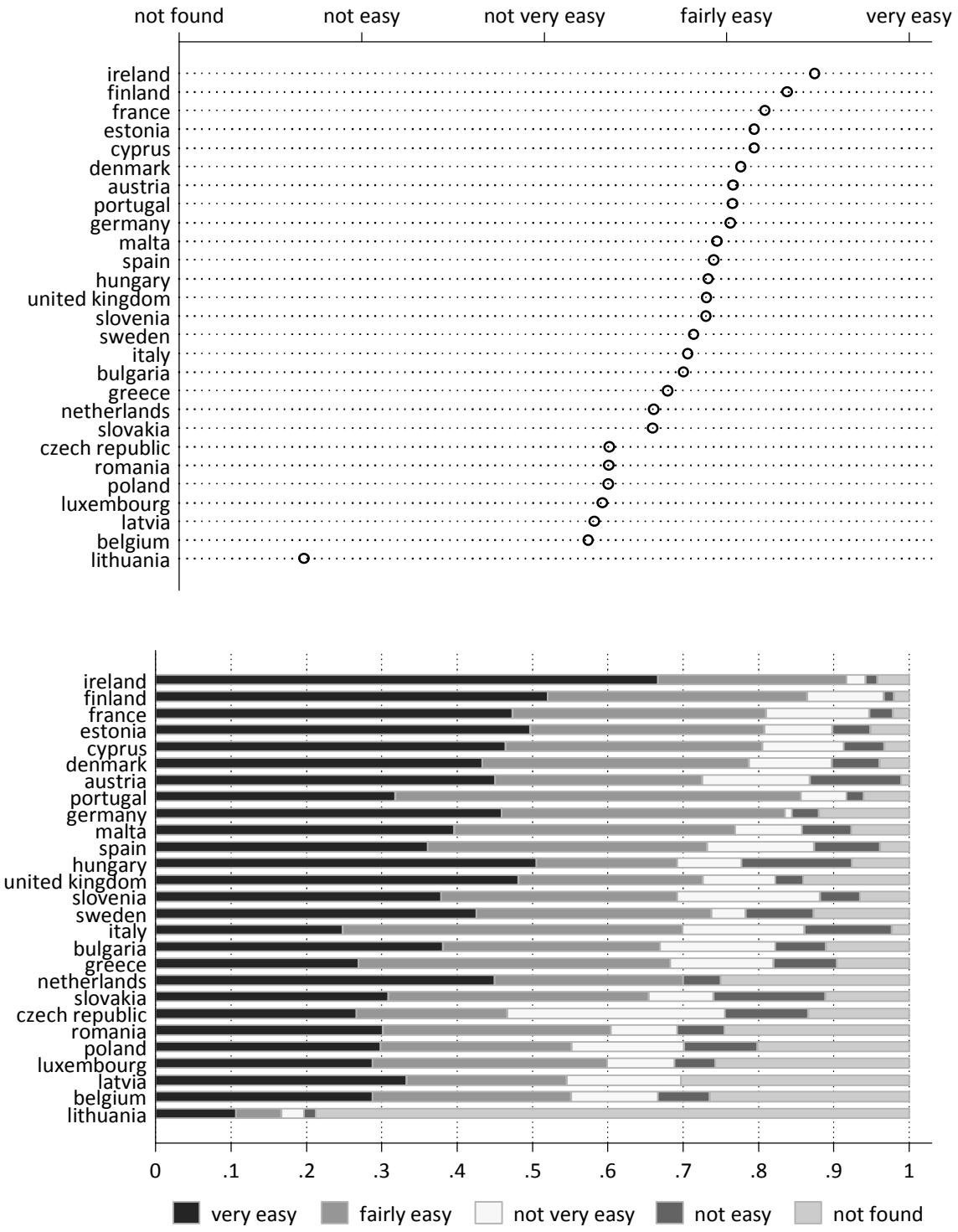
Figure 213: Finding items on your bill: standing charge element



Note: QB7. How easy it is to find and understand the following elements on your bill: Standing charge element (e.g. peak vs. off-peak, or variable rate tariffs)

Source: ECME consortium billing & payment survey

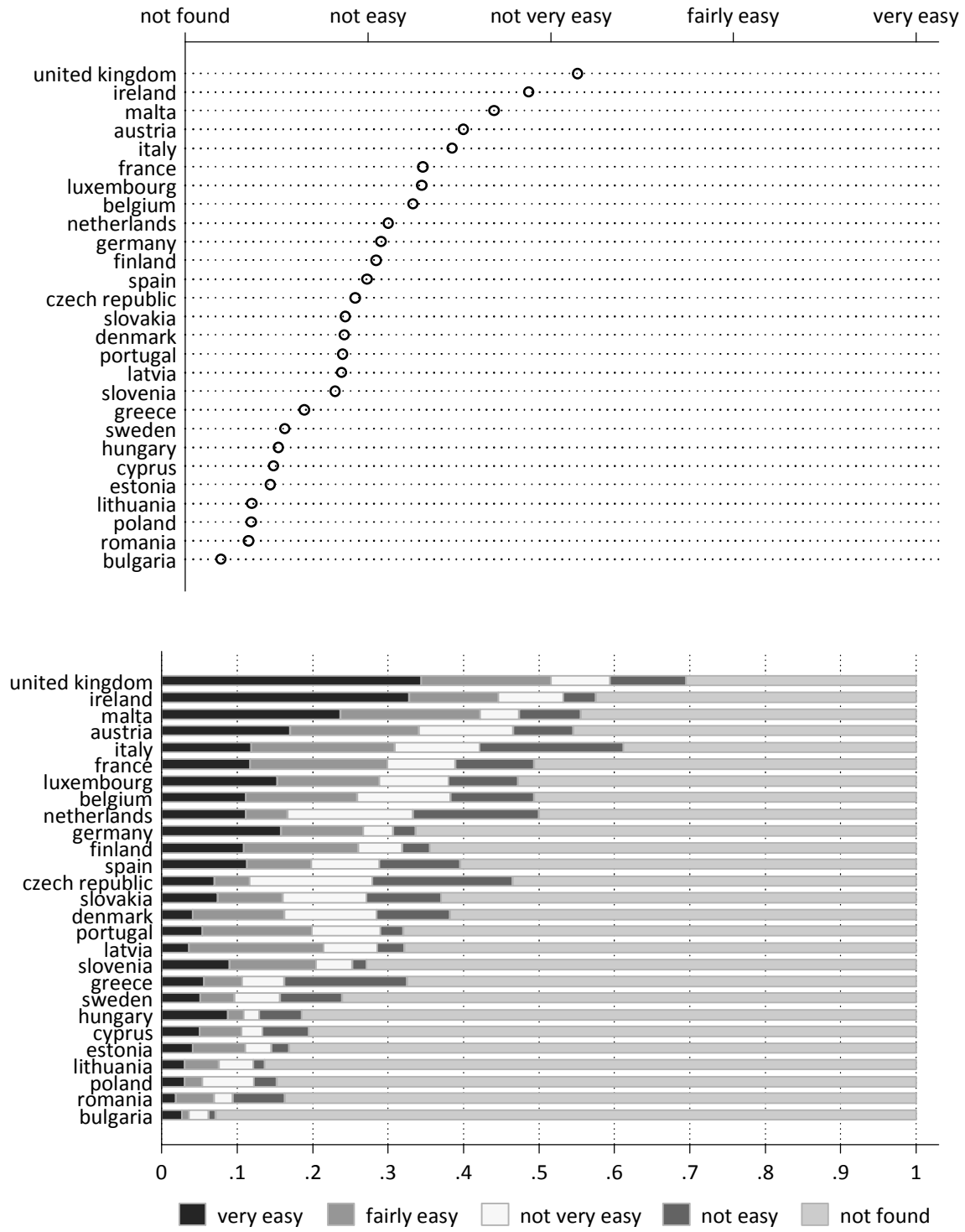
Figure 214: Finding items on your bill: price breakdown



Note: QB7. How easy it is to find and understand the following elements on your bill: The price breakdown (detail of what is included in the amount charged: distribution cost, taxes, etc.)

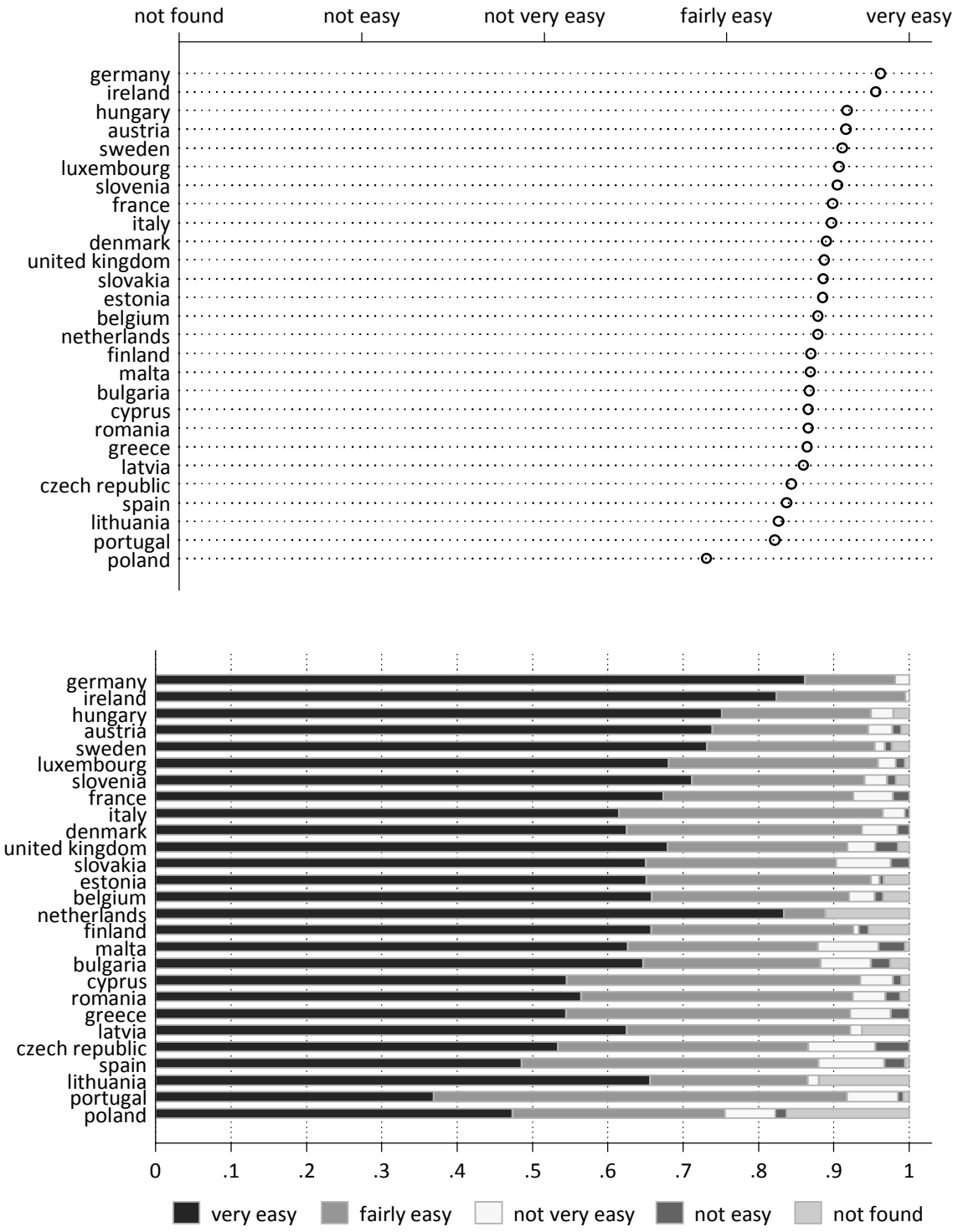
Source: ECME consortium billing & payment survey

Figure 215: Finding items on your bill: offers, discounts etc.



Note: QB7. How easy it is to find and understand the following elements on your bill: Special offers, discounts, or reductions you can get
Source: ECME consortium billing & payment survey

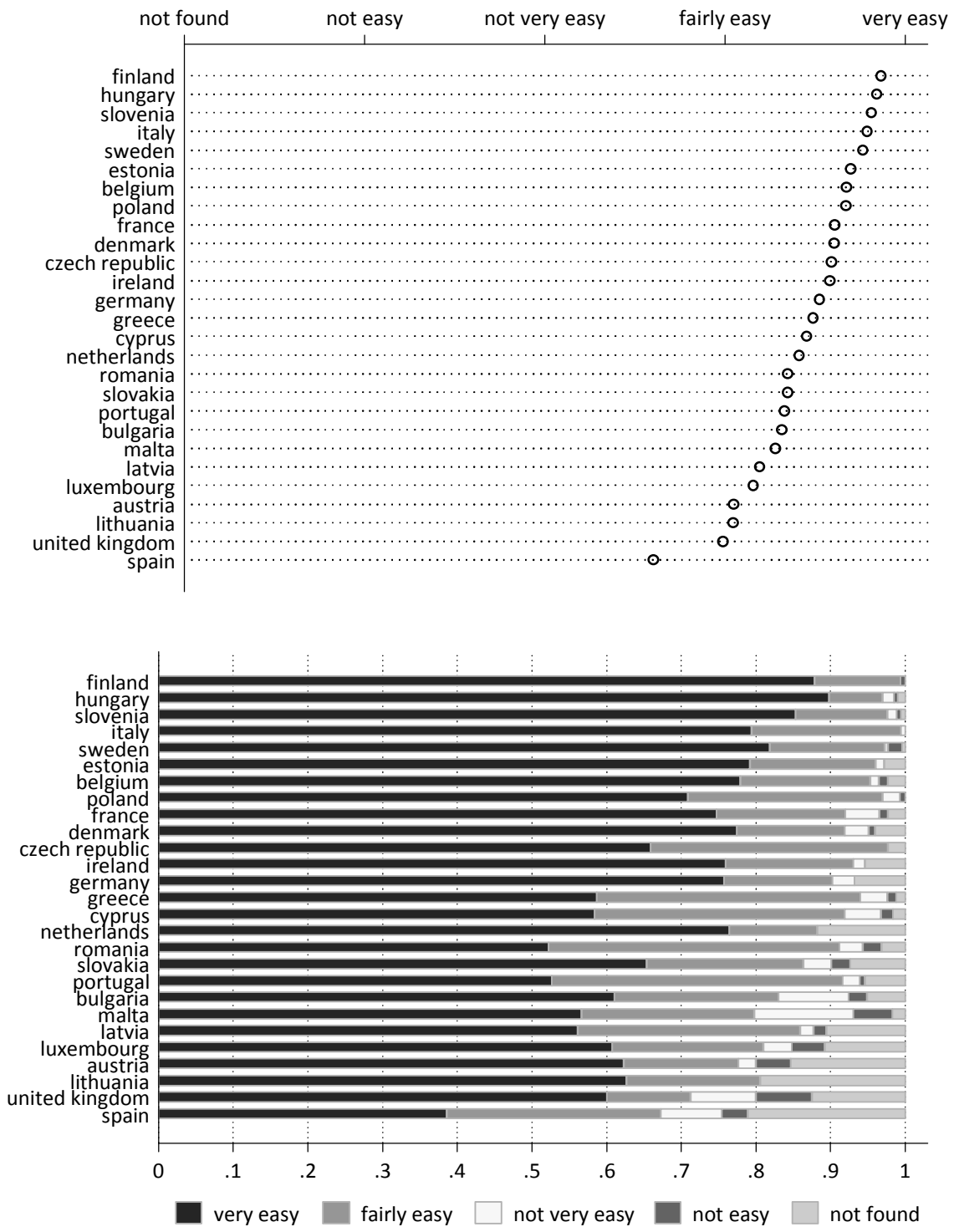
Figure 216: Finding items on your bill: billing period



Note: QB7. How easy it is to find and understand the following elements on your bill: The billing period

Source: ECME consortium billing & payment survey

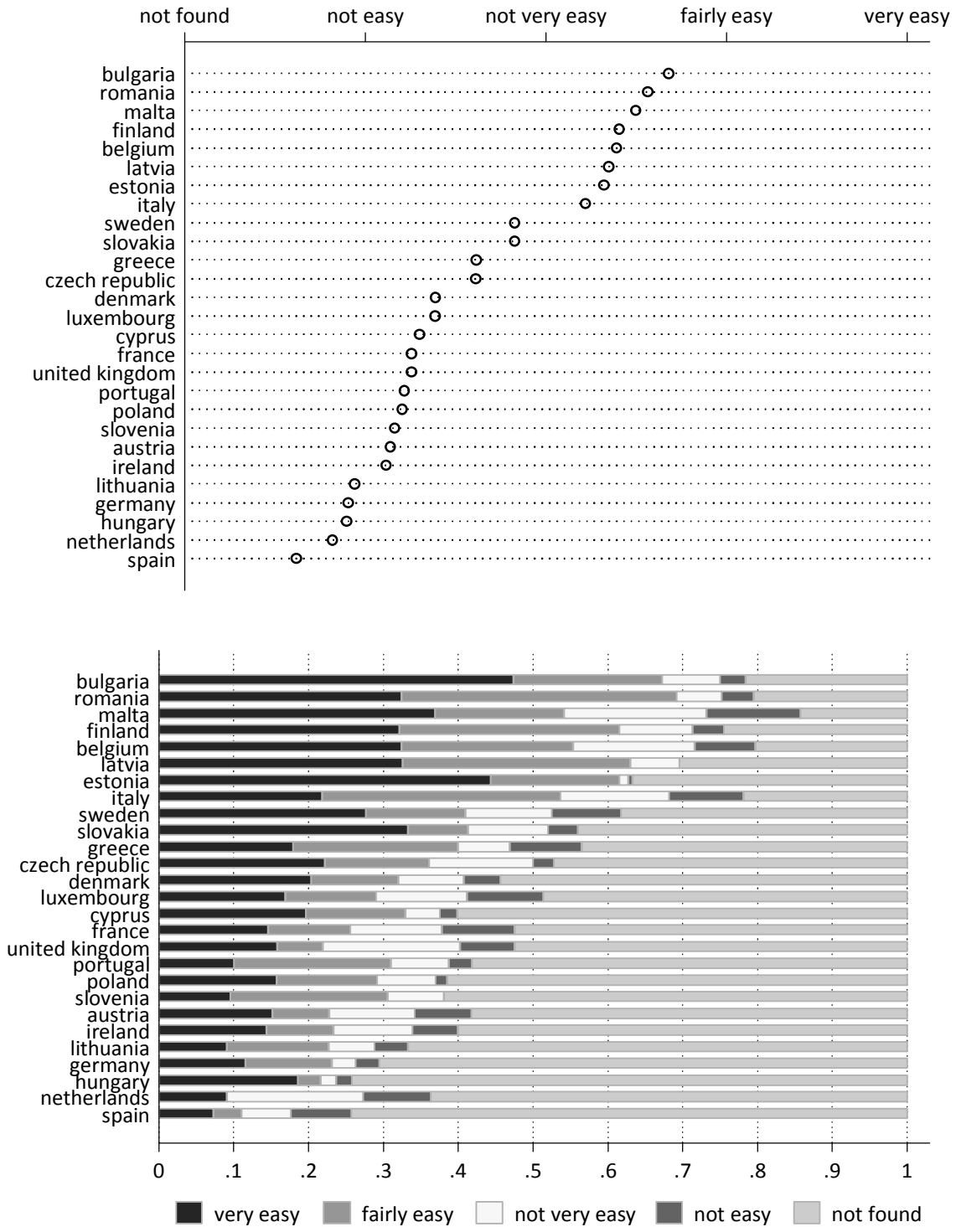
Figure 217: Finding items on your bill: payment deadline



Note: QB7. How easy it is to find and understand the following elements on your bill: The deadline for payment

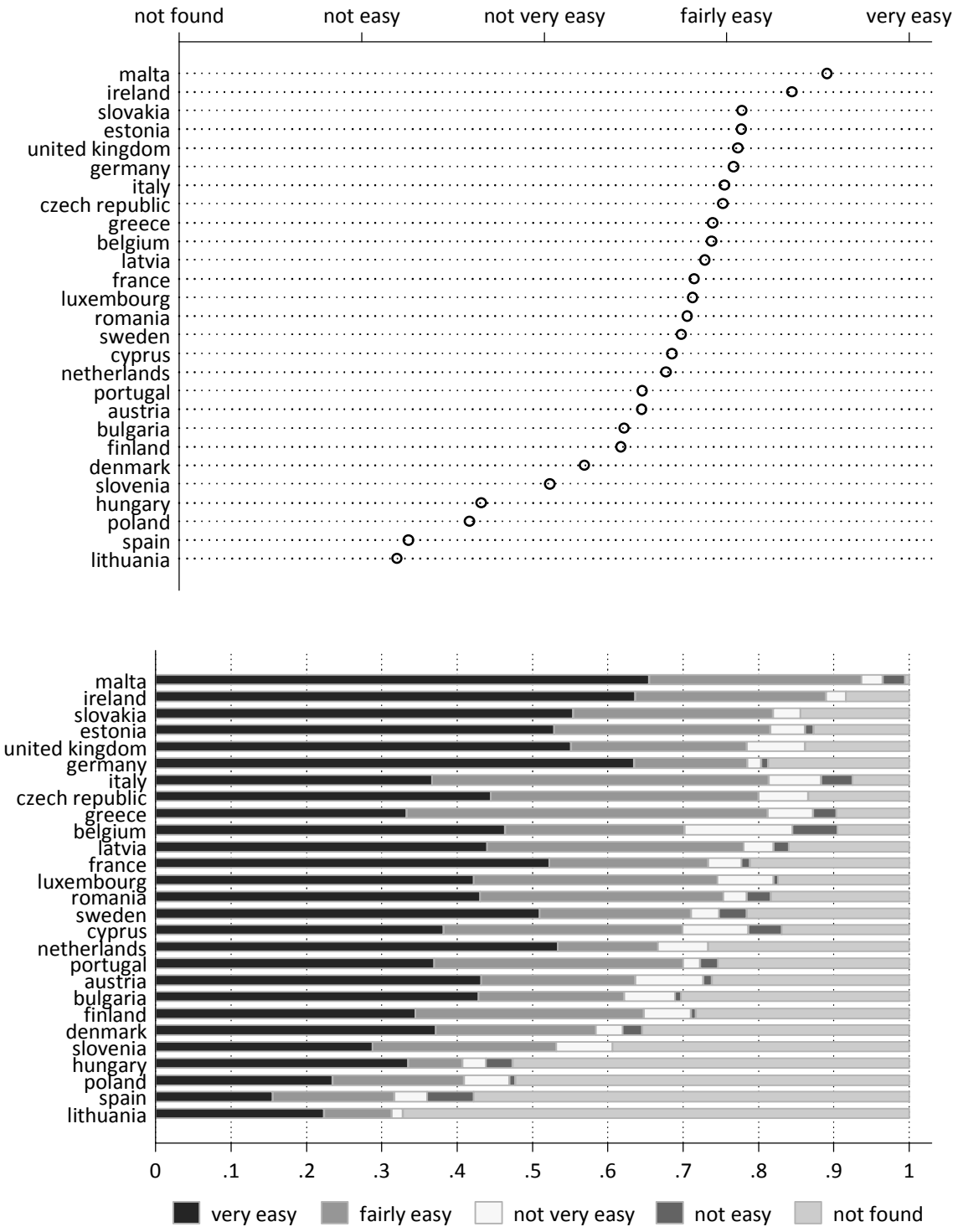
Source: ECME consortium billing & payment survey

Figure 218: Finding items on your bill: penalties



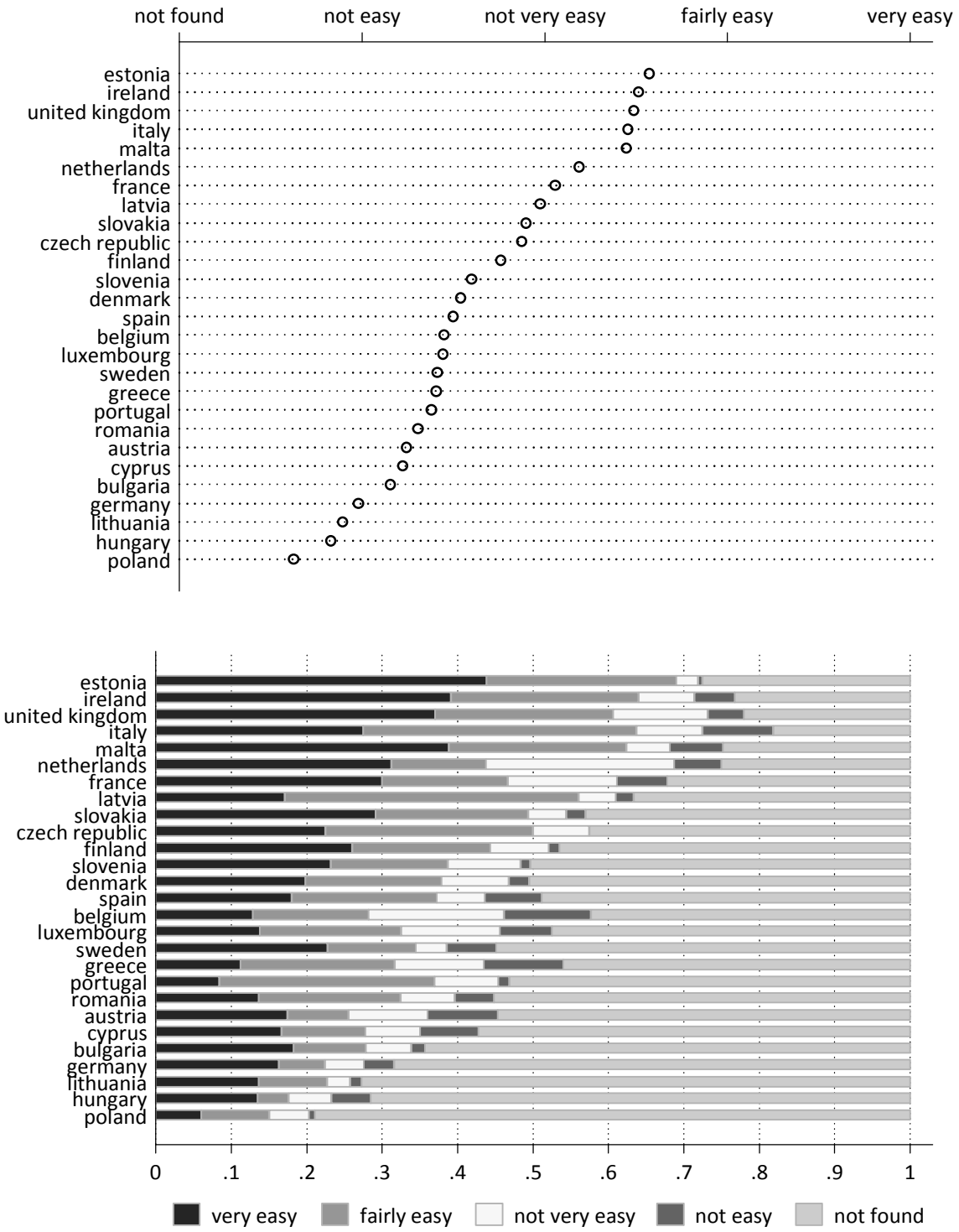
Note: QB7. How easy it is to find and understand the following elements on your bill: The penalties in case of late payment
Source: ECME consortium billing & payment survey

Figure 219: Finding items on your bill: payment methods



Note: QB7. How easy it is to find and understand the following elements on your bill: Information about the methods of payment
Source: ECME consortium billing & payment survey

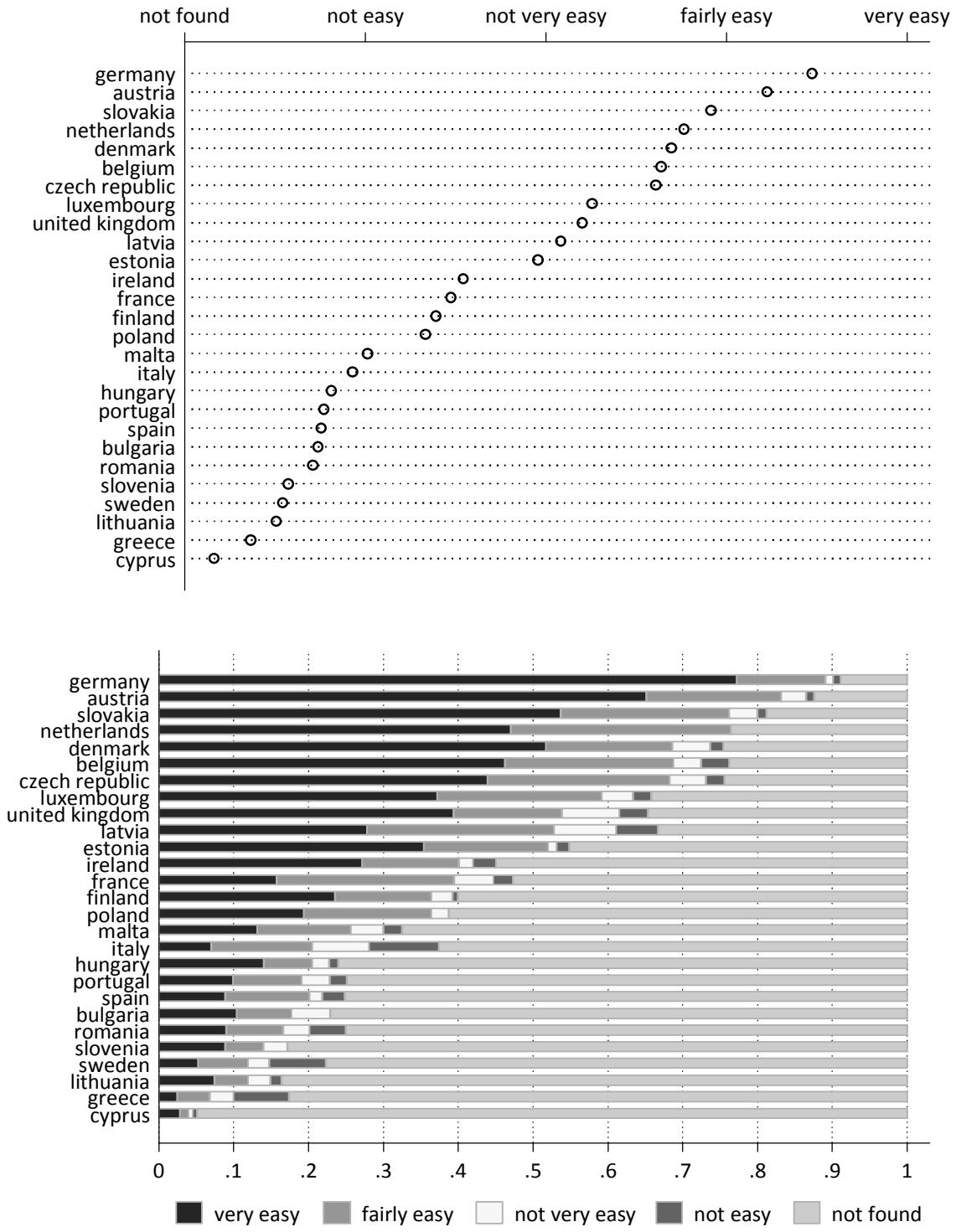
Figure 220: Finding items on your bill: bill format options



Note: QB7. How easy it is to find and understand the following elements on your bill: Information about how to obtain the bill in alternative formats

Source: ECME consortium billing & payment survey

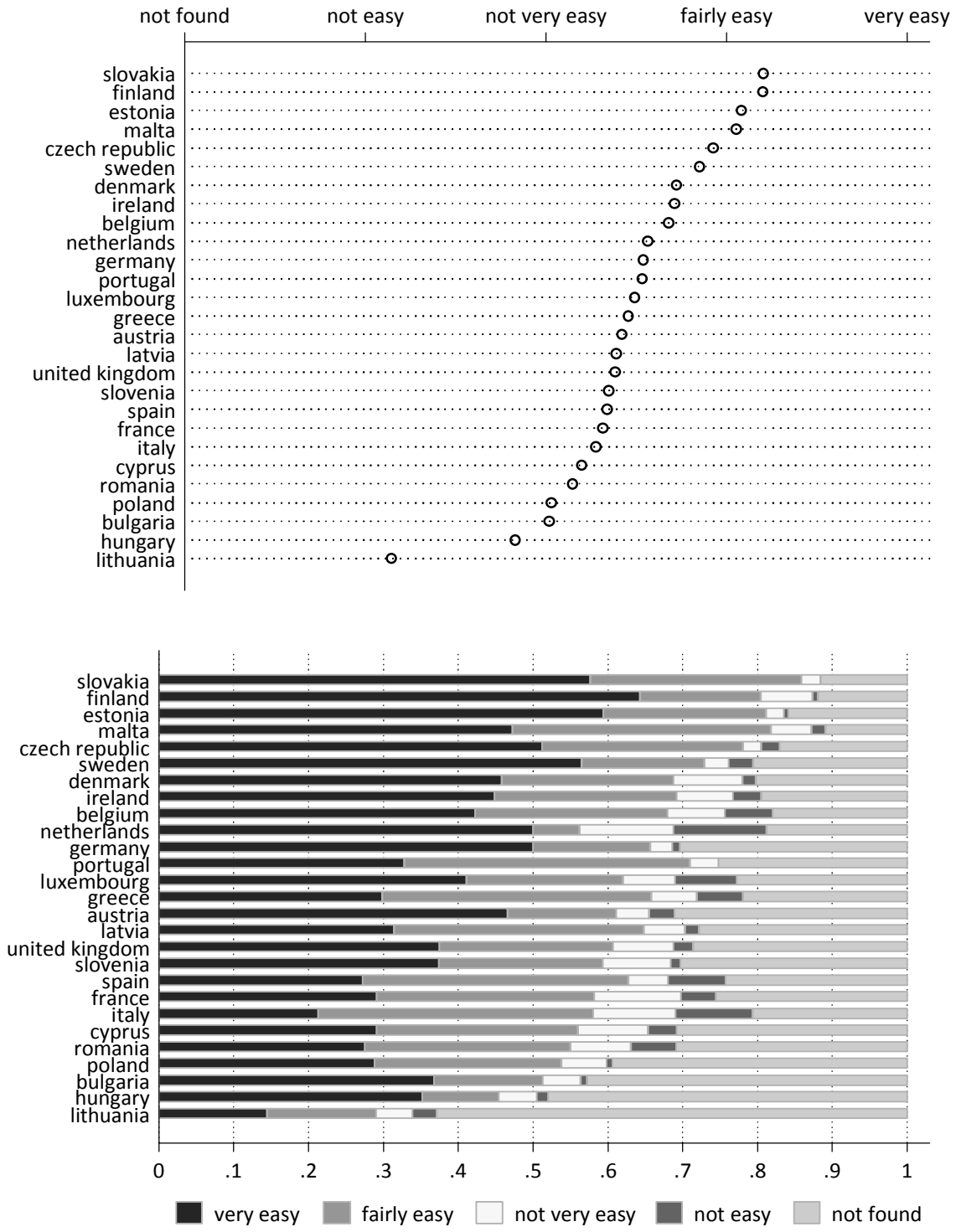
Figure 221: Finding items on your bill: next bill (amount)



Note: QB7. How easy it is to find and understand the following elements on your bill: How much you will have to pay on the next bill

Source: ECME consortium billing & payment survey

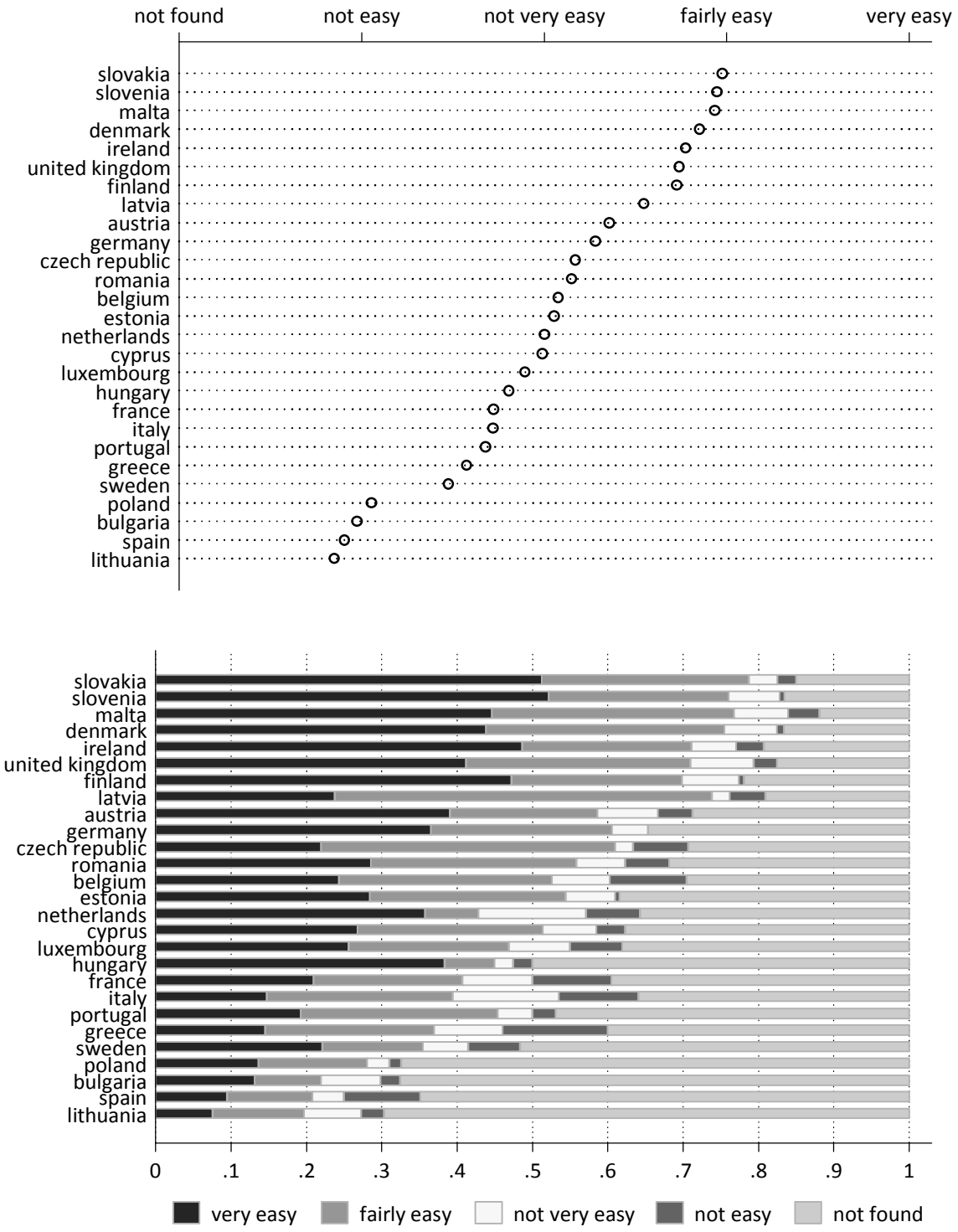
Figure 222: Finding items on your bill: online payment information



Note: QB7. How easy it is to find and understand the following elements on your bill: Information about on-line payments (e.g.: bank account, bill code, etc.)

Source: ECME consortium billing & payment survey

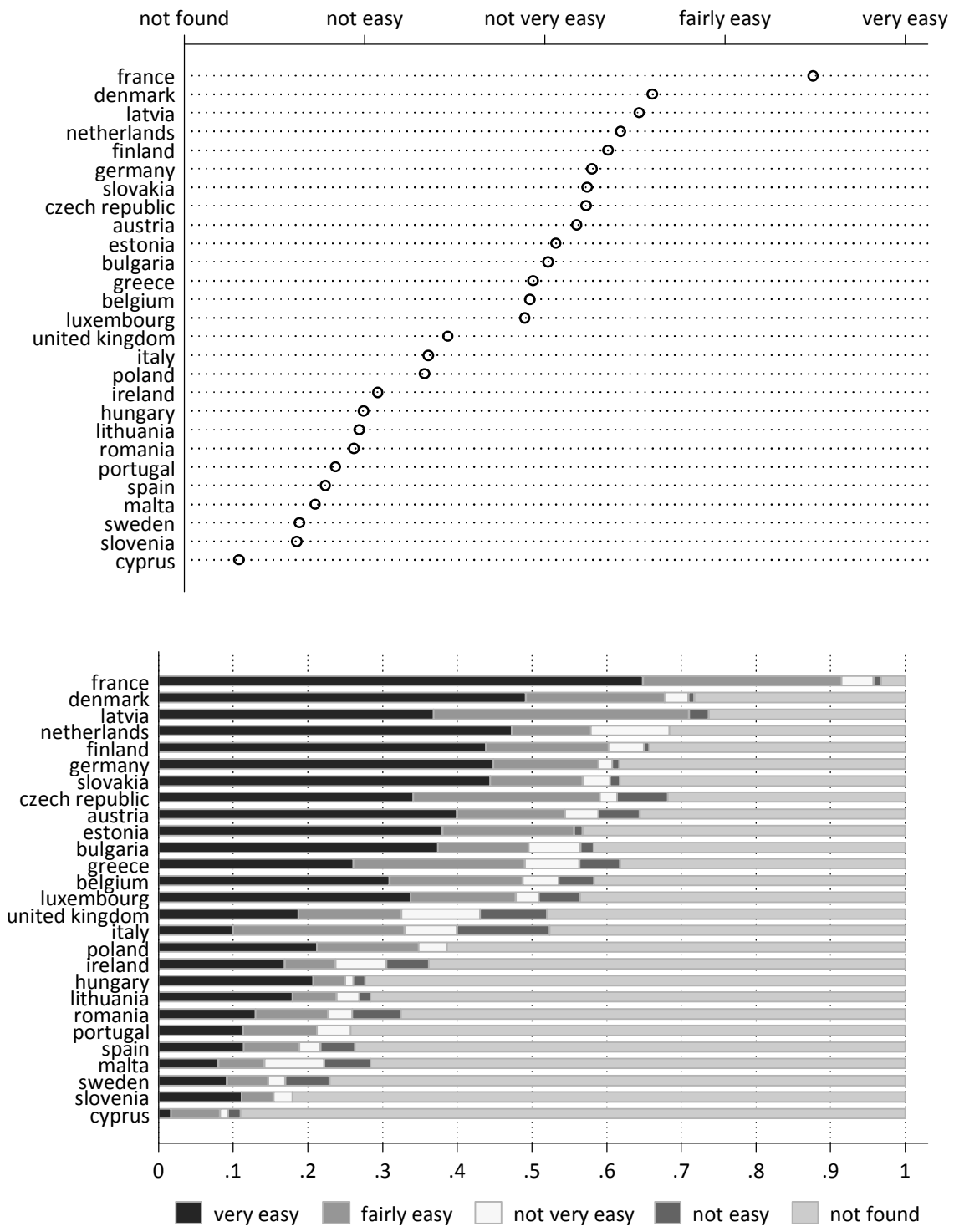
Figure 223: Finding items on your bill: help available



Note: QB7. How easy it is to find and understand the following elements on your bill: Information about the available help (if payment issues)

Source: ECME consortium billing & payment survey

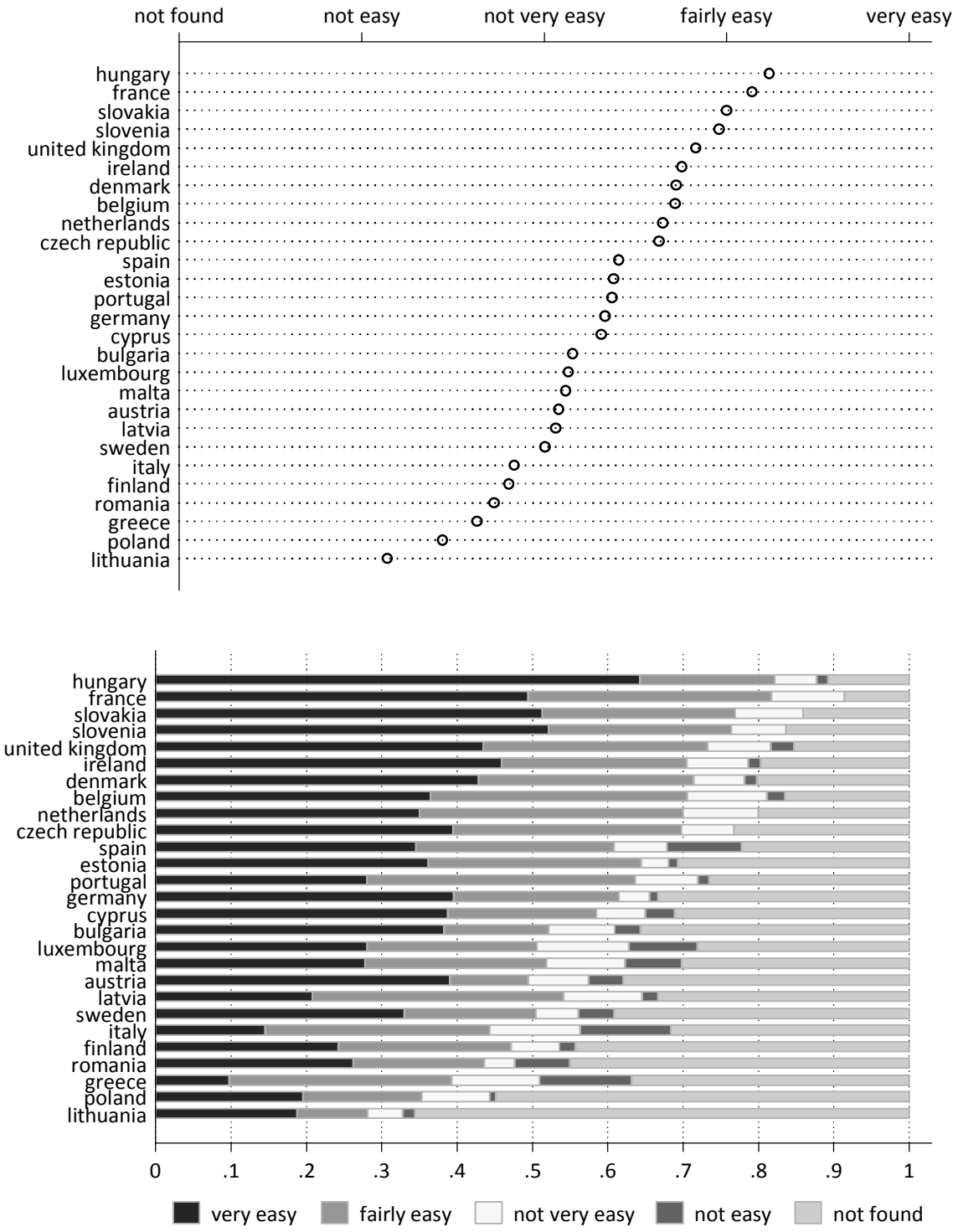
Figure 224: Finding items on your bill: next bill (date)



Note: QB7. How easy it is to find and understand the following elements on your bill: The date of the next bill

Source: ECME consortium billing & payment survey

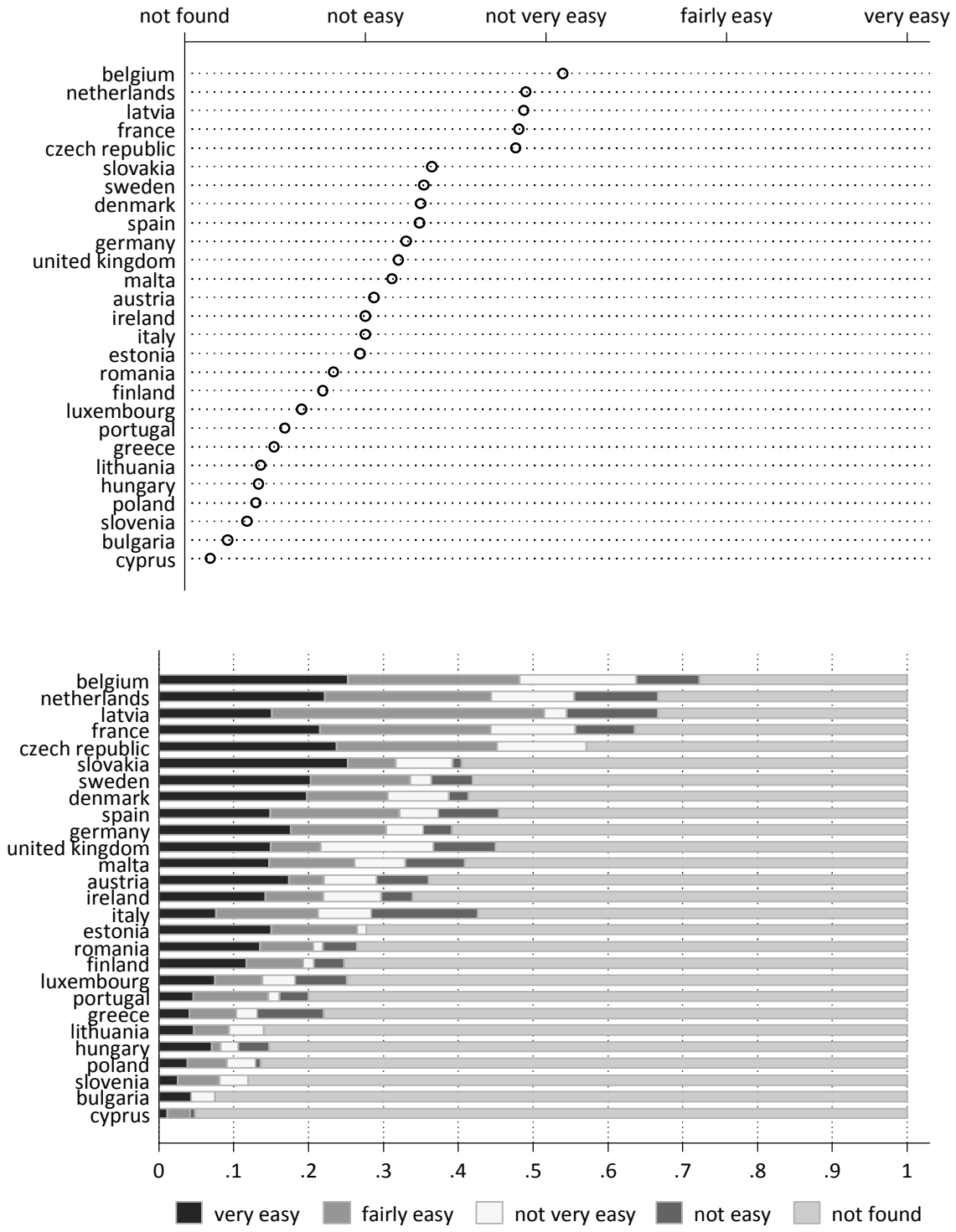
Figure 225: Finding items on your bill: accessing additional information



Note: QB7. How easy it is to find and understand the following elements on your bill: How to access information about your account/consumption (e.g. online account, helpline, etc.)

Source: ECME consortium billing & payment survey

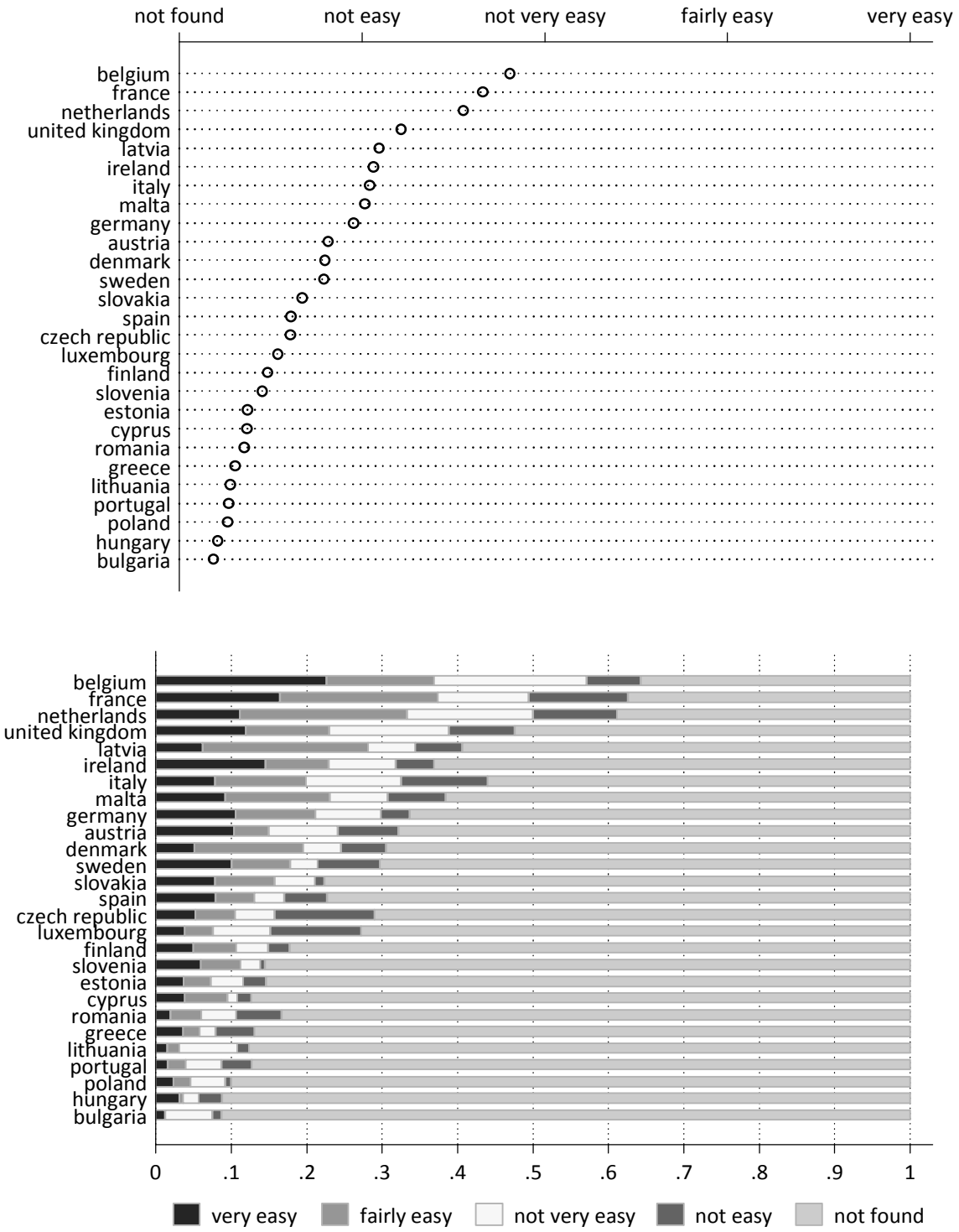
Figure 226: Finding items on your bill: contract duration



Note: QB7. How easy it is to find and understand the following elements on your bill: The duration of your contract

Source: ECME consortium billing & payment survey

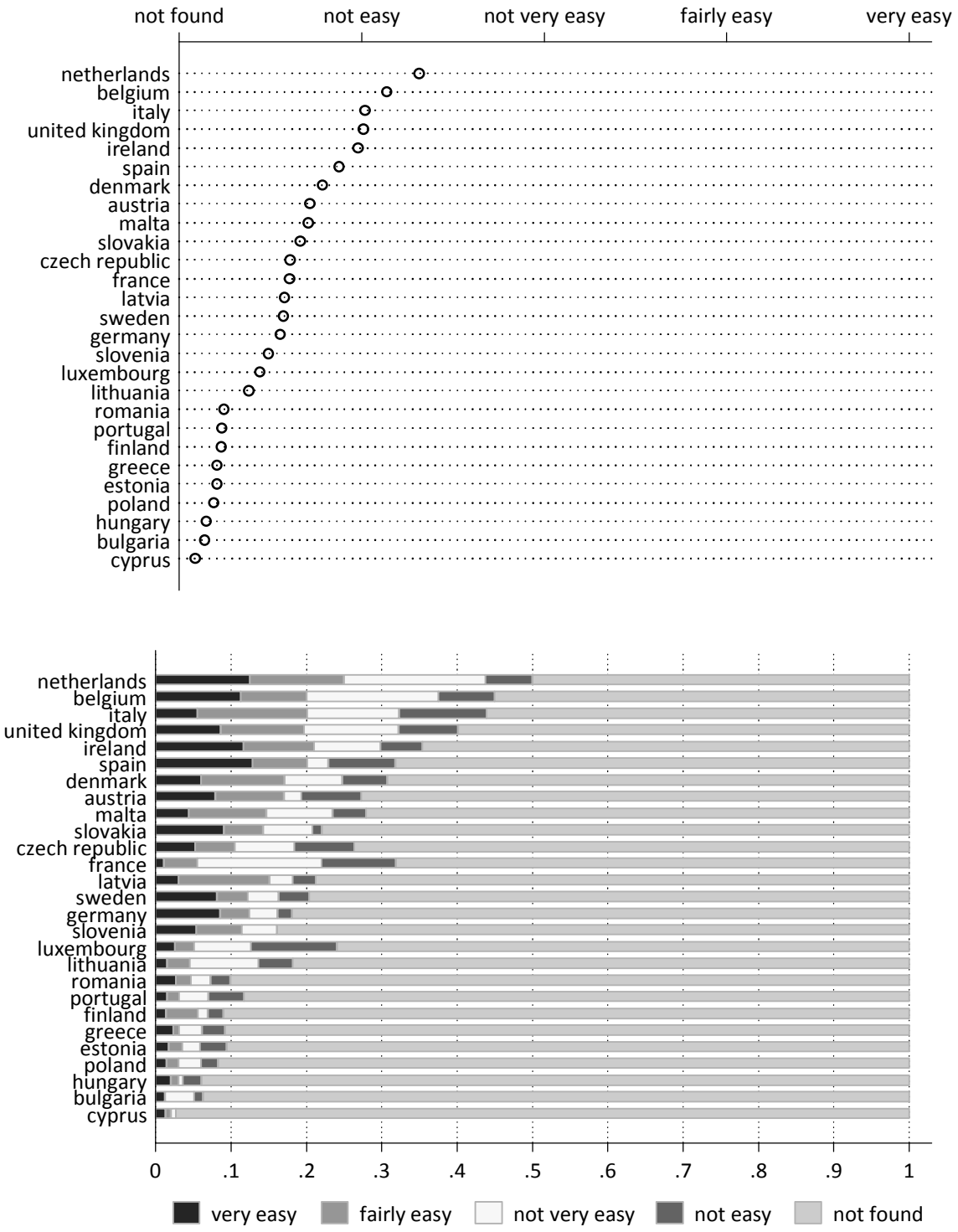
Figure 227: Finding items on your bill: switching deaadline



Note: QB7. How easy it is to find and understand the following elements on your bill: The deadline for informing your supplier if you wish to switch supplier

Source: ECME consortium billing & payment survey

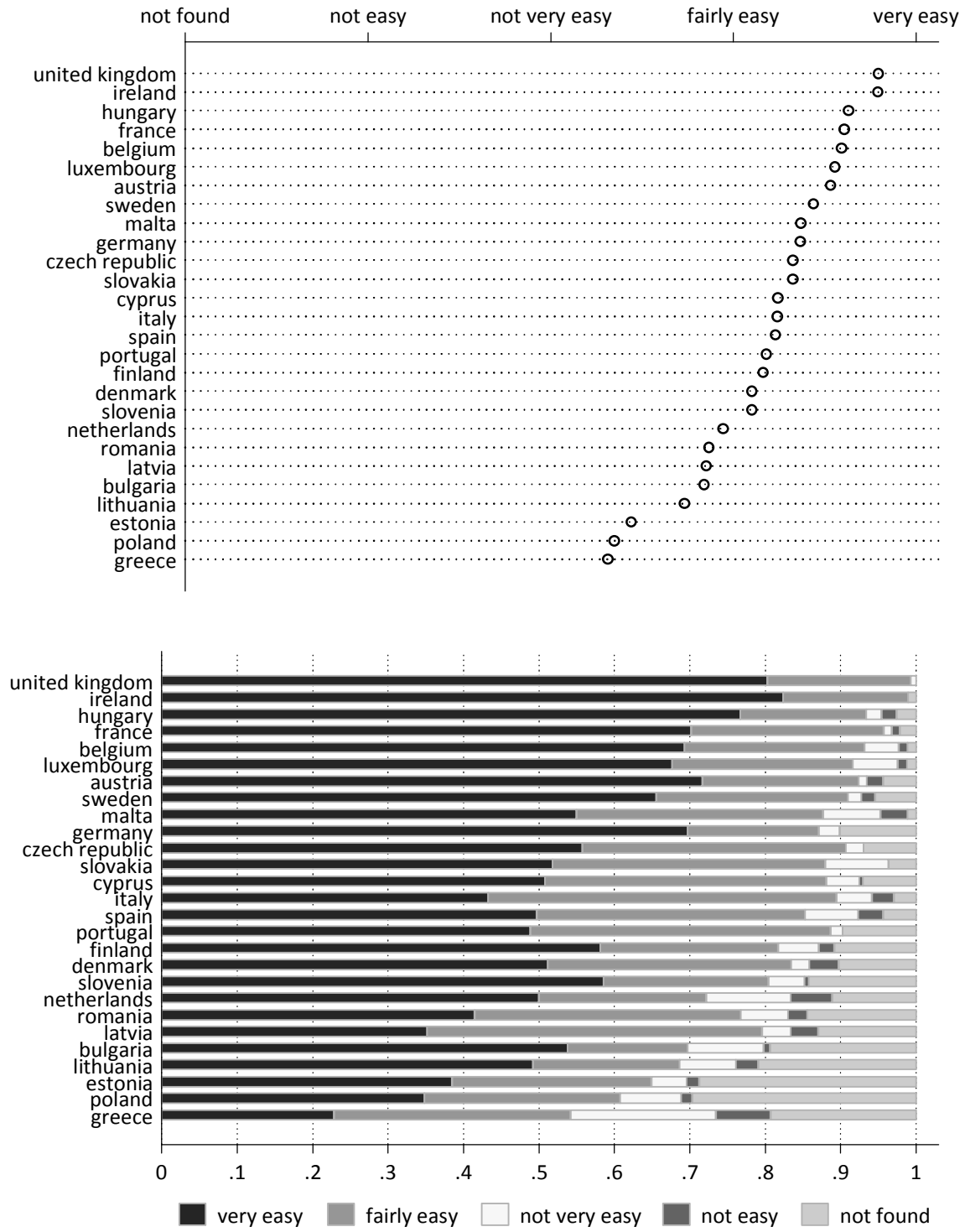
Figure 228: Finding items on your bill: switching information



Note: QB7. How easy it is to find and understand the following elements on your bill: Information related to switching

Source: ECME consortium billing & payment survey

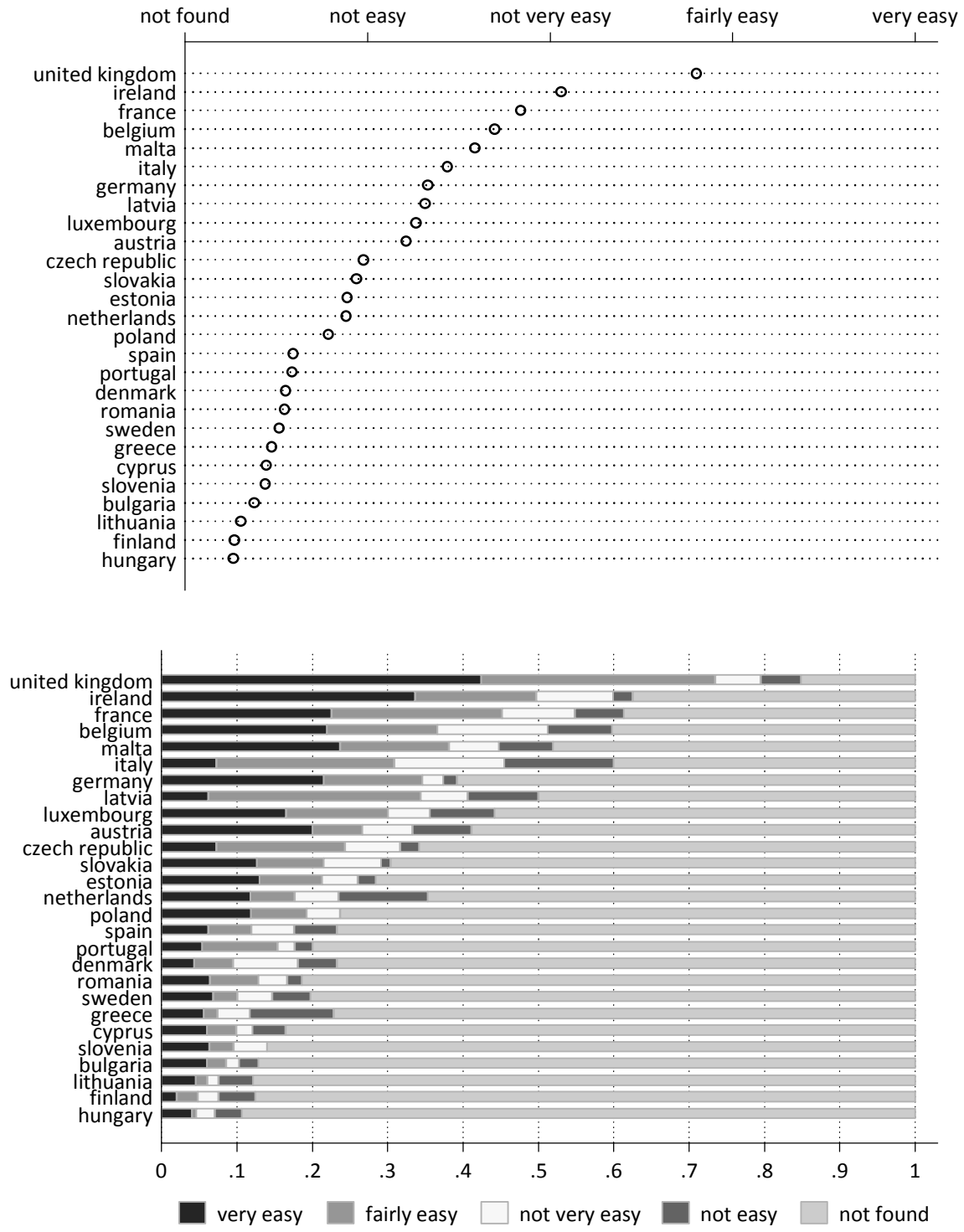
Figure 229: Finding items on your bill: addressing questions & complaints



Note: QB7. How easy it is to find and understand the following elements on your bill: How to contact your electricity provider in case of questions or complaints

Source: ECME consortium billing & payment survey

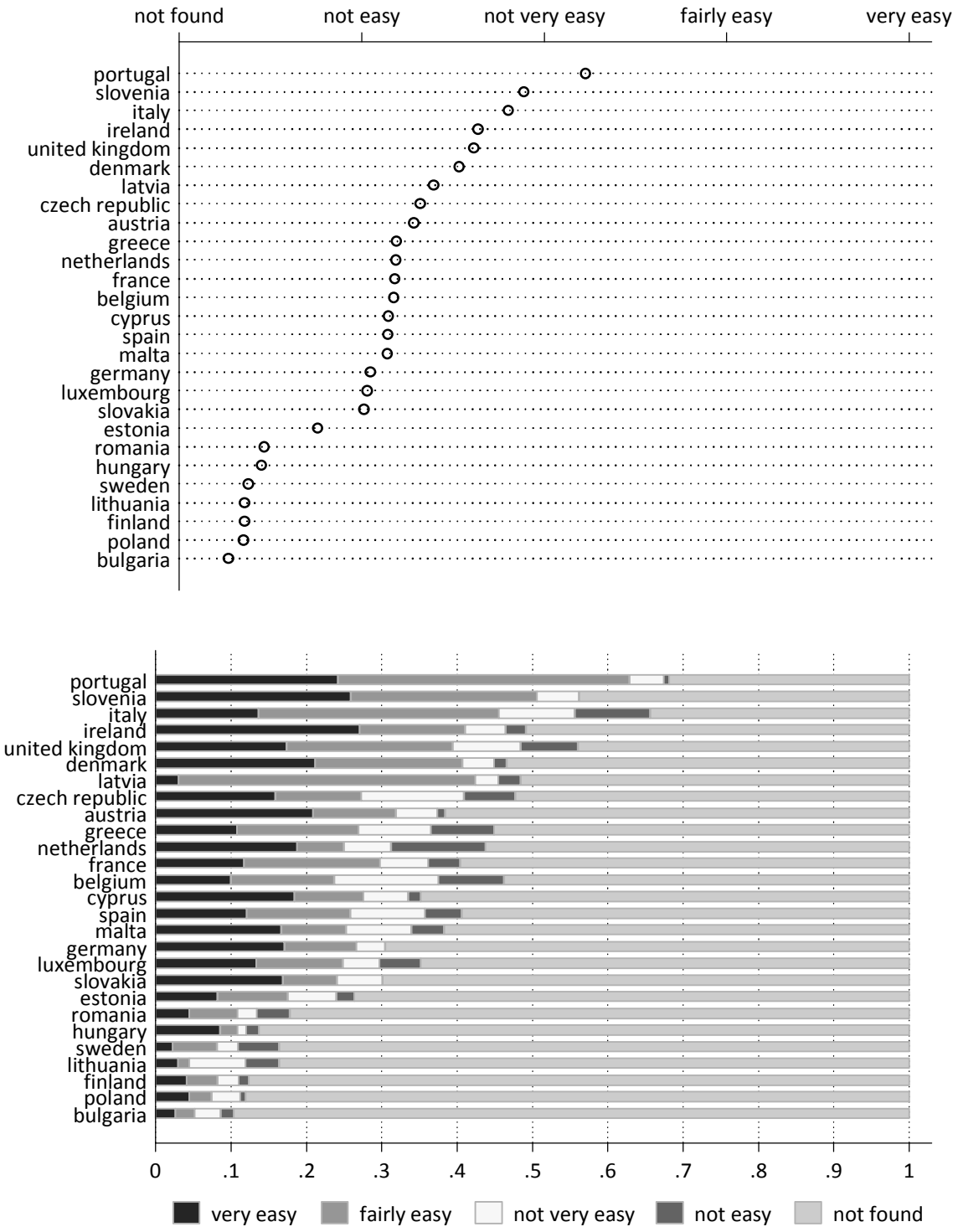
Figure 230: Finding items on your bill: third-party contact for complaints



Note: QB7. How easy it is to find and understand the following elements on your bill: The name of a third party where you can address a complaint

Source: ECME consortium billing & payment survey

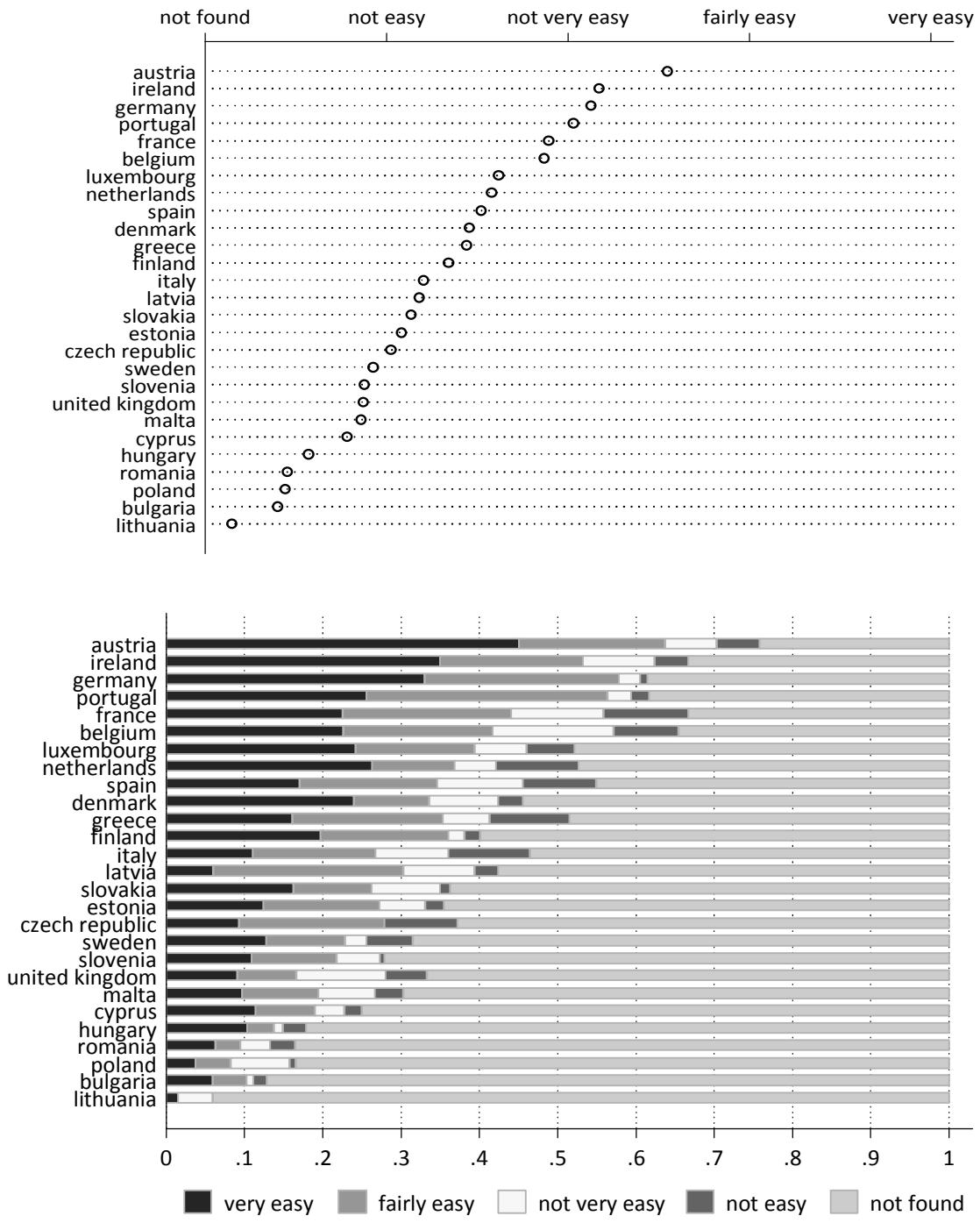
Figure 231: Finding items on your bill: energy saving information



Note: QB7. How easy it is to find and understand the following elements on your bill: Information on how to save energy

Source: ECME consortium billing & payment survey

Figure 232: Finding items on your bill: how your electricity is produced

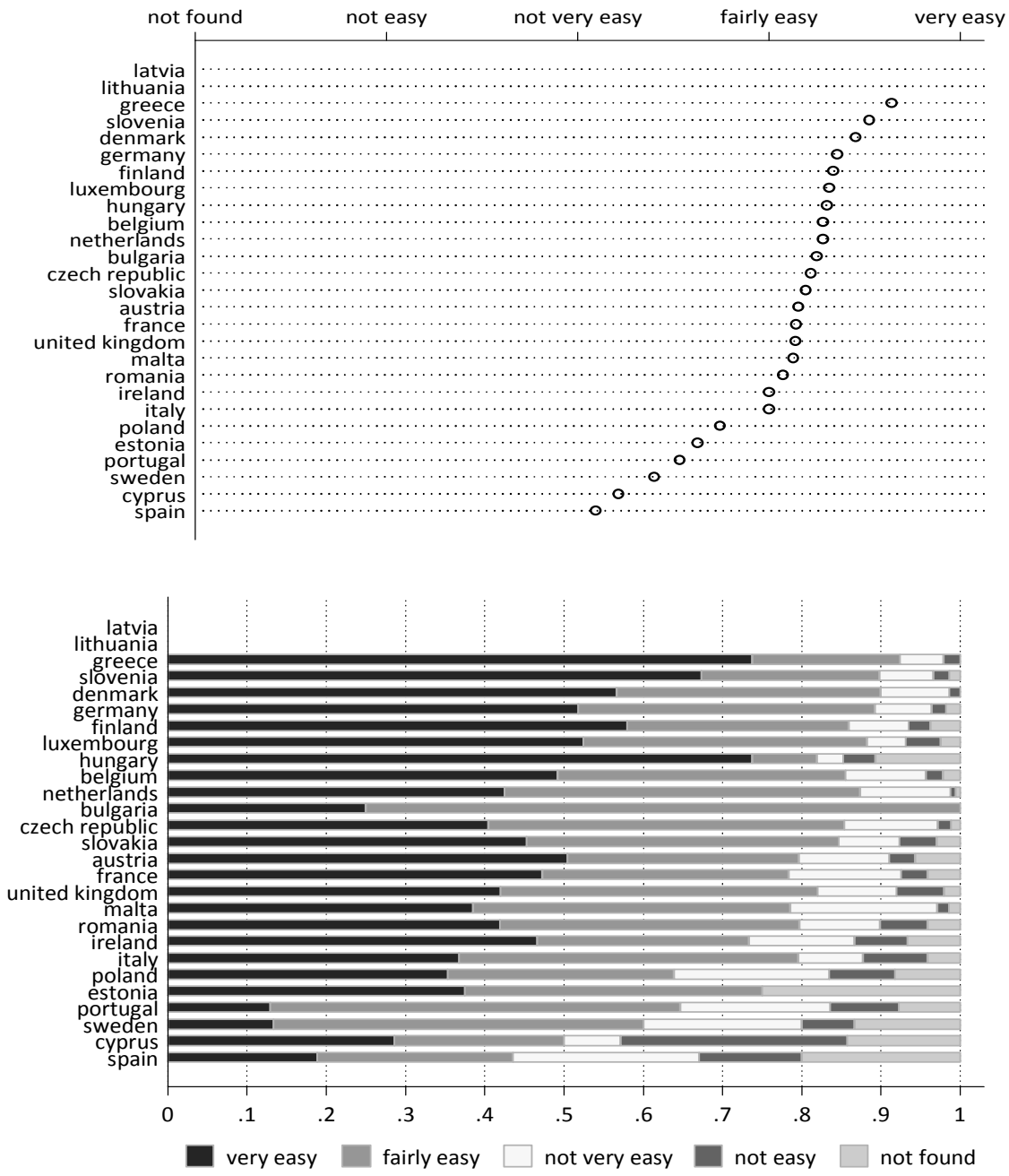


Note: QB7. How easy it is to find and understand the following elements on your bill: The source(s) of electricity you consume i.e. the source used to produce electricity (burning coal, burning petroleum, nuclear power, natural gas, hydro-electric, wind power, solar energy, geothermal, and biomass)

Source: ECME consortium billing & payment survey

A4.2 Finding information and understanding your reconciliation bill

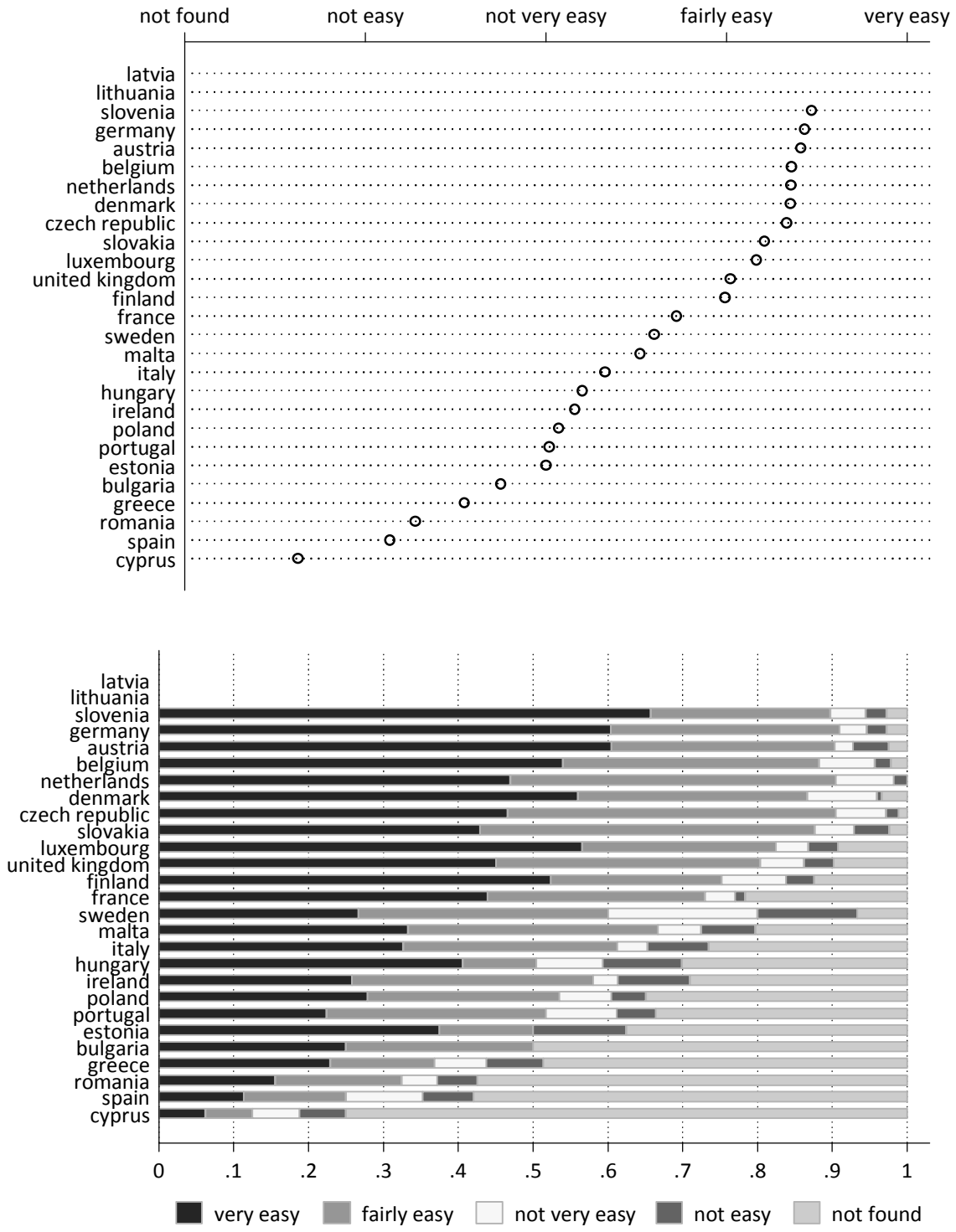
Figure 233: Understanding your reconcilation bill: reconcilation vs. ordindary bill



Note: QB9. How easy it is to understand the following elements on your bill: An indication that it is a reconciliation bill, meaning a periodic (e.g. annual) settlement of the payment balance

Source: ECME consortium billing & payment survey

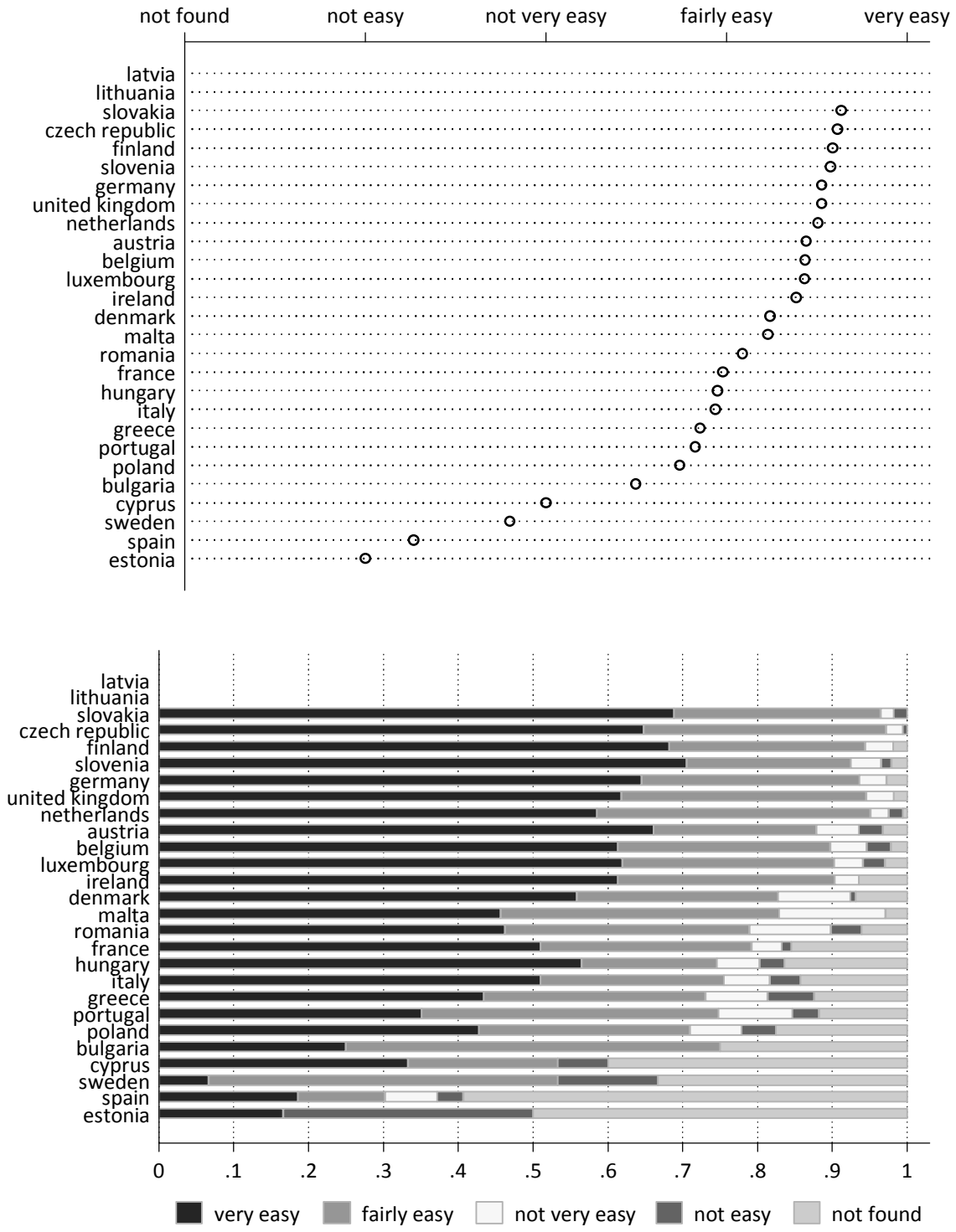
Figure 234: Understanding your reconcilation bill: amount paid so far



Note: QB9. How easy it is to understand the following elements on your bill: The total amount paid so far during the year (or other period relevant for the reconciliation bill)

Source: ECME consortium billing & payment survey

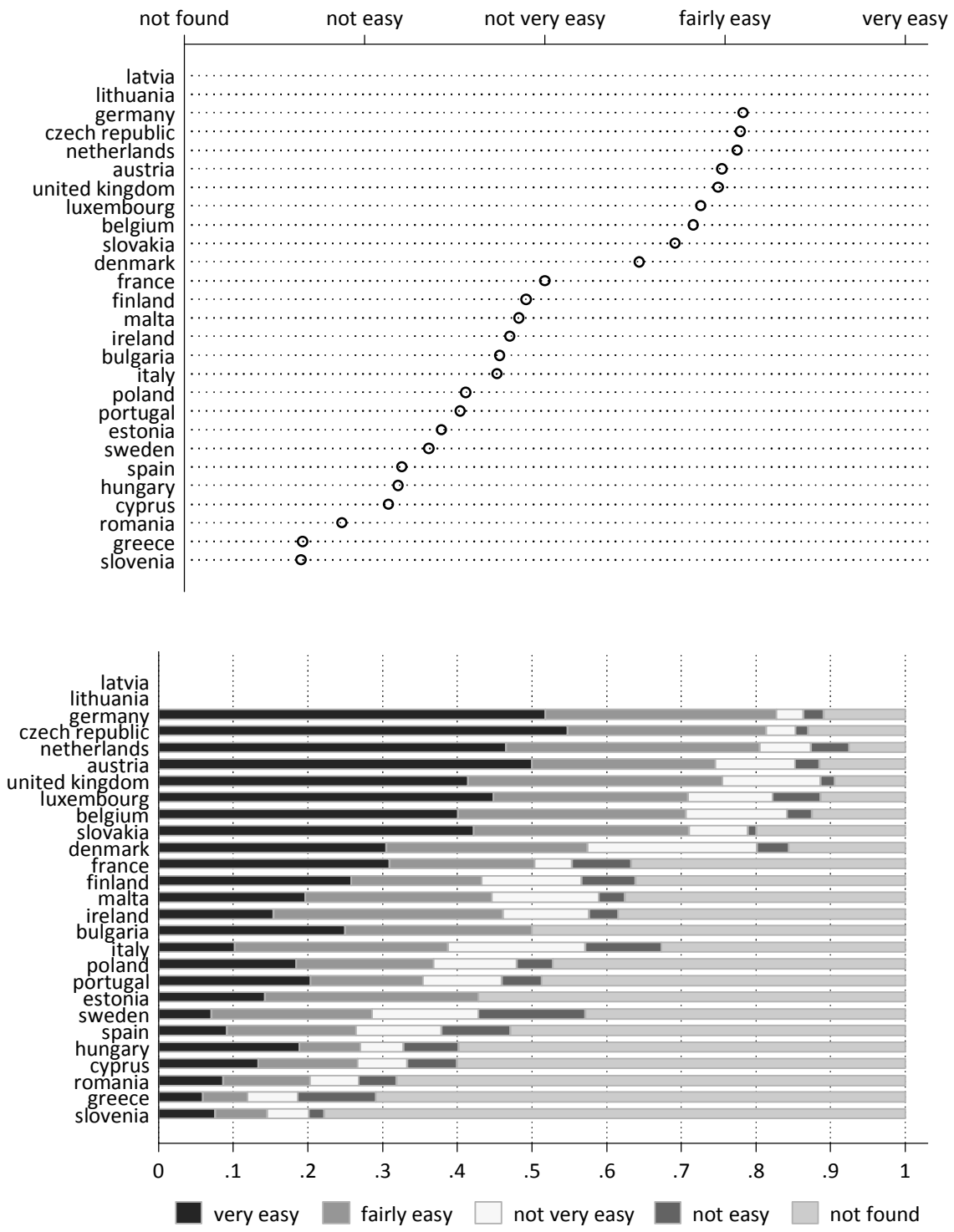
Figure 235: Understanding your reconcilation bill: debit/credit balance



Note: QB9. How easy it is to understand the following elements on your bill: The debit/credit balance

Source: ECME consortium billing & payment survey

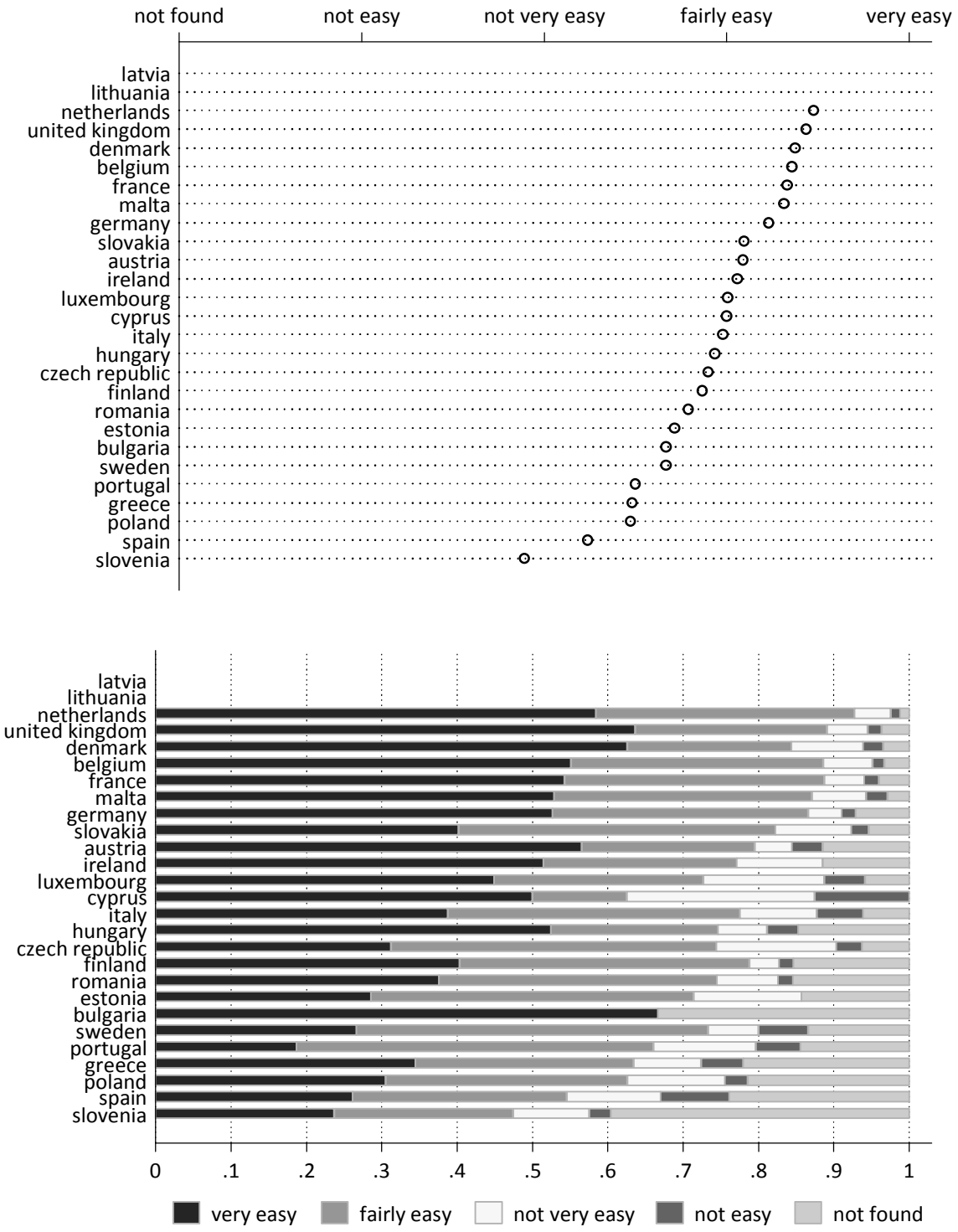
Figure 236: Understanding your reconcilation bill: recalculation of regular bill



Note: QB9. How easy it is to understand the following elements on your bill: Information on whether your regular (ex. monthly) instalments will be recalculated

Source: ECME consortium billing & payment survey

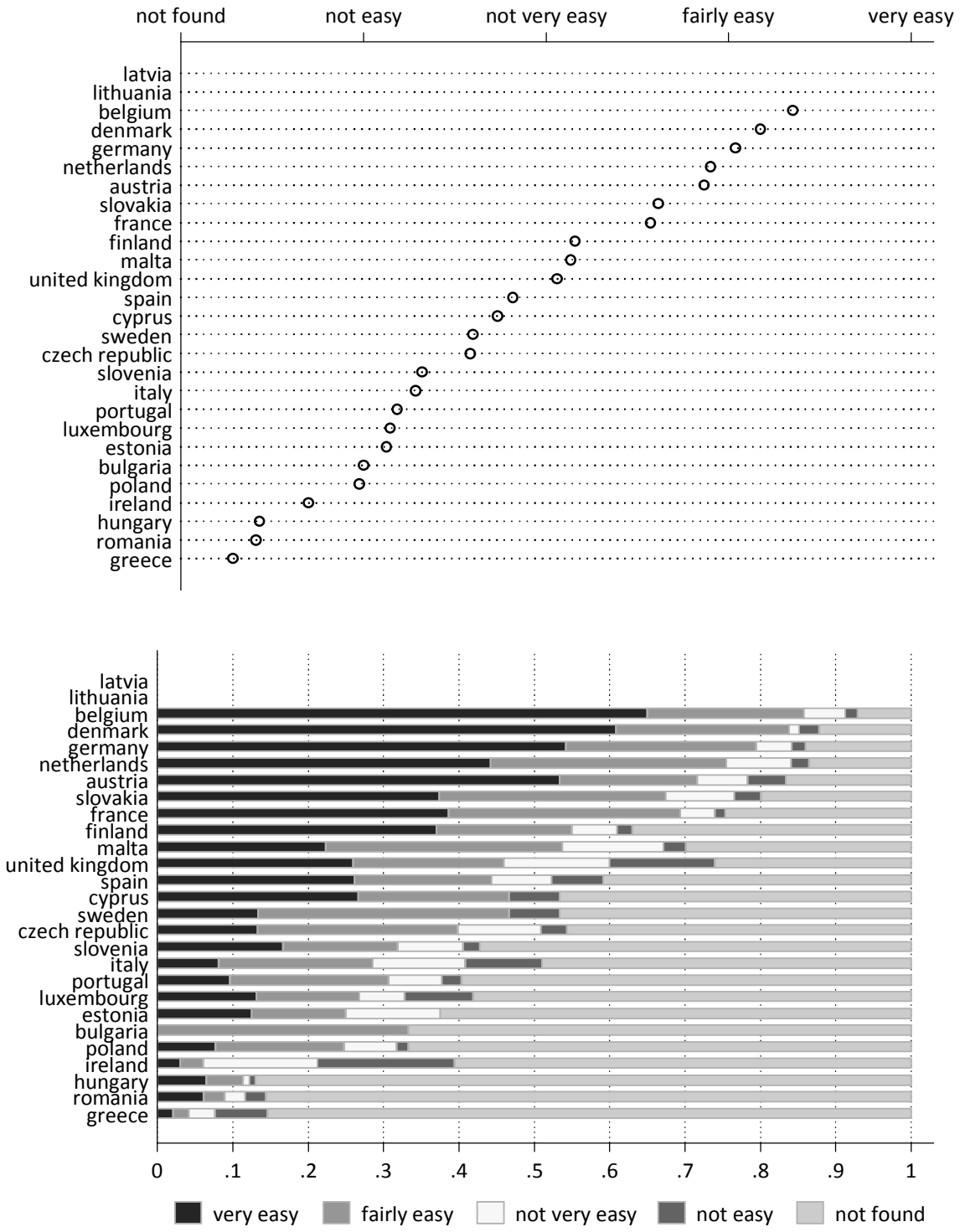
Figure 237: Understanding your reconcilation bill: meter reading details



Note: QB9. How easy it is to understand the following elements on your bill: Actual meter reading details

Source: ECME consortium billing & payment survey

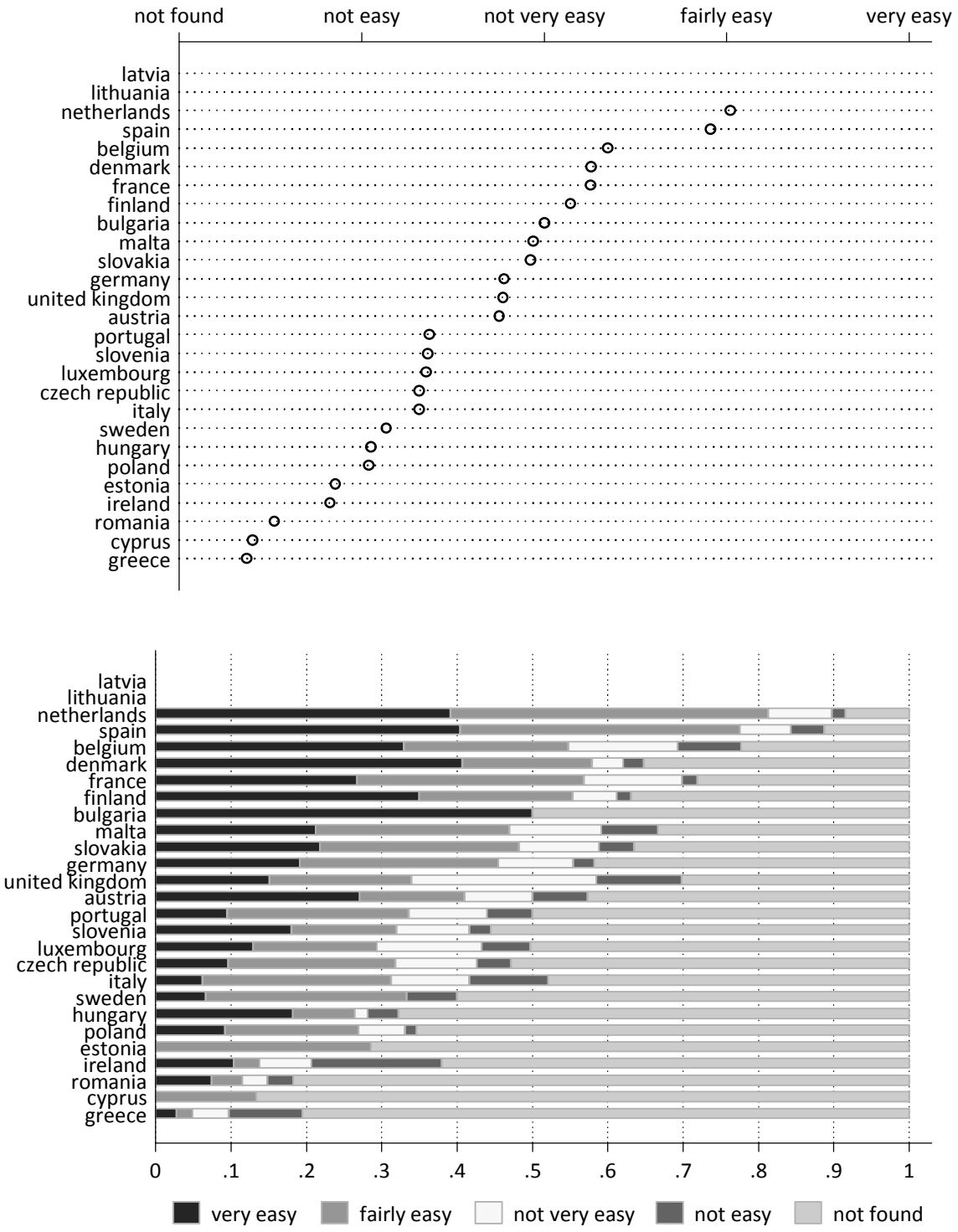
Figure 238: Understanding your reconcilation bill: evolution of annual consumption



Note: QB9. How easy it is to understand the following elements on your bill: Information on how your annual consumption compares to previous years

Source: ECME consortium billing & payment survey

Figure 239: Understanding your reconcilation bill: evolution of consumption in current year



Note: QB9. How easy it is to understand the following elements on your bill: Information on how your use of energy has evolved during the year (or other period relevant for the reconciliation bill)

Source: ECME consortium billing & payment survey

Annex 5 Choice of tariffs – detailed tables

Table 102: Number of green, fixed rate tariffs by consumption band

	Low consumption						Medium consumption						High consumption					
	Unique			Peak/off-peak			Unique			Peak/off-peak			Unique			Peak/off-peak		
	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified
AT	2	-	11	-	-	6	2	-	11	-	-	6	2	-	11	-	-	6
BE	8	5	14	8	5	14	8	5	14	8	5	14	8	5	14	8	5	14
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DE	7	1	13	-	-	-	8	1	12	-	-	-	8	1	12	-	-	1
DK	8	3	-	-	-	-	8	2	-	-	-	-	8	3	-	-	-	-
EE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-
FI	4	6	11	4	6	8	4	6	11	4	6	9	4	6	11	4	6	9
FR	4	1	5	4	1	4	4	1	5	4	1	4	4	1	5	4	1	4
HU	-	-	2	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IT	2	4	3	1	4	-	2	4	5	-	4	-	2	5	4	1	2	-
LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LU	-	1	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1	-
LV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	9	3	-	9	3	-	9	3	-	9	3	-	9	3	-	9	3	-
PL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT	-	-	3	-	-	3	-	-	3	-	-	3	-	-	3	-	-	3
RO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SE	8	5	-	-	-	-	8	5	-	-	-	-	8	5	-	-	-	-
SK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: ECME Consortium analysis of data from price collection exercise.

Table 103: Number of green, variable rate tariffs by consumption band

	Low consumption						Medium consumption						High consumption					
	Unique			Peak/off-peak			Unique			Peak/off-peak			Unique			Peak/off-peak		
	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified
AT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BE	3	-	4	3	-	4	3	-	4	3	-	4	3	-	4	3	-	4
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DE	3	-	16	-	-	3	5	-	15	-	-	3	4	-	16	-	-	3
DK	-	-	8	-	-	-	-	-	8	-	-	-	-	-	8	-	-	-
EE	-	-	1	-	-	1	-	-	-	-	-	2	-	-	-	-	-	1
EL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FI	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1
FR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HU	-	-	3	-	-	-	-	-	3	-	-	-	-	-	3	-	-	-
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LU	-	-	9	-	-	9	-	-	9	-	-	9	-	-	9	-	-	9
LV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MT	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
NL	7	-	9	7	-	9	7	-	9	7	-	9	7	-	9	7	-	9
PL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SE	4	-	8	-	-	-	3	-	9	-	-	-	3	-	8	-	-	-
SK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SL	-	-	4	-	-	4	-	-	4	-	-	4	-	-	3	-	-	3
UK	1	-	7	1	-	7	1	-	7	1	-	7	1	-	7	1	-	7

Source: ECME Consortium analysis of data from price collection exercise.

Table 104: Number of grey, fixed rate tariffs by consumption band

	Low consumption						Medium consumption						High consumption					
	Unique			Peak/off-peak			Unique			Peak/off-peak			Unique			Peak/off-peak		
	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified
AT	-	-	3	-	-	1	-	-	3	-	-	1	-	-	3	-	-	1
BE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
BG	-	-	3	-	-	3	-	-	3	-	-	3	-	-	3	-	-	3
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CZ	-	-	3	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
DE	6	2	5	2	-	-	6	2	5	2	-	-	6	2	5	2	-	1
DK	9	3	-	-	-	-	9	3	-	-	-	-	9	3	-	-	-	-
EE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EL	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	2
ES	15	-	-	-	-	-	14	-	-	-	-	-	14	-	-	-	-	-
FI	5	9	12	5	9	11	5	8	12	5	8	12	5	8	12	5	8	12
FR	5	1	3	4	1	3	5	1	3	4	1	3	5	1	3	4	1	3
HU	-	-	4	-	-	4	-	-	4	-	-	4	-	-	4	-	-	4
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IT	17	9	20	3	3	2	19	8	17	2	3	2	21	8	16	3	1	2
LT	-	-	2	-	-	2	-	-	2	-	-	2	-	-	2	-	-	2
LU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV	-	-	2	-	-	1	-	-	2	-	-	1	-	-	2	-	-	1
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	6	2	-	6	2	-	6	2	-	6	2	-	6	2	-	6	2	-
PL	-	-	14	-	-	14	-	-	14	-	-	14	-	-	14	-	-	14
PT	-	-	9	-	-	3	-	-	9	-	-	3	-	-	9	-	-	3
RO	-	-	7	-	-	-	-	-	7	-	-	-	-	-	7	-	-	7
SE	9	6	-	-	-	-	9	6	-	-	-	-	9	6	-	-	-	-
SK	-	-	3	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
SL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UK	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1

Source: ECME Consortium analysis of data from price collection exercise.

Table 105: Number of grey, variable rate tariffs by consumption band

	Low consumption						Medium consumption						High consumption					
	Unique			Peak/off-peak			Unique			Peak/off-peak			Unique			Peak/off-peak		
	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified
AT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CY	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1
CZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DE	8	-	17	5	-	13	8	-	15	3	-	13	8	-	15	3	-	12
DK	-	-	14	-	-	-	-	-	14	-	-	-	-	-	14	-	-	-
EE	-	-	11	-	-	11	-	-	10	-	-	15	-	-	4	-	-	12
EL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES	-	-	-	14	-	-	-	-	-	14	-	-	-	-	-	14	-	-
FI	-	-	4	-	-	1	-	-	4	-	-	1	-	-	3	-	-	1
FR	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1	-	-	1
HU	-	-	2	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-
IE	1	1	2	1	1	2	1	1	2	1	1	2	1	1	2	1	1	2
IT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LU	-	-	7	-	-	7	-	-	7	-	-	7	-	-	7	-	-	7
LV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MT	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
NL	6	-	7	6	-	7	6	-	7	6	-	7	6	-	7	6	-	7
PL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SE	3	-	9	-	-	-	2	-	9	-	-	-	2	-	9	-	-	-
SK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SL	-	-	6	-	-	6	-	-	6	-	-	6	-	-	6	-	-	6
UK	1	-	8	1	-	8	1	-	8	1	-	8	1	-	8	1	-	8

Source: ECME Consortium analysis of data from price collection exercise.

Table 106: Number of social, fixed rate tariffs by consumption band

	Low consumption						Medium consumption						High consumption					
	Unique			Peak/off-peak			Unique			Peak/off-peak			Unique			Peak/off-peak		
	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified
AT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BE	-	-	2	-	-	2	-	-	2	-	-	2	-	-	2	-	-	2
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EL	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1
ES	11	-	-	-	-	-	11	-	-	-	-	-	11	-	-	-	-	-
FI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RO	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: ECME Consortium analysis of data from price collection exercise.

Table 107: Number of social, variable tariffs by consumption band

	Low consumption						Medium consumption						High consumption					
	Unique			Peak/off-peak			Unique			Peak/off-peak			Unique			Peak/off-peak		
	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified	1 year	2 year	Unspecified
AT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CY	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-
CZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DE	-	-	-	-	-	-	-	-	1	1	-	-	-	-	1	1	-	-
DK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES	-	-	-	11	-	-	-	-	-	11	-	-	-	-	-	11	-	-
FI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UK	1	-	3	1	-	-	1	-	3	1	-	-	1	-	3	1	-	-

Source: ECME Consortium analysis of data from price collection exercise.

Annex 6 Empirical analysis of supplier switching

This annex provides additional details and results in relation to the empirical analysis of supplier switching.

A6.1 Cross-country regressions

A6.1.1 Data

Table 108: Variables included in analysis

Variable Name	Scale	Source	Comments
Percentage of households who can name an alternative supplier	0 - 1	Consumer survey	Refers to Question 4.4 in questionnaire
Years since liberalisation	Years	Desk research	Calculated as of 2009
Market share of four largest suppliers	0 - 1	Consumer survey	Based on calculations by ECME
Price regulation	dummy	Desk research	Dummy variable: 1 if prices in retail electricity market are regulated, 0 otherwise
Herfindahl index	0 – 1	Consumer survey	Based on calculations by ECME
Percentage of households who are generally well informed about retail electricity market	0 – 1	Consumer survey	Refers to Question 3.8 in questionnaire Households are deemed to consider themselves well informed if their response is greater than 6 on a scale 0 to 10.
Percentage of households who say it is easy to compare offers from different providers	0 - 1	Consumer survey	Refers to Question 11.2 in questionnaire Households are deemed to consider comparing tariffs easy if their response is greater than 6 on a scale 0-10.
Price dispersion of average retail electricity price for median consumption band		Price collection	Two measures are used: the difference between highest and lowest price and the standard deviation of prices
Average annual savings in Euro made by switching electricity provider	Euros	Mystery Shopping	Scenario 1. Not available for Hungary because no mystery shoppers found a cheaper alternative.
Percentage of mystery shoppers who found a price comparison tool	0 – 1	Mystery Shopping	
Percentage of mystery shoppers who got a clear answer to questions relating to termination policy	0 – 1	Mystery Shopping	Scenario 2
Time to get cheaper offer	Days	Mystery Shopping	Scenario 1
Percentage of consumers who are very satisfied with the overall	0 – 1	Consumer survey	Refers to Question 2 in questionnaire.

Table 108: Variables included in analysis

Variable Name	Scale	Source	Comments
services of the supplier			Households are satisfied if their response is 9 or 10 on a scale from 0-10.
Percentage of consumers who know the advance notice period for contract termination	0 – 1	Consumer survey	Refers to Question 4.2 in questionnaire. Refers to percentage who said yes.
Percentage of consumers who have been threatened by their supplier to be prevented from switching supplier	0 – 1	Consumer survey	Refers to Question 14.7 in questionnaire. Refers to percentage who said yes.

Table 109: Summary statistics of variables used in regression

Variable	Variable number	Number of observations	Mean	Standard deviation	Minimum	Maximum
Switching rate	1	20	0.0590	0.0711	0.000	0.280
Percentage of households who can name an alternative supplier	2	22	0.5191	0.3010	0.060	0.920
Years since liberalisation	3	24	4.0833	3.4631	0.000	12.000
Market share of four largest suppliers	4	27	0.8419	0.2094	0.290	1.000
Price regulation	5	27	0.6296	0.4921	0.000	1.000
Percentage of households who are generally well informed about retail electricity market	6	27	0.4096	0.0984	0.190	0.620
Percentage of households who say it is easy to compare offers from different providers	7	22	0.3673	0.1564	0.100	0.610
Price dispersion of average retail electricity price for median consumption band – difference between maximum and minimum	8	26	0.0529	0.0415	0.000	0.155
Price dispersion of average retail electricity price for median consumption band – standard deviation	9	26	0.0145	0.0078	0.000	0.029
Herfindahl index	10	27	0.4519	0.3311	0.030	1.000
Percentage of mystery shoppers who found a price comparison tool	11	19	0.8447	0.1887	0.270	1.000
Percentage of mystery shoppers who got a clear answer to questions relating to termination policy	12	19	0.7732	0.1342	0.380	0.960
Time to get cheaper offer	13	16	1.0250	0.6296	0.130	2.240
Percentage of consumers who are very satisfied with the overall services of the supplier	14	27	0.3693	0.1153	0.100	0.620

Source: ECME Consortium analysis.

Table 110: Correlations between variables

Variable number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1													
2	0.739**	1												
3	0.498*	0.524*	1											
4	-0.165	-0.296	-0.883***	1										
5	-0.0633	-0.432	-0.465	0.442	1									
6	0.600*	0.696**	0.0529	0.237	-0.258	1								
7	0.678**	0.804***	0.497	-0.188	-0.494	0.761***	1							
8	-0.0636	0.144	0.147	-0.195	-0.0722	0.175	0.113	1						
9	0.0113	-0.0273	0.163	-0.121	0.132	0.0112	-0.00835	0.826***	1					
10	-0.188	-0.272	-0.686**	0.759***	0.511*	0.146	-0.247	0.218	0.148	1				
11	0.386	0.620*	0.613*	-0.432	-0.227	0.347	0.658**	0.0883	-0.0151	-0.255	1			
12	0.492	0.375	0.187	0.0631	-0.39	0.349	0.376	-0.184	-0.0744	0.0345	0.17	1		
13	-0.491	-0.346	-0.114	-0.0844	-0.294	-0.126	-0.191	0.204	0.189	-0.0752	-0.322	-0.0649	1	
14	0.39	-0.122	0.171	-0.091	0.0835	-0.0111	0.0231	-0.467	-0.321	-0.122	-0.0863	0.312	-0.0405	1

Source: ECME Consortium analysis.

A6.1.2 Regression results

Table 111: Regression results for regressions where possible explanatory variables are included individually

	(1)	(2)
Independent variable	% of households who switched supplier (consumer survey) (with Ireland)	% of households who switched supplier (consumer survey) (without Ireland)
Regression 1		
% of households who can name an alternative supplier	0.202*** (4.39)	0.155*** (5.08)
Constant	-0.0572 (-1.94)	-0.0391 (-2.06)
Observations	19	18
R2	0.531	0.618
Adjusted R2	0.503	0.594
F (p-value)	19.25 (0.000)	25.83 (0.000)
Regression 2		
Years since liberalisation (as of 2009)	0.0108* (2.74)	0.0114*** (6.73)
Constant	0.0118 (0.51)	-0.00356 (-0.35)
Observations	19	18
R2	0.307	0.739
Adjusted R2	0.266	0.723
F (p-value)	7.519 (0.014)	45.28 (0.000)
Regression 3		
Market share of four largest suppliers	-0.0927 (-1.22)	-0.156** (-3.77)
Constant	0.134* (2.19)	0.169*** (5.13)
Observations	19	18
R2	0.081	0.471
Adjusted R2	0.027	0.437
F (p-value)	1.500 (0.237)	14.22 (0.002)
Regression 4		
Price regulation (dummy)	-0.0304 (-0.91)	-0.0598** (-3.04)
Constant	0.0760** (3.32)	0.0760*** (5.80)
Observations	19	18
R2	0.047	0.366
Adjusted R2	-0.009	0.327
F (p-value)	0.836 (0.373)	9.256 (0.008)

Table 111: Regression results for regressions where possible explanatory variables are included individually

	(1)	(2)
Independent variable	% of households who switched supplier (consumer survey) (with Ireland)	% of households who switched supplier (consumer survey) (without Ireland)
Regression 5		
% of households who are generally well informed about the retail electricity market	0.447** (3.27)	0.262* (2.18)
Constant	-0.114 (-2.06)	-0.0510 (-1.08)
Observations	19	18
R2	0.386	0.229
Adjusted R2	0.350	0.180
F (p-value)	10.69 (0.005)	4.744 (0.045)
Regression 6		
% of households who say it is easy to compare offers from different providers	0.356*** (4.35)	0.272*** (4.92)
Constant	-0.0795* (-2.30)	-0.0555* (-2.45)
Observations	19	18
R2	0.526	0.603
Adjusted R2	0.499	0.578
F (p-value)	18.90 (0.000)	24.25 (0.000)
Regression 7		
Price comparison tool	0.169 (2.03)	0.157** (3.01)
Constant	-0.0811 (-1.13)	-0.0825 (-1.84)
Observations	19	18
R2	0.195	0.362
Adjusted R2	0.148	0.322
F (p-value)	4.125 (0.058)	9.081 (0.008)
Regression 8		
Found clear answer to termination policy	0.285* (2.58)	0.183* (2.18)
Constant	-0.159 (-1.83)	-0.0905 (-1.39)
Observations	19	18
R2	0.282	0.229
Adjusted R2	0.239	0.180
F (p-value)	6.666 (0.020)	4.742 (0.045)

Table 111: Regression results for regressions where possible explanatory variables are included individually

	(1)	(2)
Independent variable	% of households who switched supplier (consumer survey) (with Ireland)	% of households who switched supplier (consumer survey) (without Ireland)
Regression 9		
% of consumers who have been threatened to be prevented from switching supplier	0.0634* (1.73)	0.0756** (3.67)
Constant	0.0251 (0.96)	0.00520 (0.35)
Observations	19	18
R2	0.149	0.456
Adjusted R2	0.099	0.422
F (p-value)	2.986 (0.102)	13.43 (0.021)
Regression 10		
Herfindahl Index	-0.0746 (-1.12)	-0.103* (-2.47)
Constant	0.0861** (3.14)	0.0824*** (4.86)
Observations	19	18
R2	0.068	0.275
Adjusted R2	0.014	0.230
F (p-value)	1.249 (0.279)	6.083 (0.025)
Regression 11		
Average savings	0.0006* (2.40)	0.0005* (2.93)
Constant	0.0150 (0.58)	0.0135 (0.81)
Observations	18	17
R2	0.263	0.363
Adjusted R2	0.219	0.321
F (p-value)	5.76 (0.029)	8.559 (0.010)

A6.2 Household level regressions

Table 112: Baseline model – full details of country dummies

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
Knows advance notice period to terminate current contract (dummy)	0.546** (0.173)	1.727** (0.299)	0.0122** (0.00415)
Can name an alternative provider to switch to (dummy)	0.843** (0.261)	2.323** (0.606)	0.0170*** (0.00494)
Has contacted provider in last 12 months about contract terms and conditions (dummy)	0.872*** (0.187)	2.391*** (0.447)	0.0277** (0.00871)
Provider gives advice on ways to reduce electricity consumption (dummy)	-0.455** (0.167)	0.635** (0.106)	-0.0110* (0.00453)
Has felt pressurised to sign a contract with a provider (scale 0 – 10)	0.0458* (0.0222)	1.047* (0.0233)	0.00102* (0.000505)
Electricity service is reliable (scale 0 – 10)	0.122* (0.0514)	1.130* (0.0581)	0.00272* (0.00118)
Provider offers high quality technical assistance (scale 0 – 10)	-0.109*** (0.0286)	0.897*** (0.0256)	-0.00242*** (0.000689)
Believes to be on the cheapest tariff in market given usage (dummy)	0.591*** (0.155)	1.805*** (0.280)	0.0145** (0.00455)
Has compared offers from different providers (dummy)	1.124*** (0.181)	3.077*** (0.557)	0.0294*** (0.00629)
Price of electricity provided by supplier has increased in last 12 months (dummy)	-0.866*** (0.166)	0.421*** (0.0698)	-0.0197*** (0.00453)
Would like to change electricity provider (dummy)	0.769*** (0.172)	2.157*** (0.371)	0.0214*** (0.00641)
Occupational dummies (baseline : employed)			
Self-employed	-0.649* (0.275)	0.523* (0.144)	-0.0114** (0.00401)
Non-active	-0.257 (0.158)	0.774 (0.122)	-0.00555 (0.00340)
Country dummies (baseline : Germany)			
Austria	0.221 (0.401)	1.247 (0.500)	0.00538 (0.0107)
Belgium	-0.100 (0.395)	0.905 (0.357)	-0.00214 (0.00810)
Czech Republic	-0.283 (0.519)	0.754 (0.391)	-0.00558 (0.00907)
Denmark	-0.433 (0.515)	0.649 (0.334)	-0.00805 (0.00799)
Finland	1.077** (0.351)	2.936** (1.032)	0.0384* (0.0191)
France	-0.455	0.635	-0.00850

Table 112: Baseline model – full details of country dummies

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
	(0.520)	(0.330)	(0.00810)
Ireland	1.636*** (0.330)	5.136*** (1.695)	0.0748** (0.0275)
Italy	0.176 (0.495)	1.193 (0.590)	0.00423 (0.0128)
Netherlands	-0.167 (0.407)	0.846 (0.344)	-0.00347 (0.00787)
Portugal	-1.931 (1.056)	0.145 (0.153)	-0.0230*** (0.00555)
Slovakia	-0.627 (0.665)	0.534 (0.355)	-0.0108 (0.00870)
Slovenia	-1.823 (1.053)	0.162 (0.170)	-0.0207*** (0.00542)
Sweden	0.583 (0.351)	1.791 (0.628)	0.0167 (0.0129)
United Kingdom	0.636 (0.345)	1.889 (0.652)	0.0185 (0.0131)
N	3795	3795	3795
Log likelihood	-692.4	-692.4	-692.4
Pseudo R2	0.259	0.259	0.259
p-value	2.14e-85	2.14e-85	2.14e-85

Note: Standard errors in parentheses
(dummy) for discrete change of dummy variable from 0 to 1
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 113: Baseline model including variables from cross-country analysis rather than country dummies

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
Knows advance notice period to terminate current contract (dummy)	0.508** (0.167)	1.663** (0.277)	0.00925** (0.00319)
Can name an alternative provider to switch to (dummy)	1.164*** (0.254)	3.201*** (0.812)	0.0194*** (0.00394)
Has contacted provider in last 12 months about contract terms and conditions (dummy)	0.731*** (0.180)	2.078*** (0.375)	0.0176** (0.00595)
Provider gives advice on ways to reduce electricity consumption (dummy)	-0.353* (0.162)	0.702* (0.113)	-0.00665* (0.00326)
Has felt pressurised to sign a contract with a provider (scale 0 – 10)	0.0319 (0.0215)	1.032 (0.0222)	0.000568 (0.000386)
Electricity service is reliable (scale 0 – 10)	0.159** (0.0495)	1.172** (0.0581)	0.00283** (0.000902)
Provider offers high quality technical assistance (scale 0 – 10)	-0.0920*** (0.0278)	0.912*** (0.0254)	-0.00164** (0.000514)

Table 113: Baseline model including variables from cross-country analysis rather than country dummies

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
Believes to be on the cheapest tariff in market given usage (dummy)	0.488** (0.151)	1.629** (0.246)	0.00952** (0.00336)
Has compared offers from different providers (dummy)	1.279*** (0.181)	3.593*** (0.651)	0.0293*** (0.00553)
Price of electricity provided by supplier has increased in last 12 months (dummy)	-0.968*** (0.160)	0.380*** (0.0609)	-0.0184*** (0.00361)
Would like to change electricity provider (dummy)	0.796*** (0.168)	2.217*** (0.372)	0.0179*** (0.00490)
Occupational dummies			
Self employed	-0.566* (0.270)	0.568* (0.153)	-0.00819* (0.00322)
Non active	-0.219 (0.155)	0.803 (0.124)	-0.00382 (0.00265)
Years since liberalisation	0.380*** (0.0439)	1.463*** (0.0642)	0.00677*** (0.000959)
Market share of four largest suppliers	5.309*** (0.734)	202.2*** (148.3)	0.0945*** (0.0153)
Observations	4699	4699	4699
Log likelihood	-734.7	-734.7	-734.7
Pseudo R2	0.259	0.259	0.259
p-value	(<0.001)	(<0.001)	(<0.001)

Note: Standard errors in parentheses
(dummy) for discrete change of dummy variable from 0 to 1
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 114: General mode including exhaustive list of variables included in the questionnaire

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
Householder feels that the electricity services from their provider live up to what they want	-0.0250 (0.0927)	0.975 (0.0905)	-0.000536 (0.00200)
Householder knows electricity usage in kWh	-0.0101 (0.0412)	0.990 (0.0408)	-0.000216 (0.000885)
Householder knows how much s/he pays for electricity	0.00900 (0.0597)	1.009 (0.0603)	0.000193 (0.00128)
Householder understands information provided on electricity bill	0.135 (0.0747)	1.145 (0.0856)	0.00290 (0.00165)
Householder knows main characteristics of tariff	-0.155* (0.0653)	0.856* (0.0559)	-0.00333* (0.00149)
Householder is aware of different tariffs by own and other providers	0.0148 (0.0606)	1.015 (0.0615)	0.000318 (0.00130)
Householder knows how price of	0.00627	1.006	0.000135

Table 114: General mode including exhaustive list of variables included in the questionnaire

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
electricity is calculated	(0.0551)	(0.0555)	(0.00118)
Householder knows how electricity s/he uses is produced	-0.0136 (0.0493)	0.986 (0.0486)	-0.000292 (0.00106)
Householder is generally well informed about retail electricity market	-0.0362 (0.0671)	0.964 (0.0647)	-0.000778 (0.00144)
Householder has read terms and conditions of contract	-0.0511 (0.314)	0.950 (0.298)	-0.00111 (0.00685)
Householder knows advance notice period to terminate current contract	0.446 (0.309)	1.563 (0.483)	0.00931 (0.00651)
Householder can name an organisation to turn to for advice	0.191 (0.267)	1.210 (0.323)	0.00400 (0.00550)
Householder can name an alternative provider to switch to	0.961* (0.451)	2.615* (1.180)	0.0178* (0.00748)
Householder has contacted provider in last 12 months about their electricity consumption	-0.304 (0.389)	0.738 (0.287)	-0.00594 (0.00698)
Householder has contacted provider in last 12 months about their tariff	0.464 (0.324)	1.590 (0.515)	0.0116 (0.00967)
Householder has contacted provider in last 12 months about their electricity bill	-0.537 (0.360)	0.585 (0.211)	-0.00997 (0.00611)
Householder has contacted provider in last 12 months about the source of electricity they use	0.931* (0.443)	2.537* (1.124)	0.0305 (0.0213)
Householder has contacted provider in last 12 months about contract terms and conditions	0.746* (0.334)	2.108* (0.704)	0.0214 (0.0131)
Householder has contacted provider in last 12 months about power interruptions	0.00166 (0.403)	1.002 (0.404)	0.0000357 (0.00867)
Householder has contacted provider in last 12 months about other connection issues	0.206 (0.471)	1.228 (0.579)	0.00482 (0.0120)
Householder has tried to reduce their electricity consumption at home in past 12 months	-0.0910 (0.304)	0.913 (0.278)	-0.00200 (0.00687)
Provider gives information concerning the sources from which the electricity is produced	0.257 (0.274)	1.293 (0.354)	0.00555 (0.00604)
Provider gives advice on ways to reduce electricity consumption	-0.111 (0.307)	0.895 (0.275)	-0.00245 (0.00690)
Provider proposed that household switch to the cheapest tariff or to a tariff more in line with their preferences and thereby	-0.174 (0.267)	0.841 (0.224)	-0.00366 (0.00558)

Table 114: General mode including exhaustive list of variables included in the questionnaire

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
ensures a personalised service based on the type of consumption			
Householder feels provider offers a better overall service	0.406 (0.316)	1.501 (0.474)	0.00830 (0.00626)
Householder feels advertising and pre-contractual documents from provider do not deceive, mislead or omit relevant information	-0.0512 (0.0559)	0.950 (0.0531)	-0.00110 (0.00121)
Householder has felt pressurised to sign a contract with a provider	0.0432 (0.0378)	1.044 (0.0395)	0.000928 (0.000829)
Householder feels the information in their contract with their provider is clear, complete and easy to understand	0.0645 (0.0783)	1.067 (0.0835)	0.00139 (0.00169)
Householder feels the terms of the contract they have with provider are fair i.e. they guarantee my rights as a consumer	0.000339 (0.0782)	1.000 (0.0783)	0.00000727 (0.00168)
Householder believes their bills accurately reflect their real consumption	-0.126 (0.0725)	0.882 (0.0639)	-0.00270 (0.00163)
Householder trusts provider to respect the rules and regulations protecting consumers	0.0676 (0.0875)	1.070 (0.0937)	0.00145 (0.00189)
Electricity service is reliable	0.0833 (0.0962)	1.087 (0.105)	0.00179 (0.00209)
Provider informs regularly about services and tariffs	-0.0493 (0.0564)	0.952 (0.0537)	-0.00106 (0.00123)
Provider has useful website	-0.0153 (0.0679)	0.985 (0.0669)	-0.000329 (0.00146)
Provider offers high quality technical assistance	-0.0874 (0.0664)	0.916 (0.0609)	-0.00188 (0.00146)
Provider can be reached when needed	0.125 (0.0763)	1.133 (0.0864)	0.00269 (0.00172)
Staff are professional, helpful and friendly	-0.102 (0.112)	0.903 (0.101)	-0.00219 (0.00243)
Provider reacts quickly to questions and problems	-0.0971 (0.103)	0.907 (0.0937)	-0.00208 (0.00223)
Maintenance request are rapidly dealt with	-0.104 (0.0954)	0.901 (0.0860)	-0.00223 (0.00209)
Provider offers overall high quality of service	0.162 (0.133)	1.176 (0.156)	0.00347 (0.00289)
Householder can chose from a sufficient number of electricity providers	0.0746 (0.0661)	1.077 (0.0712)	0.00160 (0.00144)

Table 114: General mode including exhaustive list of variables included in the questionnaire

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
Householder says it is easy to compare offers from different providers	0.0504 (0.0593)	1.052 (0.0624)	0.00108 (0.00129)
Householder says their provider offers a sufficient choice of tariffs (such as green electricity, night/day electricity, etc)	-0.00647 (0.0959)	0.994 (0.0952)	-0.000139 (0.00206)
Householder says it is easy to compare different tariffs offered by provider	-0.0323 (0.0947)	0.968 (0.0917)	-0.000694 (0.00204)
Householder says their provider offers fair and reasonable prices	0.0986 (0.0984)	1.104 (0.109)	0.00212 (0.00213)
Householder says their provider offers competitive prices	0.0660 (0.0912)	1.068 (0.0974)	0.00142 (0.00198)
Householder says tariffs of their provider are clear and easy to understand	-0.0290 (0.111)	0.971 (0.108)	-0.000623 (0.00238)
Householder says bills of their provider are clear and easy to understand	-0.142 (0.104)	0.867 (0.0898)	-0.00306 (0.00226)
Is on cheapest tariff in market given usage [1 if q14_9 == 1] (d)	0.545* (0.278)	1.725* (0.479)	0.0125 (0.00715)
Has problems paying electricity bills [1 if q13 == 2,3,4] (d)	0.258 (0.333)	1.295 (0.431)	0.00554 (0.00721)
Householder says they benefit from a social tariff or other assistance from their provider	-0.426 (0.366)	0.653 (0.239)	-0.00797 (0.00618)
Householder says they benefit from the government aimed at helping me pay my electricity bill	-0.344 (0.706)	0.709 (0.500)	-0.00638 (0.0113)
Householder says they benefit from the government aimed at helping me with my general living costs	0.207 (0.482)	1.230 (0.593)	0.00485 (0.0124)
Householder says their provider threatened to off their supply	0.941 (0.701)	2.563 (1.798)	0.0315 (0.0343)
Householder says their electricity consumption has been restricted due to non payment of my bills	0.829 (1.353)	2.291 (3.098)	0.0267 (0.0619)
Householder says their provider threatened to prevent them from switching to another provider	1.357 (1.164)	3.883 (4.522)	0.0576 (0.0839)
Householder says they have compared tariffs from their provider	0.201 (0.327)	1.222 (0.400)	0.00429 (0.00697)
Householder says they have	-0.127	0.881	-0.00268

Table 114: General mode including exhaustive list of variables included in the questionnaire

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
used price comparison websites to compare providers and/or tariffs	(0.285)	(0.251)	(0.00591)
Householder has compared offers from different providers	0.950** (0.368)	2.585** (0.950)	0.0216* (0.00962)
Householder's electricity prices have increase in last 12 months [1 if q15 == 1] (d)	-1.133*** (0.287)	0.322*** (0.0926)	-0.0252** (0.00792)
Householder has experienced problems with provider in the past 2 years	-0.353 (0.514)	0.703 (0.361)	-0.00660 (0.00841)
Householder has tried to switch tariff while staying with the same electricity provider in past 2 years	0.110 (0.337)	1.116 (0.377)	0.00246 (0.00785)
Householder would like to change electricity provider in the future	1.117*** (0.320)	3.056*** (0.979)	0.0335* (0.0141)
Age	0.0640 (0.0554)	1.066 (0.0591)	0.00137 (0.00121)
Age squared	-0.000676 (0.000583)	0.999 (0.000582)	-0.0000145 (0.0000128)
Number of people in your household including themselves and any children?	0.0927 (0.0947)	1.097 (0.104)	0.00199 (0.00206)
Age when finished full-time education	0.0432 (0.0270)	1.044 (0.0282)	0.000928 (0.000599)
Have access to the internet at home	0.166 (0.459)	1.180 (0.542)	0.00335 (0.00876)
Occupational dummies			
Self-employed	-1.088* (0.458)	0.337* (0.154)	-0.0161** (0.00545)
Non-active	-0.0172 (0.325)	0.983 (0.320)	-0.000369 (0.00693)
Country dummies			
Austria	0.274 (0.709)	1.315 (0.932)	0.00659 (0.0191)
Belgium	-0.0732 (0.691)	0.929 (0.642)	-0.00153 (0.0140)
Czech Republic	0.391 (0.983)	1.479 (1.454)	0.0100 (0.0298)
Denmark	-0.499 (0.972)	0.607 (0.590)	-0.00872 (0.0137)
Finland	1.471* (0.639)	4.352* (2.782)	0.0588 (0.0432)
France	-1.500 (1.193)	0.223 (0.266)	-0.0198* (0.00901)
Ireland	1.502* (0.660)	4.489* (2.963)	0.0610 (0.0461)

Table 114: General mode including exhaustive list of variables included in the questionnaire

	(1)	(2)	(3)
	Coefficients	Odds ratios	Marginal effects
Netherlands	-0.329 (0.752)	0.720 (0.541)	-0.00619 (0.0123)
Portugal	-1.120 (1.219)	0.326 (0.397)	-0.0166 (0.0116)
Slovakia	-0.674 (1.254)	0.510 (0.639)	-0.0109 (0.0149)
Sweden	0.966 (0.645)	2.629 (1.696)	0.0316 (0.0308)
United Kingdom	0.694 (0.665)	2.002 (1.331)	0.0200 (0.0253)
Observations	1472	1472	1472
Log likelihood	-286.7	-286.7	-286.7
Pseudo R2	0.311	0.311	0.311
p-value	(<0.001)	(<0.001)	(<0.001)

Note: Standard errors in parentheses.
(dummy) for discrete change of dummy variable from 0 to 1
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Annex 7 Empirical analysis of determinants of prices

This annex presents additional tables and analysis related to:

1) The variables used in the empirical analysis.
2) Correlations between variables used in the empirical analysis.
3) Summary statistics of the variables used in the empirical analysis.

Table 115: Variables used in the empirical analysis

Variable	Description	Source	Reference period
P1	Average electricity price excluding taxes and network costs for households consuming less than 1,000kWh/year	Eurostat[1]	2009, semester 2
P2	Average electricity price excluding taxes and network costs for households consuming 1,000-2,500kWh/year	Eurostat[1]	2009, semester 2
P3	Average electricity price excluding taxes and network costs for households consuming 2,500-5,000kWh/year	Eurostat[1]	2009, semester 2
P4	Average electricity price excluding taxes and network costs for households consuming 5,000-15,000kWh/year	Eurostat[1]	2009, semester 2
P5	Average electricity price excluding taxes and network costs for households consuming more than 15,000kWh/year	Eurostat[1]	2009, semester 2
V1	Share of total net electricity generation using oil as main input factor	Eurostat online	2008
V2	Share of total net electricity generation using natural gas as main input factor	Eurostat online	2008
V3	Share of total net electricity generation using oil or natural gas as main input factors	Eurostat online	2008
V4	Share of total net electricity generation using coal as main input factor	Eurostat online	2008
V5	Share of total net electricity generation using lignite as main input factor	Eurostat online	2008
V6	Share of total net electricity generation using hydro power as main input factor	Eurostat online	2008
V7	Share of total net electricity generation using wind power as main input factor	Eurostat online	2008
V8	Share of total net electricity generation using nuclear power as main input factor	Eurostat online	2008
V9	Total net electricity generation	Eurostat online	2008
V10	Total net electricity generation per capita	Eurostat online	2008
V11	Final energy consumption of households	Eurostat online	2008
V12	Final energy consumption of households per capita	Eurostat online	2008
V13	Dummy variable for whether retail electricity prices are regulated or not	ECME desk research	2010
V14	Number of main generators (with share > 5%)	Eurostat: European electricity market indicators 2008	2008
V15	Average market share of main generators (with share > 5%)	Eurostat: European electricity market indicators 2008	2008
V16	Market share of main suppliers to industry and households (with share > 5%)	Eurostat: European electricity market indicators 2008	2008

Table 115: Variables used in the empirical analysis

Variable	Description	Source	Reference period
V17	Average market share of main suppliers to industry and households (with share > 5%)	Eurostat: European electricity market indicators 2008	2008
V18	Herfindahl index of suppliers to households	Calculated using the general consumer survey	2010
V19	Switching rate for the 2 years to May-June/2010 (% of consumers who switched)	Calculated using the general consumer survey	May-June/2010
V20	Information availability index[2]	Calculated from mystery shopping data	2010
V21	Years since liberalisation	ECME desk research	2009

Note: [1.] Prices excluding taxes and network costs are calculated using price data from Eurostat online and the breakdown of prices into supply and generation, network costs and taxes presented in the Eurostat publication *Electricity prices for second semester 2009 (Data in focus 22/2010)*, with the exception of France, Ireland and the Netherlands for which the part of the price attributable to supply and generation is based on ECME Consortium desk research.

[2.] The information availability index is constructed from information from the mystery shopping exercise. The mystery shopping exercise was used to find the shares of mystery shoppers who can: a) find the type of tariff they are on; b) find the payment methods they can use; c) find the terms and conditions related to their contract; d) find a customer service number to complain to; and, e) find contact details of an energy mediator or third-party assistance. For each Member State, the information availability index is given by the average of these shares.

Table 116: Correlations between variables used in the empirical analysis

	P1	P2	P3	P4	P5	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21
P1	1.00																									
P2	0.86	1.00																								
P3	0.76	0.88	1.00																							
P4	0.63	0.68	0.92	1.00																						
P5	0.45	0.51	0.81	0.96	1.00																					
V1	0.38	0.04	0.33	0.58	0.64	1.00																				
V2	0.47	0.21	0.45	0.59	0.62	0.81	1.00																			
V3	0.47	0.20	0.45	0.60	0.64	0.85	1.00	1.00																		
V4	0.04	-0.01	0.11	0.08	0.08	0.06	-0.17	-0.14	1.00																	
V5	0.31	0.56	0.31	0.09	0.02	-0.47	-0.45	-0.46	0.38	1.00																
V6	-0.40	-0.45	-0.44	-0.34	-0.30	-0.02	-0.09	-0.08	-0.25	-0.49	1.00															
V7	0.46	0.12	0.14	0.06	-0.01	0.43	0.50	0.50	0.09	-0.27	-0.08	1.00														
V8	-0.37	-0.19	-0.33	-0.37	-0.39	-0.49	-0.49	-0.50	-0.52	-0.08	-0.20	-0.38	1.00													
V9	-0.42	-0.51	-0.44	-0.31	-0.17	0.08	-0.13	-0.10	0.03	-0.16	-0.18	0.27	0.26	1.00												
V10	-0.35	-0.50	-0.74	-0.73	-0.70	-0.29	-0.23	-0.24	-0.30	-0.20	0.34	-0.02	0.19	0.10	1.00											
V11	-0.49	-0.57	-0.52	-0.39	-0.25	0.04	-0.15	-0.12	-0.04	-0.22	-0.15	0.24	0.35	0.99	0.15	1.00										
V12	-0.40	-0.57	-0.74	-0.73	-0.68	-0.25	-0.08	-0.10	-0.32	-0.34	0.35	0.03	0.15	0.07	0.96	0.14	1.00									
V13	0.15	0.09	0.38	0.46	0.46	0.48	0.41	0.43	0.18	-0.31	-0.43	0.08	0.11	-0.01	-0.61	0.01	-0.49	1.00								
V14	-0.14	-0.05	0.27	0.36	0.46	0.16	0.38	0.36	0.29	-0.12	0.07	-0.07	-0.54	-0.19	-0.13	-0.24	0.00	0.02	1.00							
V15	-0.15	-0.07	-0.36	-0.41	-0.43	-0.34	-0.47	-0.47	-0.40	0.20	-0.17	-0.29	0.74	0.26	0.14	0.33	0.05	0.00	-0.87	1.00						
V16	0.36	0.40	0.46	0.43	0.36	0.27	0.27	0.28	-0.07	-0.06	-0.24	-0.11	0.14	-0.41	-0.57	-0.36	-0.50	0.77	-0.26	0.28	1.00					
V17	-0.22	-0.34	-0.21	0.04	0.20	0.48	0.26	0.30	-0.27	-0.36	-0.15	-0.14	0.32	0.44	-0.09	0.49	-0.05	0.51	-0.31	0.49	0.41	1.00				
V18	-0.07	-0.19	-0.09	0.10	0.22	0.47	0.33	0.36	-0.28	-0.31	-0.23	-0.09	0.31	0.30	-0.17	0.36	-0.11	0.60	-0.37	0.53	0.57	0.97	1.00			
V19	0.33	-0.03	-0.13	-0.16	-0.21	0.21	0.41	0.39	-0.02	-0.08	0.01	0.44	-0.36	-0.18	0.34	-0.17	0.42	-0.18	-0.04	-0.15	-0.18	-0.14	-0.04	1.00		
V20	0.05	0.25	0.17	0.04	-0.05	-0.26	-0.12	-0.14	-0.45	0.00	-0.07	-0.20	0.55	-0.20	-0.41	-0.11	-0.35	0.37	-0.49	0.58	0.68	0.23	0.37	-0.19	1.00	
V21	-0.36	-0.41	-0.51	-0.51	-0.48	-0.36	-0.23	-0.25	-0.06	-0.01	0.40	0.00	-0.14	0.10	0.69	0.08	0.67	-0.81	0.27	-0.28	-0.91	-0.50	-0.60	0.41	-0.54	1.00

Source: ECME Consortium analysis.

Table 117: Summary statistics of the variables used in the empirical analysis

	Number of observations	Mean	Standard deviation	Maximum	Minimum
P1	25	0.1171	0.0584	0.0322	0.2438
P2	26	0.0858	0.0357	0.0304	0.1835
P3	26	0.0799	0.0296	0.0266	0.1623
P4	26	0.0776	0.0323	0.0238	0.1700
P5	26	0.0765	0.0422	0.0233	0.2282
V1	27	0.0995	0.2616	0.0000	1.0000
V2	27	0.2211	0.2051	0.0000	0.6755
V3	27	0.3206	0.2849	0.0098	1.0000
V4	26	0.1187	0.1447	0.0000	0.5362
V5	20	0.1982	0.2474	0.0000	0.9100
V6	27	0.1407	0.1749	0.0000	0.6056
V7	26	0.0321	0.0479	0.0000	0.1967
V8	26	0.2119	0.2423	0.0000	0.7598
V9	27	118699	163586	2185	598898
V10	27	0.0065	0.0029	0.0022	0.0159
V11	27	30250	42974	660	155608
V12	27	0.0017	0.0008	0.0005	0.0042
V13	27	0.6296	0.4921	0.0000	1.0000
V14	27	3.2593	2.0493	1.0000	9.0000
V15	27	0.3744	0.3213	0.0000	1.0000
V16	27	0.8515	0.1978	0.2500	1.0000
V17	27	0.4466	0.3481	0.0833	1.0000
V18	27	0.4519	0.3311	0.0300	1.0000
V19	20	0.0590	0.0711	0.0000	0.2800
V20	27	0.8000	0.1228	0.5500	1.0000
V21	24	4.0833	3.4631	0.0000	12.0000

Source: ECME Consortium analysis

A7.1 Additional information on convergence of prices

A7.1.1 Change in price dispersion over time

Before 2007 electricity prices were collected by Eurostat using an alternative methodology. A main difference between the methodologies used pre- and post- 2007 are the standard consumption bands to which prices refer.

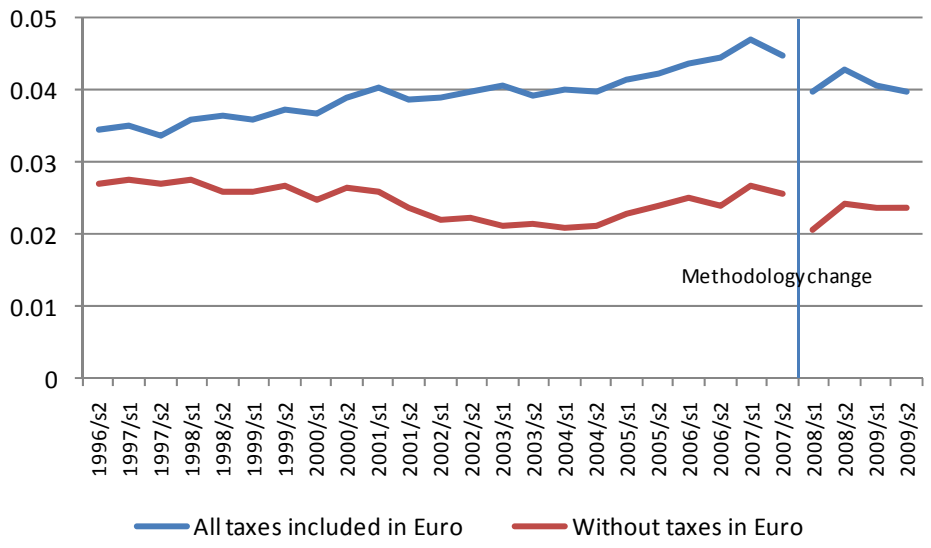
The charts below use data referring to households in the middle consumption band under each methodology:

- Pre-2007 (inclusive): households with consumption of 3,500kWh/year.
- Post-2007: households with consumption of between 2,500 and 5,000kWh/year.

Breaks are displayed on the charts at the time of the change in methodology.

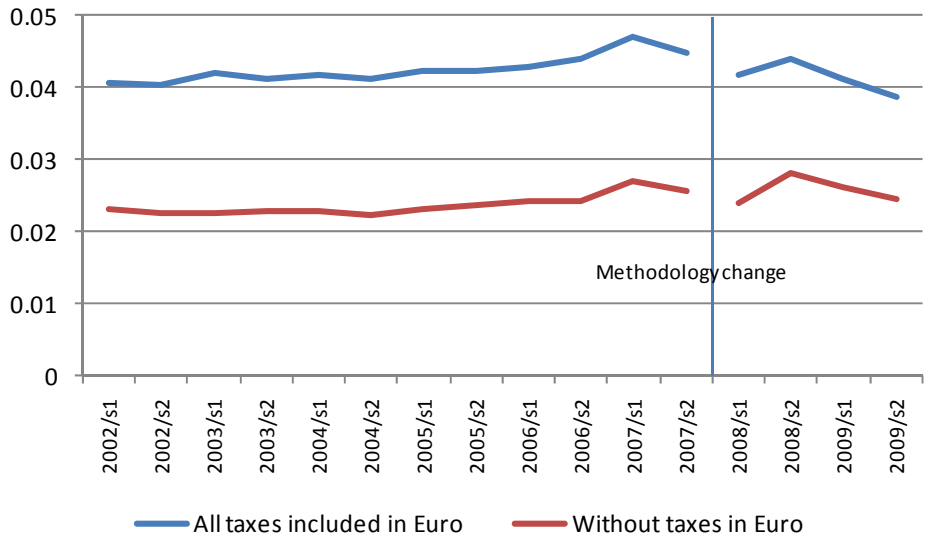
Prices in Euros

Figure 240: Standard deviation of prices in Euro across the EU-15, 1996/SEMESTER 1 to 2009/SEMESTER 1



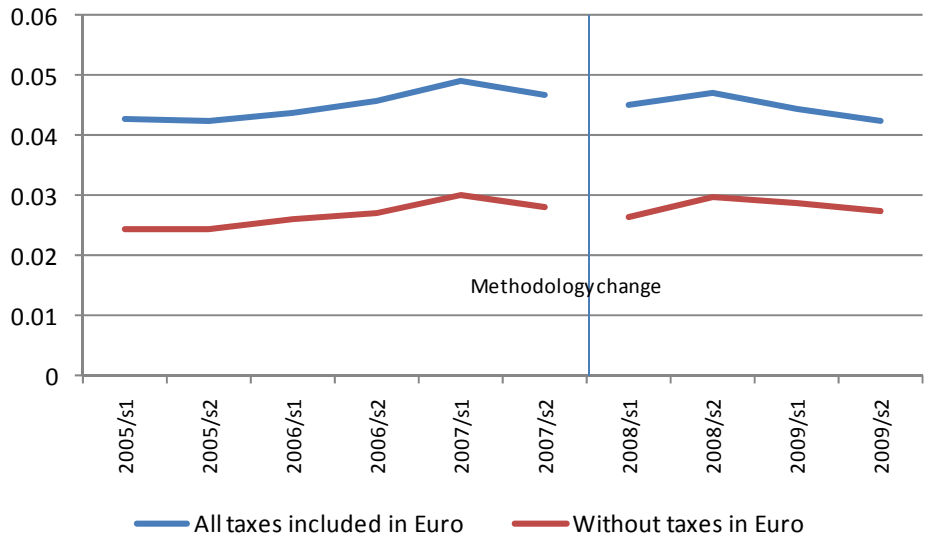
Note: Series for prices excluding taxes do not include Italy after 2007/SEMESTER 2 due to missing data.
Source: Eurostat.

Figure 241: Standard deviation of prices in Euro across 22 Members[1], 2002/SEMESTER 1 to 2009/SEMESTER 1



Note: 1) The Member States not included are Latvia, Lithuania, Slovakia, Bulgaria and Romania. Series for prices excluding taxes do not include Italy after 2007/SEMESTER 2 due to missing data.
Source: Eurostat.

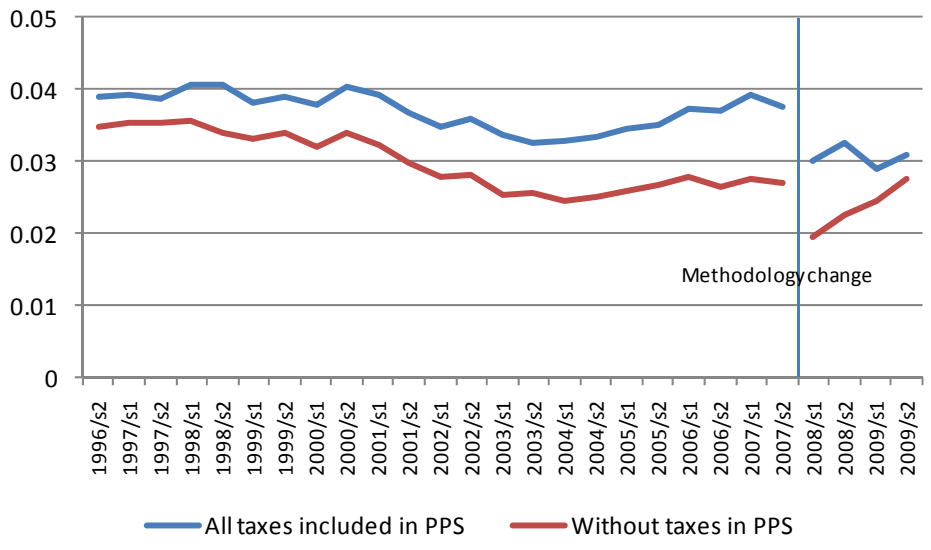
Figure 242: Standard deviation of prices in Euro across the EU-27, 2005/SEMESTER 1 to 2009/SEMESTER 1



Note: Series for prices excluding taxes do not include Italy after 2007/SEMESTER 2 due to missing data.
Source: Eurostat.

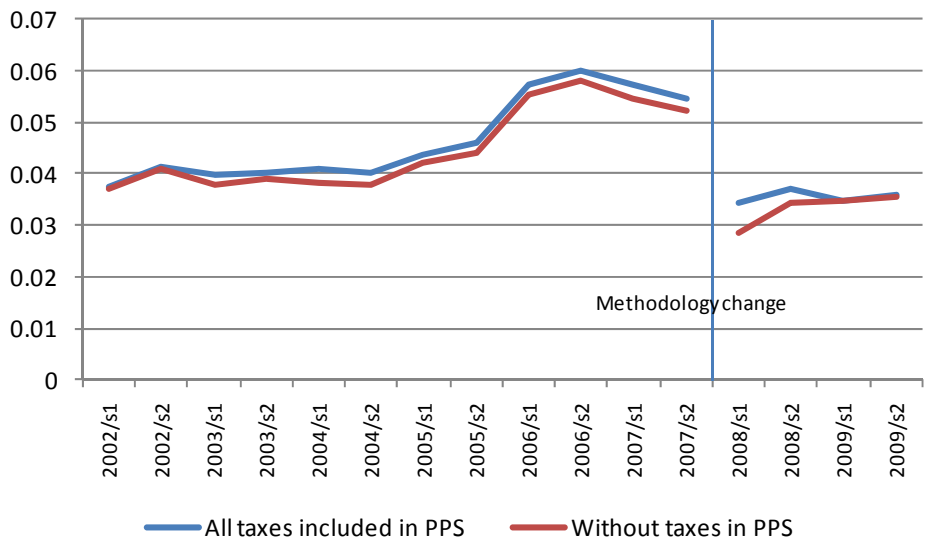
Prices in PPS

Figure 243: Standard deviation of prices in PPS across the EU-15, 1996/SEMESTER 1 to 2009/SEMESTER 1



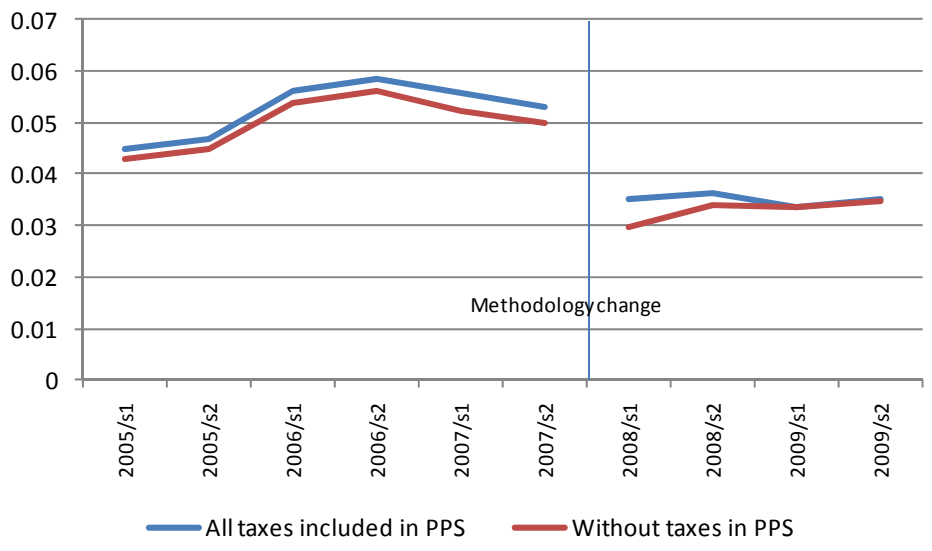
Note: Series for prices excluding taxes do not include Italy after 2007/SEMESTER 2 due to missing data.
Source: Eurostat.

Figure 244: Standard deviation of prices in PPS across 22 Member States, 2002/SEMESTER 1 to 2009/SEMESTER 1



Note: 1) The Member States not included are Latvia, Lithuania, Slovakia, Bulgaria and Romania. Series for prices excluding taxes do not include Italy after 2007/SEMESTER 2 due to missing data.
Source: Eurostat.

Figure 245: Standard deviation of prices in PPS across the EU-27, 2005/SEMESTER 1 to 2009/SEMESTER 1



Note: Series for prices excluding taxes do not include Italy after 2007/SEMESTER 2 due to missing data.
Source: Eurostat.

A7.1.2 Convergence models

Standard beta and sigma convergence models are presented and estimated below using data from Eurostat. In addition, the price gap for every pair of Member States in the EU-27 is regressed against a time trend.

The data and periods used to estimate the convergence models are presented first; the beta convergence model and results are then presented; thirdly, the sigma convergence model and results are presented; the time trends of Member State-pair price gaps are presented last.

Data and periods

Eurostat provide half-yearly price data. Due to a change in 2007 to the methodology used to collect electricity price data, the data correspond to standard households with consumption of 3,500kWh/year for periods before 2008/semester 1, and consumption of 2,500-5,000kWh/year for periods after and including 2008/semester 1.

The durations of the time series differ considerably between Member States, so the convergence models are estimated for the EU-27 and for four different sub-groups of Member States using different periods (Table 118). For Groups 1, 2, 3 and 4, data are available for every Member State in the group from 1991/semester 1, 1992/semester 1, 1996/semester 2 and 2004/semester 1 respectively.

For all Member States except Italy, the latest data available refer to 2009/semester 2. For Italy, data on prices including taxes are available until 2009/semester 2, but data on prices excluding taxes are available only until 2007/semester 2.

Table 118: Groups of Member States for which beta convergence in calcualted.

Member State	Earliest data available	Included in:				
		Group 1	Group 2	Group 3	Group 4	All
Belgium	1985/SEMESTER 1	✓	✓	✓	✓	✓
Denmark	1985/SEMESTER 1	✓	✓	✓	✓	✓
Luxembourg	1985/SEMESTER 1	✓	✓	✓	✓	✓
France	1991/SEMESTER 1	✓	✓	✓	✓	✓
Germany	1991/SEMESTER 1	✓	✓	✓	✓	✓
Greece	1991/SEMESTER 1	✓	✓	✓	✓	✓
Ireland	1991/SEMESTER 1	✓	✓	✓	✓	✓
Italy	1991/SEMESTER 1	✓	✓	✓	✓	✓
Malta	1991/SEMESTER 1	✓	✓	✓	✓	✓
Netherlands	1991/SEMESTER 1	✓	✓	✓	✓	✓
Portugal	1991/SEMESTER 1	✓	✓	✓	✓	✓
Spain	1991/SEMESTER 1	✓	✓	✓	✓	✓
UK	1991/SEMESTER 1	✓	✓	✓	✓	✓
Hungary	1992/SEMESTER 1		✓	✓	✓	✓
Slovenia	1992/SEMESTER 1		✓	✓	✓	✓
Finland	1995/SEMESTER 1			✓	✓	✓
Austria	1996/SEMESTER 1			✓	✓	✓
Sweden	1996/SEMESTER 2			✓	✓	✓
Cyprus	1999/SEMESTER 1				✓	✓
Czech Rep.	2000/SEMESTER 1				✓	✓
Poland	2000/SEMESTER 2				✓	✓
Estonia	2002/SEMESTER 1				✓	✓

Table 118: Groups of Member States for which beta convergence in calcualted.

Member State	Earliest data available	Included in:				
		Group 1	Group 2	Group 3	Group 4	All
Bulgaria	2004/SEMESTER 1				✓	✓
Latvia	2004/SEMESTER 1				✓	✓
Lithuania	2004/SEMESTER 1				✓	✓
Slovakia	2004/SEMESTER 1				✓	✓
Romania	2005/SEMESTER 1					✓

Beta convergence

Beta convergence models examine the relationship between the initial price difference and the change in the price difference in subsequent periods. A negative relationship demonstrates beta convergence.

Model

The equation we wish to estimate is:

$$\Delta p_{ij,t} = \alpha - \beta p_{ij,t-j} + u_{ij,t} \qquad (1),$$

where $p_{ij,t}$ is the absolute difference between log-prices in Member States i and j in period t, and $u_{ij,t}$ is the error term. A one period lag (j=1) is usually employed (Dobado and Marrero, 2005, Wolszczak-Derlacz, 2006, and Dreger *et al* 2007), in which case equation 1 is equivalent to:

$$p_{ij,t} = \alpha + (1-\beta)p_{ij,t-1} + u_{ij,t} \qquad (2),$$

The absolute difference in log-prices, $p_{ij,t}$, is calculated for all possible pairs of Member States (351 pairs in total) using prices in PPS. The speed of convergence is calculated as $\lambda = -\ln(1-\beta)$, and the half-life as $t^* = -\ln 0.5/\lambda$.

In order to accommodate for the change in 2007 to Eurostat's data collection methodology, the data corresponding to the first period in which the new methodology was applied (2008/semester 2) are omitted from the model. This prevents Equation 2 from relating price differences calculated from data collected using the old methodology with price differences calculated from data collected with the new methodology.

Estimation method

Since the explanatory variable in our model is the lagged value of the dependent variable, the standard panel data estimators (OLS level, fixed effects) cannot be used. Instead, Equation 2 is estimated using the Arellano-Bond method.

Results

Table 119: Beta convergence – results from estimation of Equation 2

	All	Group 1	Group 2	Group 3	Group 4
Prices including taxes:					
Coefficient	0.813	0.888	0.843	0.835	0.817
p-value	0.000	0.000	0.000	0.000	0.000
Speed of convergence	21%	12%	17%	18%	20%
Half-life	3.3	5.8	4.1	3.8	3.4
Prices excluding taxes:					
Coefficient	0.784	0.907	0.838	0.836	0.790
p-value	0.000	0.000	0.000	0.000	0.000
Speed of convergence	24%	10%	18%	18%	24%
Half-life	2.8	7.1	3.9	3.9	2.9

Note: Prices in PPS.
Source: LE calculations using Eurostat data.

Sigma convergence

Sigma convergence of prices means decreasing price dispersion over time, and sigma convergence models estimate the time trend of measures of price dispersion. The models are estimated using the same data, periods and Member State groups as described above (Table 118).

Model

Two measures of price dispersion are calculated; the standard deviation of prices and the coefficient of variation of prices (equal to the ratio of the standard deviation to the mean). These price dispersion measures are regressed on a linear time trend in Equations 3 and 4:

$$S_t = \alpha + \beta.t + D_t + u_t \qquad (3), \text{ and}$$

$$CV_t = \alpha + \beta.t + D_t + u_t \qquad (4),$$

where t is time, S_t is the standard deviation of prices at time t, CV_t is the coefficient of variation of prices at time t, D_t is a dummy variable equal to 1 if the price data were collected under the old methodology and 0 if the price data were collected under the new methodology, and u_t is the error term.

Equations 3 and 4 are estimated for the EU-27 and each group of Member States over the periods for which data are available for every Member State in the relevant group.

Results

Table 120: Sigma convergence – results from estimation of Equations 3 and 4

	Standard deviation:		Coefficient of variation:	
	Coefficient	p-value	Coefficient	p-value
Prices including taxes:				
All	0.0016	0.0980	0.0044	0.3440
Group 1	0.0004	0.0000	0.0009	0.0160
Group 2	0.0003	0.0040	-0.0004	0.3730
Group 3	0.0006	0.0000	0.0003	0.6980
Group 4	0.0022	0.0030	0.0076	0.0300
EU15	-0.0002	0.0060	-0.0044	0.0000
Prices excluding taxes:				
All	0.0017	0.0650	0.0057	0.2910
Group 1	0.0003	0.0030	0.0018	0.0010
Group 2	0.0003	0.0070	0.0007	0.1730
Group 3	0.0006	0.0010	0.0015	0.1110
Group 4	0.0023	0.0020	0.0096	0.0190
EU15	-0.0005	0.0000	-0.0068	0.0000

Note: Prices in PPS.
Source: LE calculations using Eurostat data.

A7.1.3 Member State-pair price gaps

The price gap for every pair of Member States in the EU-27 is regressed against a linear time trend. The price gap (PG) is calculated as the absolute value of the difference in log prices (prices in PPS). The regression equation is:

$$PG_t = \alpha + \beta.t + D_t + u_t \qquad (5)$$

where t is time, D_t is a dummy variable equal to 1 if the price data were collected under the old methodology and 0 if the price data were collected under the new methodology, and u_t is the error term.

Equation 5 is estimated for every pair of Member States over the period for which data are available for both Member States (351 pairs of Member States in total).

Results

Table 121: Signs of significant coefficients (p-value < 0.1) on time trends of Member State-pair price gaps - results from estiamtion of Equation 5 (prices including taxes)

	AT	BE	BG	CY	CZ	DK	EE	FI	FR	DE	EL	HU	IE	IT	LV	LT	LU	MT	NL	PL	PT	RO	SK	SL	ES	SE	UK
AT		–		+	+	+		+	+	+	+	+	–	–			–	+	+	+	–	–		–	–	–	+
BE	–		–	+	+	–		–	+	+	+	–	–	–			–	+	–	+	–			–	+	–	+
BG		–		+								+	–	+			–	+	+	+				–	–	–	–
CY	+	+	+			+	+	+	+	+	+	+									+	+		+	+		+
CZ	+	+				–		+	+		+		–	–		+	–	+			–		–	+	+	–	+
DK	+	–		+	–			+	+	–	+	–	+	–			+	–	–	+	–			+	+	–	+
EE				+							+	+					+	+	+							+	
FI	+	–		+	+	+			–	+		+	+	–			+	+	+	+	–	–			–	+	–
FR	+	+		+	+	+		–		+	+	+	–	–		+		+	+	+	–		+	+	–	–	+
DE	+	+		+		–		+	+		+	–	+	–		+	–	+	–		–		–		+	–	+
EL	+	+		+	+	+	+		+	+		+	+	+			+	+	+	+	+			+	+	+	
HU	+	–	+	+		–	+	+	+	–	+		+	–			+	–			–	+					+
IE	–	–	–		–	+		+	–	+	+	+		–		–	+	+	+	–	–	–	–		–	–	+
IT	–	–	+		–	–		–	–	–	+	–	–				–	+	–	–		+	–	–	+	–	
LV																		+									–
LT					+				+	+			–					+									–
LU	–	–	–		–	+	+	+		–	+	+	+	–					+		–	–	–	–	–	–	+
MT	+	+	+		+	–	+	+	+	+	+	–	+	+	+	+			–	+	+				+		+
NL	+	–	+			–	+	+	+	–	+		+	–			+	–			–		–	+			+
PL	+	+	+			+		+	+		+		–	–				+			+	+		+	+	–	+
PT	–	–		+	–	–		–	–	–	+	–	–				–	+	–	+				–	+	–	
RO	–			+				–				+	–	+			–			+					–	–	–
SK					–				+	–			–	–			–		–							–	–
SL	–	–	–	+	+	+			+		+			–			–		+	+	–				–	–	+
ES	–	+	–	+	+	+		–	–	+	+		–	+			–	+		+	+	–		–		–	
SE	–	–	–		–	–	+	+	–	–	+		–	–			–			–	–	–	–	–	–		
UK	+	+	–	+	+	+		–	+	+		+	+		–	–	+	+	+	+		–	–	+			

Note: Prices in PPS.

Source: LE calculations using Eurostat data.

Table 122: Signs of significant coefficients (p-value < 0.1) on time trends of Member State-pair price gaps - results from estiamtion of Equation 5 (prices excluding taxes)

	AT	BE	BG	CY	CZ	DK	EE	FI	FR	DE	EL	HU	IE	IT	LV	LT	LU	MT	NL	PL	PT	RO	SK	SL	ES	SE	UK
AT		–		+	+	–		–	+	+	+	+		–			+	+	+	+	–	–		+	–	–	
BE	–			+	+	–		–	+	+	+		–	–			–	+	–	+	–			–	–	–	+
BG										–		+	–	+			–	+	–	+	+				–	–	–
CY	+	+					+	+	+	+	+	+		+							+	+		+	+		+
CZ	+	+						+	+	+	+	–	–	–		+				–	–		–	+	+	–	+
DK	–	–						–	–	–	–	+	–	–			–		–		–			–	–		–
EE				+													+	+	+							–	
FI	–	–		+	+	–			–	+	–	+	+	–			+	+	+		–	–			–	–	–
FR	+	+		+	+	–		–		+		+	+	–		+	+	+	+	+				+	–	–	
DE	+	+	–	+	+	–		+	+		+	–		–		+	–	+	–		–		–	–	+	–	+
EL	+	+		+	+	–		–		+		+	+				+	+	+	+	+			+		–	
HU	+		+	+	–	+		+	+	–	+		+	–		+	+	–	+		–						+
IE		–	–		–	–		+	+		+	+		–	–	–	+	+	+	–	–	–	–		–	–	–
IT	–	–	+	+	–	–		–	–	–		–	–				–	+	–	–	+		–	–		–	
LV													–					+									–
LT					+				+	+		+	–					+	–							–	–
LU	+	–	–			–	+	+	+	–	+	+	+	–					–	–	–	–	–	–	–	–	+
MT	+	+	+				+	+	+	+	+	–	+	+	+	+				+	+	+	+	+	+		+
NL	+	–	–			–	+	+	+	–	+	+	+	–		–	–				–	–	–	–	–	–	–
PL	+	+	+		–				+		+		–	–			–	+			–			+	+	–	
PT	–	–	+	+	–	–		–		–	+	–	–	+			–	+	–	–				–	+	–	
RO	–			+				–					–				–	+	–						–	–	–
SK					–					–			–	–			–	+	–							–	–
SL	+	–		+	+	–			+	–	+			–			–	+	–	+	–				–	–	+
ES	–	–	–	+	+	–		–	–	+			–				–	+	–	+	+	–		–		–	–
SE	–	–	–		–		–	–	–	–	–		–	–		–	–		–	–	–	–	–	–	–		–
UK		+	–	+	+	–		–		+		+	–		–	–	+	+	–			–	–	+	–	–	

Note: Prices in PPS.

Source: LE calculations using Eurostat data.

Annex 8 Calculation of the share of income spent on electricity

This annex describes the calculation of the share of household income spent on electricity.

The following variables from Eurostat are used:

- **Income per capita in PPS:** "*Real adjusted disposable income per capita in PPS*", available at under "*Annual sector accounts*" at:

http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/main_tables.

- **Population:** "*Population on 1st January*", available at:

http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database.

- **Total energy consumption of households:** "*Final energy consumption – Households*", available under "*Supply, transformation, consumption - electricity - annual data*" at:

http://epp.eurostat.ec.europa.eu/portal/page/portal/energy/data/database.

- **Electricity prices in PPS:** Electricity prices in PPS including taxes for households with consumption of 2,500 to 5,000kWh/year.

The share of household income spent on electricity is calculated as:

(Electricity prices in PPS x Total energy consumption of households) / (Income per capita in PPS x Population)

Annex 9 Number of survey observations

Table 123: Number of respondents to selected survey questions in general questionnaire

Country	Total sample	Tried to reduce electricity consumption	Had a problem	Made a complaint	Tried to switch supplier	Switched supplier	Tried to switch tariff	Switched tariff
Austria	502	395	20	15	60	31	39	23
Belgium	500	421	47	36	44	23	62	49
Bulgaria	519	432	127	47	n.a.	n.a.	13	6
Cyprus	500	436	37	31	n.a.	n.a.	16	12
Czech Republic	501	417	42	30	41	26	38	24
Denmark	500	406	27	19	38	30	37	33
Estonia	518	387	56	27	6	3	36	29
Finland	502	391	27	16	99	64	49	32
France	500	342	50	32	20	11	47	27
Germany	500	381	23	21	81	47	114	97
Greece	506	430	125	82	n.a.	n.a.	17	8
Hungary	501	451	67	34	5	1	5	5
Ireland	500	402	35	24	143	139	14	11
Italy	500	395	26	19	38	19	65	41
Latvia	500	370	74	28	n.a.	n.a.	9	4
Lithuania	500	414	60	11	n.a.	n.a.	33	20
Luxembourg	501	377	16	10	2	2	40	28
Malta	500	474	151	79	n.a.	n.a.	12	5
Netherlands	500	353	25	11	76	47	65	57
Poland	501	413	33	10	4	1	26	20
Portugal	511	440	42	31	11	2	67	44
Romania	500	418	96	69	5	0	55	37
Slovakia	500	369	40	20	12	6	36	22
Slovenia	505	433	28	9	18	7	31	21
Spain	501	428	107	59	26	4	41	21
Sweden	504	376	20	17	97	69	97	75
United Kingdom	512	410	67	46	119	90	66	53

Source: ECME Consortium analysis of consumer survey

Table 124: Number of respondents to selected survey questions in billing and payment questionnaire

Country	Total sample	Gets reconciliation bill	Contacted supplier with issue about bill	Received assistance	Not satisfied with assistance
Austria	181	124	32	30	6
Belgium	207	188	44	26	3
Bulgaria	180	4	17	8	3
Cyprus	191	17	14	9	3
Czech Republic	218	181	27	19	1
Denmark	180	157	4	4	3
Estonia	186	9	21	19	4
Finland	180	111	16	15	0
France	219	154	23	5	0
Germany	201	113	29	27	3
Greece	181	147	20	15	4
Hungary	203	130	49	42	13
Ireland	218	49	13	13	3
Italy	180	54	12	11	4
Latvia	220	4	19	18	6
Lithuania	220	0	19	15	1
Luxembourg	213	206	21	14	1
Malta	207	81	50	37	9
Netherlands	180	170	21	20	3
Poland	220	135	27	23	3
Portugal	221	121	22	20	6
Romania	211	149	31	20	4
Slovakia	220	175	20	18	3
Slovenia	181	147	10	6	3
Spain	201	90	31	19	7
Sweden	229	16	13	13	1
United Kingdom	181	66	33	30	4

Source: ECME Consortium analysis of consumer survey

Annex 10 Implementation of data collection

This annex provides a description of the implementation of the fieldwork undertaken for the consumer survey, stakeholder survey, and the mystery shopping and price collection exercises.

A10.1 Fieldwork dates

The bulk of the primary data collection took place in late May and June 2010.The precise start and end date of exercise is provided in Table 125 below.

Table 125: Dates of primary data collection exercises

Data collection	Fieldwork start	Fieldwork end
Consumer surveys	25 May 2010	29 July 2010
Stakeholder surveys	21 May 2010	Early August 2010
Price collection	28 May 2010	1 July 2010
Mystery shopping	19 May 2010	5 July 2010

A10.2 Details of the consumer survey

The consumer survey consisted of two parts; a main consumer survey and a follow on survey focusing on billing and payment issues.

First, the main telephone (CATI) survey was carried out amongst the general population aged 18 and more and covered the main issues that are identified as important and/or problematic in the retail electricity market. The questionnaire used in the survey is provided in Annex B.

Five hundred completed interviews were obtained in each country. At the end of the interview, respondents were invited to participate in a short CATI survey about the topics of billing and payment methods as well as prices in more detail. If the respondent accepted, they were asked to prepare a regular electricity bill as well as a reconciliation of the bill if applicable.

The main survey questionnaire took about 20 minutes to be completed while the follow on billing questionnaire required on average 10 minutes to be completed.

Overall, the response rate was relatively high.

Table 126: Response rates to the main survey

Country	Response rate of main survey
Austria	73%
Belgium	47%
Bulgaria	75%
Cyprus	51%
Czech	77%
Denmark	70%
Estonia	74%
Finland	65%
France	50%
Germany	55%
Greece	46%
Hungary	76%
Ireland	66%
Latvia	75%
Lithuania	51%
Luxembourg	49%
Malta	47%
Netherlands	69%
Poland	75%
Portugal	66%
Romania	50%
Slovakia	75%
Slovenia	62%
Spain	41%
Sweden	58%
UK	44%
EU average	**61%**

Source: ECME Consortium

A few special points regarding the sampling in a number of countries are to be noted:

- In the UK, around 10% of consumers are on pre-payment meters. These have been excluded from the survey on billing and payment.
- In Latvia and Lithuania, consumers do not receive any bills. So respondents were not asked survey questions related to billing. However, they were asked to provide their consumption based on their last meter reading.
- In some countries such as Netherlands, some consumers do not receive intermediate bills, but only a reconciliation bill. Intermediate payments are done by direct debit.

A10.3 Details of the price collection exercise

The objective of this exercise was to collect electricity tariffs offered to consumers, according to predefined consumption profiles. The grid used for an electricity consumption of 1,000 kWh per year is provided in Figure 246 overleaf. Identical grids were used to collect prices for an electricity consumption of 3,500kWh and 10,000kWh.

The price collection started with a desk research phase in order to identify the list of suppliers to be taken into account for this exercise. The suppliers selected had to cover at least 80% of consumers. In addition, this research phase aimed to identify any possible issues or difficulties to complete the price collection grid shown below.

Figure 246: Price collection grid for consumption

Name of provider	
Country	

					Price for standard tariffs of annual electricity consumption (in KWH)								
					Annual consumption profile : 1000 KWH								
					Unique price			Peak/Off-Peak price					
					1 Year contract duration	2 Years contract duration	Unspecified contract duration	1 Year contract duration		2 Years contract duration		Unspecified contract duration	
								Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
100% green	Fixed price		Total price										
			Supply costs	Fixed cost									
				Cost per KWH									
			Ditribution costs	Fixed cost									
				Cost per KWH									
			Taxes & additional costs	Fixed cost									
				Cost per KWH									
	Variable price		Total price										
			Supply costs	Fixed cost									
				Cost per KWH									
			Ditribution costs	Fixed cost									
				Cost per KWH									
			Taxes & additional costs	Fixed cost									
				Cost per KWH									
Not green for the most part	Fixed price	Standard tariffs	Total price										
			Supply costs	Fixed cost									
				Cost per KWH									
			Ditribution costs	Fixed cost									
				Cost per KWH									
			Taxes & additional costs	Fixed cost									
				Cost per KWH									
		Social tariffs	Total price										
			Supply costs	Fixed cost									
				Cost per KWH									
			Ditribution costs	Fixed cost									
				Cost per KWH									
			Taxes & additional costs	Fixed cost									
				Cost per KWH									
	Variable price	Standard tariffs	Total price										
			Supply costs	Fixed cost									
				Cost per KWH									
			Ditribution costs	Fixed cost									
				Cost per KWH									
			Taxes & additional costs	Fixed cost									
				Cost per KWH									
		Social tariffs	Total price										
			Supply costs	Fixed cost									
				Cost per KWH									
			Ditribution costs	Fixed cost									
				Cost per KWH									
			Taxes & additional costs	Fixed cost									
				Cost per KWH									

Source: ECME Consortium

In order to allow a comparison between countries, a number of broad consumption profiles were identified and field workers in each country were asked to collect electricity tariffs offered to consumers by each of the selected suppliers on the market. Consumption profiles were defined according to the following factors:

- **Annual consumption in KWH**: 3 consumption levels have been identified, 1,000kwh, 3,500 kwh and 10,000 kwh.
- **Source of electricity production**: 100% green (or green for the most part) vs. not green for the most part. In countries where there are different types of green tariffs, fieldworkers were instructed to consider the one that is used most.
- **The type of contract consumers have with their supplier**: Typically 1 or 2 year contracts. A situation in which consumers do no sign a contract or are not specified how long they are required to stay with their supplier was also provided for. In the price collection grid shown above, this case is labelled "unspecified contract duration".
- **Fixed or variables prices**, i.e. prices are fixed for a defined period of time or are regularly revised.
- **Unique price** (whatever the moment of consumption during the day) vs. **peak/off-peak price** (i.e. night/day tariff).
- Finally, for some consumers with low income or having difficulties with paying their bills, information on **social tariffs** was to be collected is such a tariff was available.

Overall, 24 different potential profiles are provided for in the grid. However, in some countries only 2 or 3 profiles could be identified.

In Germany, Belgium, Austria, Finland, Luxembourg and France distribution costs vary from one region to another if one supplier supplies several regions. In this case, the price collected is an average value.

Furthermore, as value added (VAT) rates differ across Member States all supply and distribution costs have been noted excluding VAT.

To the extent possible, the total price reported for each profile is broken down into:

- Supply costs: this is the retail price (excluding VAT).
- Distribution costs: that may be paid to a distributor (or owner of the infrastructure), and which may be different than that the supplier receives (excluding VAT).
- Taxes and additional costs.
- Each of these may have a fixed cost element and a variable element (by kWh).

For some countries, it was not possible to get the breakdown of costs included in the price per KWh. In countries, such as in the UK, some suppliers did not provide such details. Some of them were contacted on the phone and indicated that this was sensitive information.

In Spain, Portugal, Italy, Estonia and Latvia, tariffs do not only vary by the annual consumption in KWh. They have different tariffs according to the number of Amperes or KW (based on the electrical wiring of the residence). For example, in Spain the following profiles were found: 2.4KW – 4 KW – 12KW. In such countries, data for the different potencies/intensities were collected and a conversion table was drawn up to match the chosen consumption profiles.

A10.4 Details of the mystery shopping tests

Mystery shopping exercises were carried out in all Member States to evaluate different aspects of the market, from a consumer perspective:

- The possibilities of getting better deals and switching suppliers in a liberalised market or not.
- The billing methods, terms and conditions of contracts, and the possibilities of adapting tariffs to financial constraints.
- The standard basic practices of the national suppliers.

Information was collected by experienced mystery shoppers who followed 5 pre-defined scenarios (see below).

For each scenario, mystery shoppers collected a number of key performance indicators (KPI) in a pre-defined grid which was used in all the countries (see Annex B).

In essence, the mystery shopping exercise was based on actual consumers' experiences with mystery (but actual) electricity users who noted their observations/experiences on a pre-designed evaluation sheet which mostly reports facts and non interpretable elements.

The following scenarios were used to collect the information listed above:

- Scenario 1: mystery shoppers (MS) tried to find a cheaper tariff.
- Scenario 2: MS contacted their current supplier to ask questions about switching, suggesting that they may envisage changing suppliers and/or are looking for a cheaper deal.
- Scenario 3: MS contacted their current supplier to ask clarification about their bills
- Scenario 4: MS assumed facing difficult financial period (getting unemployed, having to reimburse unexpected expenses…) and contacted their current supplier to ask how to reduce their electricity bill.
- Scenario 5: MS checked if their supplier applied standard basic practices.

These scenarios are described more extensively below.

For each scenario, mystery shoppers had to answer a list of questions which required either YES/NO answer or a numeric answer. Some information needed to be recorded as soon as it was obtained, either by looking at the supplier's website or by calling/e-mailing the supplier. Other pieces of information could not be obtained right away and depended on the supplier's reaction time or a number of actions. In such cases, a time limit of 10 days within which MS were allowed to search for the requested information was set. The 10-day period started the day the interviewer entered into contact with the electricity supplier.

It is also important to underline that one MS carried out only one test per scenario (with a maximum of 5 tests for the 5 scenarios) and transaction termination was not required.

A10.4.1 Detailed description of the 5 scenarios

Scenario 1: "You try to find a cheaper electricity offer available to you"

(Not applicable in countries where switching suppliers was not possible)

- **Number of tests**: 50 tests per country.
- **Assignment**: the mystery shopper had two weeks to try to find a cheaper electricity supplier than the one he had. No transaction was required.
- **Channels**: 50% of search / contacts had to be made via the web (online comparison tool / individual supplier websites / direct email contact), and 50% via direct contact over the phone, according to what the consumer would normally do.
- **How to start with the supplier (by phone)**: "Hi Mr./Mrs., I am calling you because I would like to ask you more information about the tariffs you propose."
- **MS profile**: they had to cover various demographics reflecting the overall population in terms of gender, age, social class and regions. One MS carried out one test only.

Scenario 2: "You contact your current supplier to ask questions about switching, suggesting you may envisage changing and are looking for a cheaper deal"

(Not applicable in countries where switching suppliers was not possible)

- **Number of tests**: 50 tests per country.
- **Assignment**: consumers contacted their current suppliers to ask about switching procedures. It was important to start asking about the switching procedures in order to fill in the KPI. MS did not have to mention at first the fact that they wanted a cheaper deal, trying to see if they spontaneously received an offer from the supplier. However, they had to ask the question if they did not get a spontaneous offer in order to complete the KPI.
- No new transaction or effective termination was required.
- **How to start with the supplier:** "Hi Mr./Mrs., I am calling you because I would like to discuss with you the termination policies for my contract."

- **Channels**: 50% of contacts had to be made online (emailing) and 50% via the phone, according to what the consumer would normally do.
- **Typical questions from the supplier (by phone):** Why do you want to change and close the contract with us?
- **Typical answer to give**: I may envisage changing supplier and I would like to know how it works if I find a cheaper deal elsewhere.
- **MS profile**: had to cover various demographics reflecting the overall population in terms of gender, age, social class and regions. All main suppliers had to be covered in the sample. One MS carried outs only one test.

Scenario 3: "You contact your current supplier to ask clarification about billing"

- **Number of tests:** 50 tests per country.
    - **Assignment**s: the consumer contacted his/her current supplier and asked for clarification about the billing. How consumption levels are estimated, modes and schedule of payment, when and why prices are revised, which specific tariff applied or not, if a green tariff could apply, etc. **No transac**tion was required.
- **Instructions**: specific questions needed to be asked in order to get clarification about billing. Suppliers were not expected to spontaneously provide the information about each KPI.
- **Channels:** 50% of contacts had to be made online (emailing) and 50% via the phone, according to what the consumer would normally do.
- **How to start with the supplier: (by phone)** "Hi Mr./Mrs., I am calling you because I would like to clarify my bill/invoice."
- **Typical question from the supplier:** "How can I help you? Which type of information would you like to clarify?"
- **Typical answer to give:** see assignment
- **MS profile:** had to cover various demographics reflecting the overall population in terms of gender, age, social class and regions. All main suppliers had to be covered in the sample. One MS carried out only one test.
- MS had to have their last bill in hand to ask specific questions related to the KPIs they had to cover.

Scenario 4: "You are facing a difficult financial period (unemployment, having to reimburse unexpected expenses…) and you want to contact your current supplier to ask how to reduce your bill"

- **Number of tests**: 50 tests per country.

- **Assignments:** consumer contacted his/her current supplier explaining he/she was in a difficult financial situation and asked for assistance in reducing their bill. No new transaction was required.

- **Channels:** 50% of contacts had be over the phone and 50% via a visit to a physical outlet (store, etc.), according to what the consumer would normally do.

- **How to start with the supplier (by phone):** "Hi Mr./Mrs., I am calling you because I am facing a difficult financial period and I would like to discuss with you what we can do to reduce my electricity bill."

- **Typical question from the supplier:** "Could you please give me more details about your personal situation, household, income, job, etc.?"

- Consumers could choose not to give details about the reasons of their financial constraint or they could use the typical answer below.

    - **Typical answer to give**: "I am in an uncertain job situation and I may lose my job in the coming days."

- **MS profile:** had to cover various demographics reflecting the overall population in terms of gender, age, social class and regions. All main suppliers had to be covered in the sample. The same mystery shopper could not contact his supplier via the phone and a visit to an outlet.

Scenario 5: "You check if your supplier applies standard basic practices"

- **Number of tests per country**: 1 test per electricity supplier in the country (up to 10 tests possible).

- **Assignments**: consumer checked some basic information available on his/her supplier's website or any other means (e.g. bills, contracts, letters).

- **Channels**: no contact was required, but the MS had to use all materials he/she would normally use for searching for the information to be collected, offline or online.

- **MS profile**: all (main) suppliers had to be included in the sample selection. Each MS checked using his/her own situation.

In countries where there is a long list of suppliers, the selected suppliers had to represent at least 90% of consumers.

The fieldwork was undertaken in different regions of a Member State and covered both urban and rural areas. To the extent possible, the selected mystery shoppers originated from the region where the supplier is established in order to take account of local dialect or accent.

The final composition of MS and their profiles was very much determined on a national market basis so as to correctly represent characteristics of each country. However, a number of high level guidelines were provided as a general guide for the recruitment of the MS:

- 50% male and 50% female MS.
- MS from all age ranges: 18-24 / 25-34 / 35-44 / 45-54 / 55-64 / 65 years plus, balanced according to the age pyramids of consumers in each country (or balanced in such a way as to ensure a good representation of groups which may have less easy access to the service).
- Presence in all regions.

The contacts with the supplier took place at different times of the day/the week within normal opening hours. It was also very important for a Mystery Shopper conducting different scenarios with the same supplier to contact this supplier at different periods of time. A minimum of 3 days was set between scenario 2 and scenarios 3 and 4 when these scenarios were done by the same mystery shopper.

The national allocation of MS by contact modes, type of channel (in shop, emailing, calls) and regions were defined in the different scenarios in such a way as to reflect the channels most commonly used to contact electricity suppliers.

Based on the specific country situations, some of the mystery shopping specifications described above were adapted:

- In Bulgaria, Cyprus, Estonia, Greece, Latvia, Lithuania, Malta and Romania scenarios 1 and 2 were not covered as switching in these countries is not possible.
- The quotas regarding the contact channel used (e.g. 50% phone vs. 50% e-mail) were in most cases not easy to meet. Email is not often used to contact suppliers. Mystery shoppers could not obtain an answer from their supplier despite several reminders. For scenario 3 this is illustrated in Table 127. In a large number of cases (for example, in Sweden, Hungary, Portugal and the United Kingdom) mystery shoppers who tried to email did not receive a response by email. However, in some cases they received an answer to their question by other means of communication (for example, in Hungary, Sweden, Austria and Italy). Due to the problems associated with using email, in most cases, mystery shoppers changed to the telephone, which is the most commonly used contact channel. This is particularly the case in Romania and in Bulgaria.
- In some cases, when contacted over the phone for specific information about tariffs, suppliers did not give tariffs over the phone but referred to their website. Typically for scenario 1, some mystery shoppers had to go to price comparison websites to get a price and estimate the savings they could make from changing suppliers.
- Some items in scenario 3 regarding billing systems could not be covered in Latvia and Lithuania as consumers do not receive bills.

Table 127: Ease of making contact via e-mail and getting an answer to switching questions

Country	Number of mystery shoppers who tried to email	% that tried to e-mail and received no response by email	% that tried to e-mail and didn't receive an answer at all	% that tried to e-mail and did receive an answer but not by email
Austria	26	4%	-	4%
Belgium	13	23%	8%	15%
Czech Republic	22	32%	5%	27%
Denmark	22	14%	5%	9%
Finland	27	15%	7%	7%
France	29	48%	28%	24%
Germany	22	23%	5%	18%
Hungary	28	64%	-	64%
Ireland	14	71%	57%	14%
Italy	19	32%	-	32%
Luxembourg	28	-	-	-
Netherlands	22	32%	23%	9%
Poland	24	50%	17%	38%
Portugal	25	64%	4%	60%
Slovakia	23	22%	4%	17%
Slovenia	22	27%	5%	23%
Sweden	23	70%	17%	57%
United Kingdom	13	62%	54%	8%
Total	402	35%	11%	25%

Source: ECME mystery shopping exercise 2

A10.5 Details of the stakeholder surveys

The groups of stakeholders that were surveyed as part of this project include:

- Electricity regulators;
- Consumer protection agencies;
- Consumer associations;
- Electricity associations;
- National ombudsmen; and,
- Company-specific ombudsman.

The survey questionnaires are provided in Annex B.

The response rate for the survey of regulators is relatively high at 85%. For consumer protection authorities, the response rate is 67% and 2 consumer protection authorities indicated that they would not be completing the questionnaire as they did not have appropriate experience with consumer issues in the electricity market. We received 2 responses from consumer protection authorities in Lithuania (a general and a sector specific authority) and 11 responses from regional consumer protection authorities in Spain. When analysing the quantitative results we have taken

an average of the responses in cases where we have more than on response per country. A response was received from the French consumer protection agency in late August 2010. In this case only the qualitative responses have been taken into account.

The response rate for consumer associations is 41% (with two responses from Spanish consumer associations), and for electricity associations it is 43%.

In most cases ombudsman services/ alternative dispute resolution (ADR) is undertaken either by the consumer protection authority or the electricity regulator. Only ombudsmen and ADR bodies which are not part of the regulator or consumer protection agency were surveyed as national ombudsmen for this study. We identified 7 such bodies providing ombudsmen services and with 3 responses the response rate is 43%.

Finally, we identified company specific ombudsmen in 4 countries and received responses from 3 of these giving a response rate of 75%. We received 2 responses from company specific ombudsmen in Sweden. Details of the responses received are provided in Table 128 overleaf.

In addition to completing the questionnaire, regulators were asked to review and comment on the information collected in the country fiches. Comments have been received from regulators in the following Member States:

- Austria;
- Belgium;
- Bulgaria;
- Czech Republic;
- Denmark;
- Estonia;
- Finland;
- France;
- Germany;
- Hungary;
- Ireland;
- Latvia;
- Luxembourg;
- Netherlands;
- Poland;
- Portugal;
- Romania;
- Slovakia;
- Slovenia; and
- Spain.

Notice that the Greek, Lithuanian, and UK regulators have responded to the questionnaire but have not provided additional comments on the country fiches. We take this to imply that they have no objections to the correctness of the information summarised in the fiches. Similarly in

cases where regulators have not responded at all we also take this to imply that they have no objections to the information summarised in the country fiches for these countries (Italy, Cyprus, Malta and Sweden).

Table 128: Responses received to stakeholder questionnaires

	Regulators	Consumer protection authorities	Consumer associations	Electricity associations	National ombudsmen or ADR	Company-specific ombudsmen
Austria	X	X		X		
Belgium	X	X	X	X	X	
Bulgaria	X	X				
Cyprus		X		X		
Czech Republic	X	-		X		
Denmark	X		X	X		
Estonia	X	X			X	
Finland	X	X		X		
France	X	X	X	X	X	X
Germany	X	X		X		
Greece	X	X	X			
Hungary	X	X	X			
Ireland	X		X			
Italy						
Latvia	X	X				
Lithuania	X	X				
Luxembourg	X					
Malta		X	X			
Netherlands	X			X		
Poland	X	X				-
Portugal	X	X				
Romania	X		X			
Slovakia	X	X	X			
Slovenia	X	X				
Spain	X	X	X			X
Sweden		X			X	X
United Kingdom	X	-	X	X		
Total EU27	22	18	11	10	3	3
Response rate	85%	67%	41%	43%	43%	75%
Iceland		X				
Norway		X				
Total non-EU		2				

Note: X (and green) indicates that the questionnaire has been completed, - (and red) indicates that we have been informed that the questionnaire will not be completed and grey indicates that no questionnaire has been sent. .

Source: ECME Consortium