

Price dispersion in the Internal Market¹

How far are we from reaching the limits of price convergence in the Internal Market?

Introduction

Price comparisons are good indicators of integration and market performance. The free circulation of goods and services in an Internal Market should reduce price differences across Member States. Competitive and efficient markets should keep pressure on prices in order to ensure that they tend to converge towards the lowest price levels in the Union.

In the context of the Internal Market Strategy and the surveillance of product market performance, the European Commission has reinforced the monitoring and benchmarking of price differences in the Internal Market. The ultimate objectives of the exercise are to explore the reasons behind the remaining price differences in the Internal Market and in addition, to explore the limits of price convergence in the EU using regional price information as a yardstick. Therefore, the Commission has launched a new price study to collect detailed price information using new electronic means.

The first preliminary results from this exercise are presented here. The results are based on two surveys of consumer electronics and fresh food in the year 2000. These two product groups have been selected because they are both “typical consumer goods” - since they are purchased by all households - and “typical Internal Market goods” - since they have been freely traded within the Internal Market for a long time.

Box 1 : Study of retail prices

Three consultants have collected retail prices in Europe for the Commission in 2000. The results from two of the studies are currently available. They cover fresh foods and consumer electronic goods^{a)}.

The study on *consumer electronic goods* is based on electronic transaction data from major retailers in 11 Member States (including the five big Member States) collected between March 1999 and March 2000. The study has been carried out by GfK Marketing Services Europe. The study covers 18 different products including among others TV's, video cassette recorders, cameras, camcorders and printers. For each product, information on two to three brands is included, giving altogether 38 different items.

This study includes information on prices with and with out VAT. Besides the average yearly price for each country, the study includes regional price information and price information for different outlet types: Mainly, Specialised Chains (consumer electronic stores, camera shops etc.) and Mass Merchandisers (department stores, supermarkets, mail order etc.). For the latter, the comparability across countries is limited by differences in the retail structure and data availability.

The study on *fresh food* is based on information from consumer panels in ten Member States (including the five largest Member States) recording their purchases in different outlet types. The study has been

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carried out by Taylor Nelson Sofres. The information was collected between August 1999 and August 2000 and covers 60 different fresh food items².

The study includes information on average prices with and without VAT for products within each product category. For instance, the average price of a kilo of pork chops in each country. Besides the average yearly price in the country, the study includes prices for each quarter, prices in different outlet types and regional price information for Germany, France, Italy and the UK. The outlet type classification in the study includes multiples (supermarkets and hypermarkets), discounters and traditional shops³.

A number of outliers has been removed from both data sets to ensure robustness of the results.

a) A third study covering groceries, personal care items and cleaning and washing products is to be finished by the end of May 2001.

Even more interesting, though, are the differences between the two groups. “Fresh food” goods are not branded. Moreover they are perishable goods, which added to their relatively high transport costs makes them less easily tradable. On the other hand, consumer electronics are branded goods with a significant “service component”. Their purchase often involves significant after-sale services (e.g. guarantees). The advertising of top consumer electronic companies is significant. In addition, the information on the technical characteristics of the product provided by sales agents before the purchase is quite important. Finally, in the consumer electronics market, the number of models available in the market place changes very quickly. Studying price variations in markets with different characteristics can be helpful to explore the causes behind price dispersion. However, one should be careful in drawing conclusions based on these preliminary results of the surveys.

There remains significant price differences in the EU

The price for fresh food sold in supermarkets varies considerably across the 10 Member States covered by our study. Setting the average price for those 10 countries equal to 100, we find that, for instance, the price index for oranges in Spain is just 51 while it is 141 in the UK, see table 1⁴. This large price dispersion is not exceptional. For several other products similar price differences are found. High price countries are often two times more expensive than countries with minimum prices.

Although one should be cautious about comparing price dispersion for both product groups due to differences in the methodology of the studies, price differences are relatively smaller in the consumer electronic product category. The price spread between the most expensive and the cheapest country for each model is much narrower. The maximum price difference can be found for one model of video cassette recorder which sells for 126% of the average EU11 price in the Denmark while it sells for 81% of the average price in Germany, see table 2.

² Except for Germany where the data is from the period from November 1999 to August 2000 and for Sweden, where the information is from a shop survey carried out in December 2000.

³ Information on prices in discounters and traditionals is not available for Belgium and Denmark.

⁴ The EU-average is the unweighted average for the ten countries included in the study.

The colour shading of minimum and maximum prices shows that no country can be consistently considered as a low or a high price country when we consider goods one by one. In other words, the same country may be the cheapest country for some products and the most expensive country for other products. For instance, Germany shows relatively low prices while Denmark and Sweden appear relatively expensive. However, the latter still show below EU11 average price levels for some electronic goods (for instance, Sweden shows the lowest EU11 price for a certain type of middle-sized colour TV set). For food products a similar pattern emerges although not as clear. Ireland and Spain concentrates most minimum prices, but beef seem to be priced above EU-average in Spain. Similarly Denmark come out as relatively expensive, but a number of dairy products is priced under the EU-average in this country.

The cost of bundles or “baskets” of goods may be a better indicator to compare overall price levels across Member States. Figures 1 and 2 show the ranking of countries by the total cost of “baskets” of food and consumer electronic products defined in the boxes, with and without VAT. The figures show several interesting things.

- First, country rankings are quite different for the two product groups. Denmark is a the top of the food ranking and Spain is the country with the lowest cost for the food basket. However, Spain is the second most expensive country for the consumer electronics bundle while Denmark takes an intermediate position in this ranking.
- Secondly, there is no clear relationship between income levels and relative price levels. At this level of detailed market analysis, microeconomic considerations, for example the market power of producers or retailers, seem to be important. Consequently it is no longer true that countries with high per capita income show higher price levels.

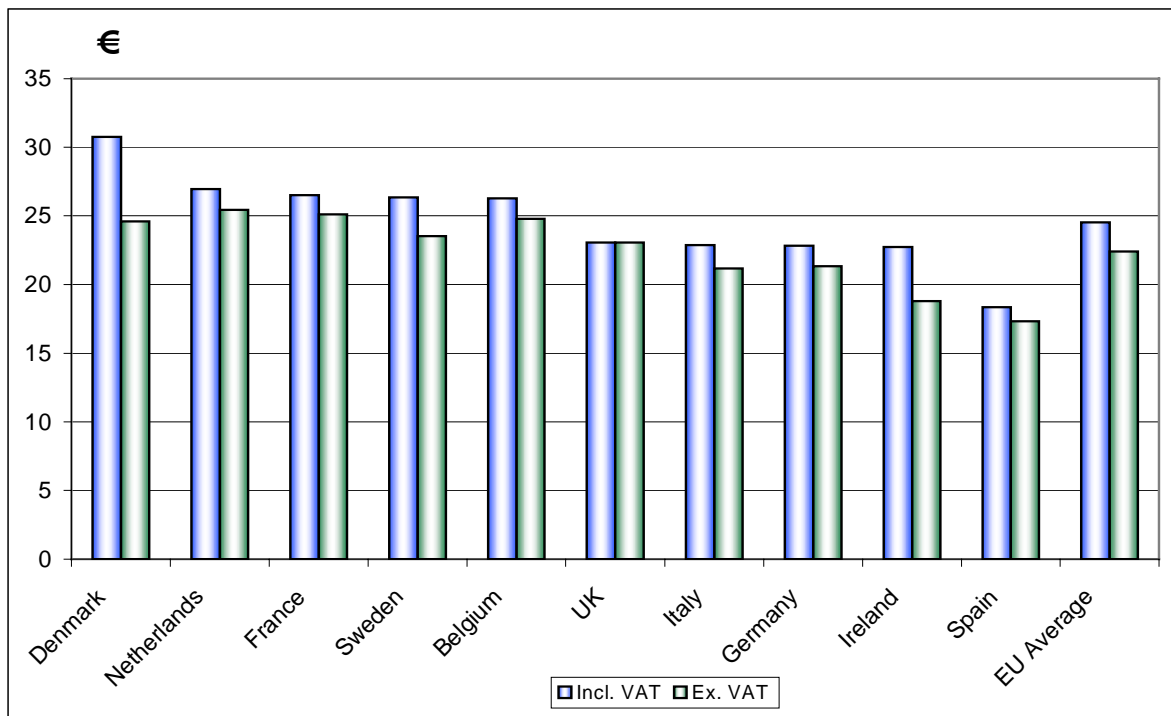
Table 1. Price level of selected fresh food items (EU average = 100)

	Min. prices		Max. Prices	
Pork	Germany	78	Sweden	131
Beef	Ireland	67	Belgium	117
Salmon	Spain	61	Denmark	133
Cod	Italy	85	France	115
Oranges	Spain	51	UK	141
Bananas	Spain	76	Sweden	120
Tomatoes	Spain	58	Germany	115
Potatoes	Ireland	56	Denmark	175
Milk	Germany	76	Sweden	160
Cheese	Netherlands	75	Italy	125

Table 2. Price level of selected consumer electronic goods (EU-average = 100)

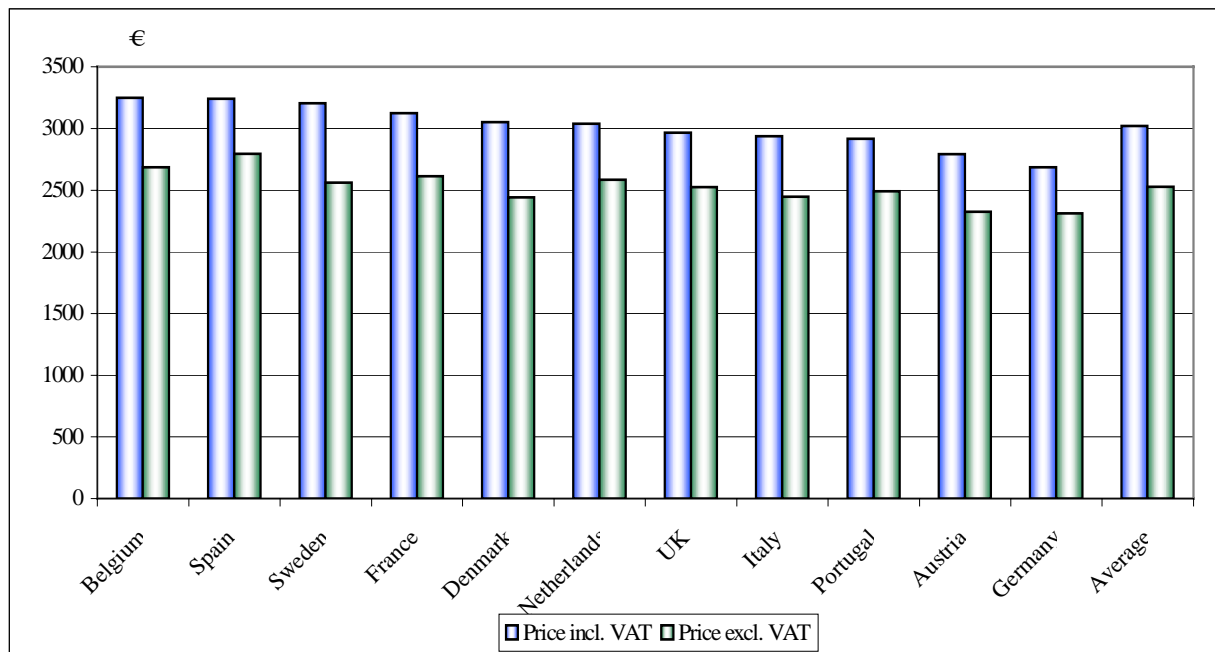
		Austria	Belgium	Germany	Denmark	Spain	France	UK	Italy	Netherlands	Portugal	Sweden
		- in percentage of EU-average -										
Audio System Mini	JVC	98	99	103	94	111	109	106	84	100	97	-
	Panasonic	92	104	93	113	97	112	117	83	98	94	96
	Sony	112	105	87	101	97	107	83	110	92	85	122
Camcorders	Canon	86	106	90	109	110	104	88	98	98	-	112
	Panasonic	86	100	86	105	114	116	98	91	96	-	109
	Sony	87	106	90	93	111	115	96	99	103	95	105
Portable Compact Disc Players	Panasonic	89	112	86	99	94	106	122	90	91	105	106
	Philips	97	101	79	111	123	103	103	93	96	95	-
	Sony	97	106	81	103	95	98	121	103	104	86	106
Table Compact Disc Players	Pioneer	97	103	94	106	106	113	-	84	94	93	111
	Sony	112	100	93	109	96	100	107	88	106	88	101
14 Inch Colour TV	Philips	98	121	90	113	89	106	97	85	103	90	110
	Sony	107	104	93	111	95	102	103	91	94	79	120
25 Inch Colour TV	Philips	96	106	93	123	105	97	111	101	97	93	78
	Sony	-	107	82	100	103	113	103	99	97	82	115
29 Inch Colour TV	Philips	94	107	108	113	102	98	90	95	99	91	104
	Sony	97	98	86	122	101	115	91	97	90	82	119
32 Inch Colour TV	Philips	89	108	86	121	98	88	95	106	96	98	114
	Sony	89	93	83	122	108	86	121	104	91	93	111
Digital Versatile Disc	Sony	99	103	84	101	111	107	111	102	100	89	93
Mini Disc Player	Sony	101	110	91	105	104	100	103	106	96	83	-
Radio Cassette Recorder	Philips	100	98	95	120	103	97	103	93	94	96	102
Video Cassette Recorder (2 heads)	JVC	95	112	83	105	98	109	106	93	103	79	116
	Panasonic	103	107	94	102	90	115	106	89	97	95	102
	Philips	97	114	84	103	102	104	91	93	102	96	113
Video Cassette Recorder (4 heads)	Panasonic	93	110	90	110	98	90	100	97	94	105	113
	Philips	96	108	93	112	100	100	87	90	99	105	110
	Sony	89	104	81	126	112	96	99	107	87	94	106
Note1:		: Highest price in Europe										
		: Lowest price in Europe										
Note2:	Price levels are the yearly average at national level for specialized chains (consumer electronic stores, camera shops and computer shops)											

Figure 1: Price of a basket of fresh foods



Note: The figure shows the price in Euro of a basket of fresh foods with and with out VAT. The basket includes the following goods: 1 kg Pears, 6 eggs, 250 g Gouda cheese, 2 litres of milk, 500g Pork chops, 1 litre local brand fruit yoghurt, 250g bacon, 500 g Salmon steak, 250g Trout, 1 kg bananas, 500g Kiwi fruit.

Figure 2: Price of a basket of electronic goods



Note: The figure show the price in Euro of a basket of electronic goods with and with VAT. The basket includes the following products: a portable CD player, a 14 inch TV, a 28 Inch TV, a video cassette recorder, a DVD player and a camcorder.

- Finally, the figures show that except for one or two countries (e.g. Denmark for food and Belgium for consumer electronics) VAT does not play a determinant role in the rankings. Even more interesting from an Internal Market point of view, VAT does not affect the price dispersion across countries significantly.

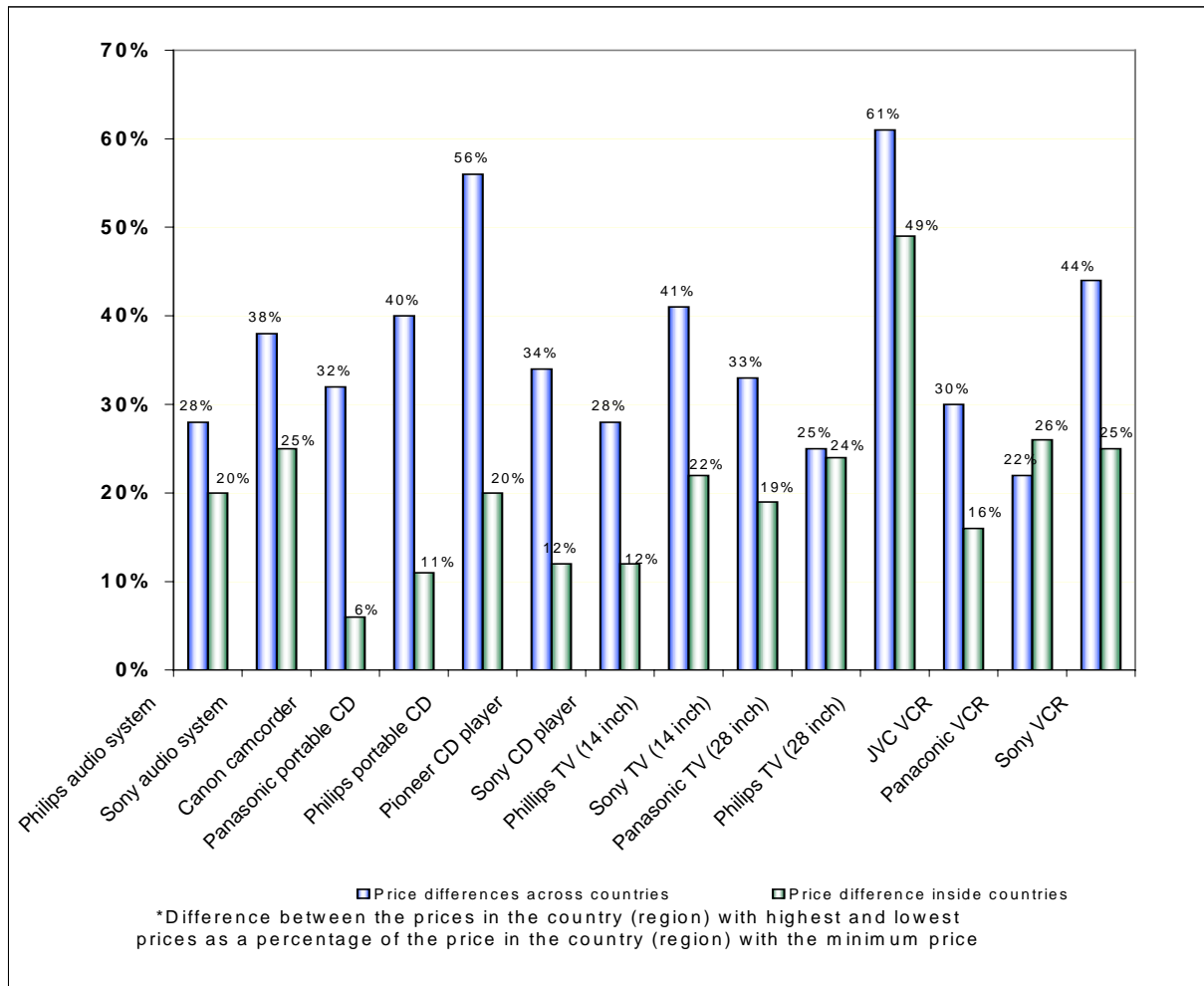
How far are we from reaching the limits of price convergence in the Internal Market?

Even in fully integrated markets, we should observe some degree of price dispersion. For instance, transport costs may result in very different price dispersion in perfectly integrated markets for goods with very different weight or volume and value. Therefore, when studying the limits of price convergence in the internal market, we need a benchmark that can give us an idea of the minimum price difference that we should expect finding in a fully integrated market.

Our data set includes regional information on prices and this offers the possibility of using price dispersion inside Member States as a benchmark. We should not expect price dispersion within the Internal Market to fall below the price dispersion registered in the country with highest price dispersion across its regions. Therefore, we can consider regional price dispersion as a yardstick to give us an idea about the relative importance of the remaining price dispersion in the Internal Market. In other words, the observed price dispersion at regional level can indicate how far we are for each good from reaching the limits of integration at the Internal Market.

Figure 3 shows the differences between the maximum and minimum prices as a percentage of the minimum price for different branded items. For each item, the left hand side column gives the maximum price difference found across countries. The second column reports the regional price difference for the country with the greatest price difference across regions for that item. For instance, for a given model of Sony audio equipment, the maximum price difference across countries is 38% (Sweden and UK in this particular case), while the maximum regional price dispersion for that item is just 25% (within the UK, with the London region being the cheapest and the South of England dearest).

Figure 3: Price differences for electronic products across the EU and inside EU countries



Regional and cross-country price dispersions are quite similar for a few items (e.g. a medium size Panasonic TV shows 24% maximum regional price variation and 25% across countries). However, the maximum price variations across countries are typically in the 30s or 40s while regional price differences are usually in the teens and 20s. Therefore, it seems that there is still some scope for further price convergence, even for products with low price dispersion such as consumer electronics.

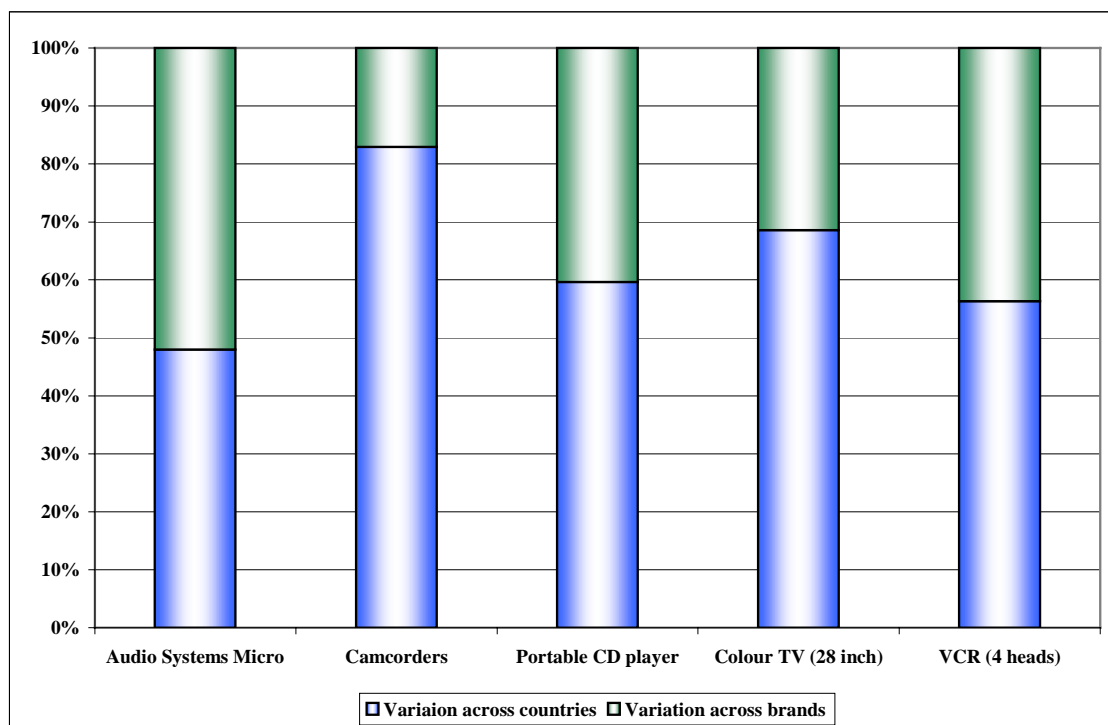
Exploring the causes of price variation.

To get a first approximate idea of the causes of price variation we have looked at brand prices. By comparing price differences of different brands (but taken from the same product category and with similar features) inside countries with the price difference across countries one can get an idea of the importance of brands. For instance, we compare the price differences inside countries of three VCR's (Sony, Philips and Panasonic) with the price differences across countries.

As figure 4 shows price differences inside countries can explain up to around 40 percent of the total price variation for a particular product group (Total variation is the

sum of the variation “inside countries” and “across countries”)⁵. This indicates that brand positioning in the countries play a significant role. In other words, in the Internal Market where free circulation of goods can ensure a competitive pressure on producers and retailers brand image can sustain quite large price differences.

Figure 4: Percentage of total price variation due to brands and countries



At this stage we can only conjecture about the reasons behind this, but it seems reasonable to suggest that the high “service component” of consumer electronic goods and local competition conditions should be considered. The brand image of different makes varies substantially across countries. Difficulties to launch advertising campaigns of equal intensity across the Union and “history” can explain different brand images across countries. In addition, consumers’ concerns about after-sales services, transport and search costs may deter consumers from “shopping” around in the EU. The impact of vertical restraints in distribution channels cannot be excluded either.

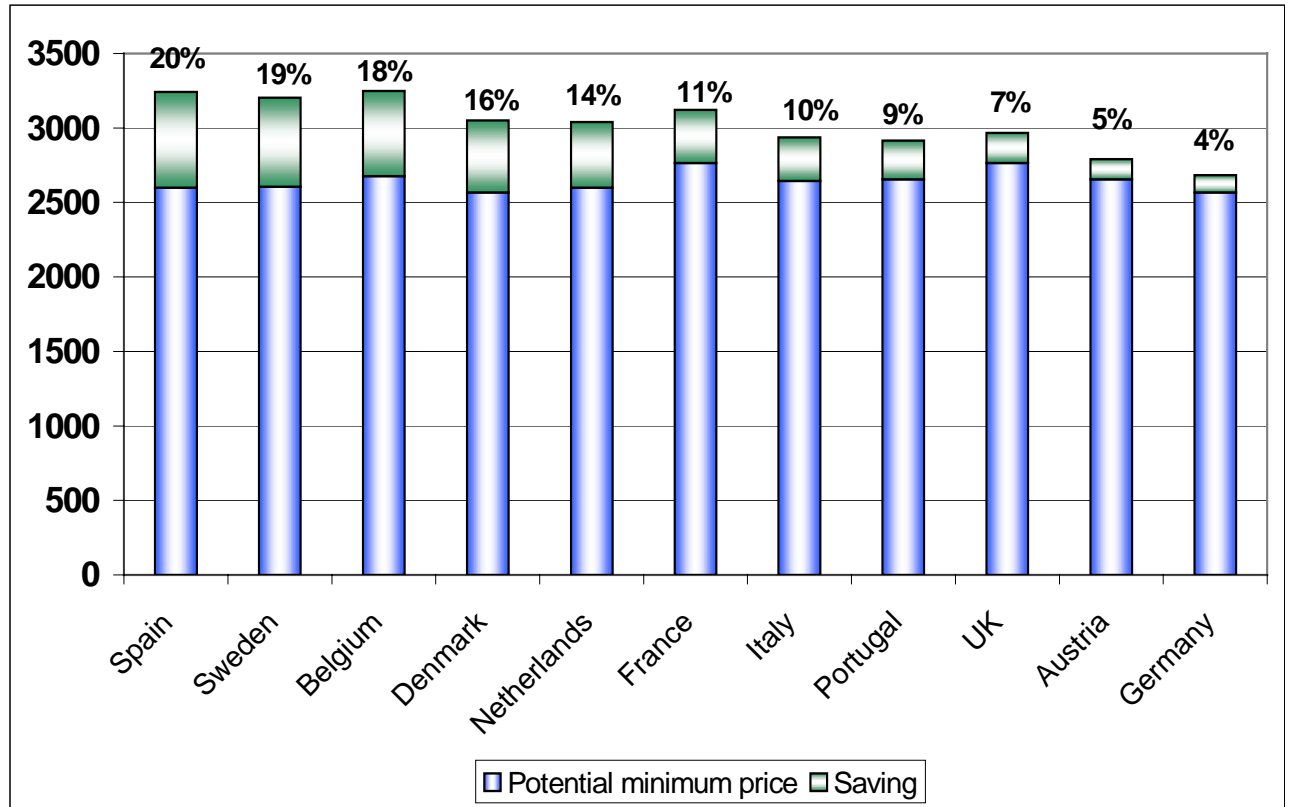
Conclusion

These preliminary results of our price monitoring seems to suggest that economic causes matter at least as much as borders to explain the remaining price dispersion in Europe. The role of distribution channels, the service component that are usually included in the sale of durable goods, local competition conditions and the impact of national regulations on marketing activities such as advertising should be explored

⁵ Technically we perform a single factor analysis of variances testing the hypothesis that the price variance for brands inside countries is the same as the price variation for brands across countries. The percentages in figure 4 below is calculated by comparing the variance inside countries and across countries with the total variation for all brands across all countries.

further as possible explanatory variables of price dispersion in Europe alongside with other more traditional factors such as transport costs or indirect taxation. Of course, it is not possible to extrapolate this result to all sectors, but these preliminary results show that it is necessary to pay attention to those factors in the future because they will require specific policy responses and structural reforms to improve market performance.

Figure 5: Potential savings on a “perfect market”



Furthering integration and improving the performance of the Internal Market is important to achieve the Lisbon objectives and to convey a larger share of the benefits of the Internal Market to consumers. Although we have reached a high degree of integration there are sizeable benefits that consumers could get if price differences are reduced. As an illustration of this figure 5 shows the savings consumers could achieve on a perfect market disregarding transport costs, search costs etc⁶. The figure compares the price that consumer would pay if they bought the goods individually at the lowest possible price available in the Union, with the price of the basket in their own country. These maximum potential benefits for consumers from a better performing Internal Market are still significant.

⁶ The minimum cost basket is made by identifying the cheapest price in the Union, excluding VAT, for each product, and then adding to these the relevant VAT for each country.