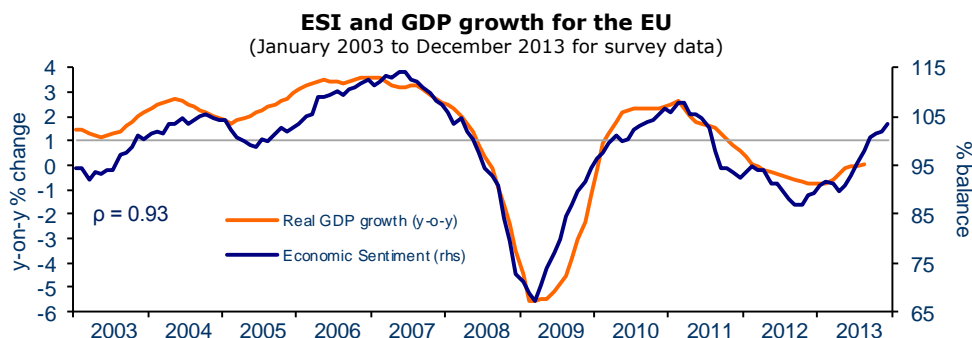# European *Business Cycle* indicators

SHORT - TERM ANALYSIS FROM EUROPEAN COMMISSION'S DIRECTORATE GENERAL FOR ECONOMIC AND FINANCIAL AFFAIRS

Developments in business and consumer survey data in 2013Q4

- ■ *In the fourth quarter of 2013, economic sentiment recorded a further increase, continuing the upward tendency observed since May 2013. While the speed of the increase has decelerated compared to the third quarter, both the euro area and the EU Economic Sentiment Indicators (ESI) registered improvements in every month of the quarter.*

- ■ *In December, the ESI in the euro area reached its long-term average for the first time since July 2011. In the EU, the average had already been crossed in September.*

- ■ *Economic sentiment booked increases in six of the largest EU economies (Germany, France, Italy, Spain, the Netherlands and Poland) and flattened out in the UK. In Spain, the ESI reached its long-term average for the first time since December 2007.*

- ■ *Capacity utilisation in the manufacturing sector improved marginally compared to the last quarter and currently stands slightly above 78% in both the EU and the euro area.*

- ■ *Euro-area manufacturing managers asses real investment to have decreased by 2.7% in 2013, while investment is expected to grow by 3.4% in 2014. For the EU, managers anticipate an increase of 0.4% in 2013 and expect a further increase of 4.1% for 2014.*

Highlight: What is driving consumers' attitudes towards saving? An analysis using BCS data

The highlight section analyses what is driving European households' perceptions about the advisability of saving in view of the general economic situation. The analysis shows that, in a group of euro area "core countries", households' attitude towards saving is largely determined by its attractiveness (in terms of returns to deposits and stock market investments) as well as its necessity (in view of perceived uncertainty about the future). These findings contrast with a group of "non-core countries", where households' perceptions about the advisability of saving are mostly influenced by factors relating to their ability to save (i.e. their financial situation) and the perceived uncertainty. The results suggest that in the euro area "core countries" a decrease of uncertainty and/or less buoyant stock market developments would potentially drive up consumption. In the "non-core countries" a decrease in uncertainty would help spur consumption, ideally accompanied by healthier domestic fundamentals improving households' ability to spend.

ESI and GDP growth for the EU
(January 2003 to December 2013 for survey data)

Note 1: The horizontal line (rhs) marks the long-term average (=100) of the sentiment indicator.
Note 2: Both ESI and y-o-y GDP growth are plotted at monthly frequency. Monthly GDP data are obtained by linear interpolation of quarterly data.

Economic and Financial Affairs

Contents

1. Recent developments in survey indicators for the EU and the euro area

Over the fourth quarter of 2014, the Economic Sentiment Indicator (ESI) for the euro area and the EU recorded further increases, continuing the upward tendency that started in May 2013. In December, the ESI in the euro area reached its long-term average for the first time since July 2011. In the EU, the average had already been crossed in September.

Compared to the readings at the end of the third quarter of 2013, the ESI increased by 2.9 (EU) and 3.1 points (euro area). However, the steepness of the increase has moderated compared to the gains observed over the third quarter. The quarterly profile of the ESI is broadly in line with the results of the Ifo's Business Climate Index (for Germany), while it is somewhat more optimistic than the Markit Economic's Composite PMI for the euro area, which showed a rather flat development during the fourth quarter of 2013.

In the euro area, the ESI was driven by increasing confidence in all surveyed business sectors, as well as among consumers. Industrial confidence increased throughout the quarter, and for the eighth consecutive month. Confidence in services continued the upward trend observable since April 2013; a small decrease in October was more than compensated by strong increases in November and December. Developments in consumer and retail trade confidence were V-shaped over the quarter, with marked increases in December. Finally, the net increase in construction confidence at the end of the fourth quarter is the result of a single confidence spike in December. In the EU, develeopments at the sector level were quite similar to those in the euro area, except for the fact that confidence in retail trade weakened compared to the end of the third quarter of 2013.

At the country level, sentiment improved in six of the seven largest EU economies. Sentiment in Germany and the Netherlands improved throughout the quarter, in line with euro area/EU developments. Sentiment in Spain, France, Italy and Poland was slightly more volatile, but booked a clear improvement over the quarter. Confidence in the UK remained broadly stable at the level registered in September 2013, when the ESI had improved by 6.6 pp compared with August.

Sector developments

Compared with the third quarter, **industry** confidence rose by 3.2 points in the euro area and 3.1 points in the EU. In the euro area, December's reading marked the eighth consecutive month of increased confidence, while the EU reading for

December was flat for the first time after seven consecutive increases. Confidence improved in six of the seven largest EU economies. The gains were most pronounced in France (+3.9), Germany (+3.6) and Italy (+3.1). Spain, the Netherlands and Poland booked increases in the range of 1.0 to 2.6 points. In the UK, industry confidence fluctuated over the quarter and finished lower in December than in September.
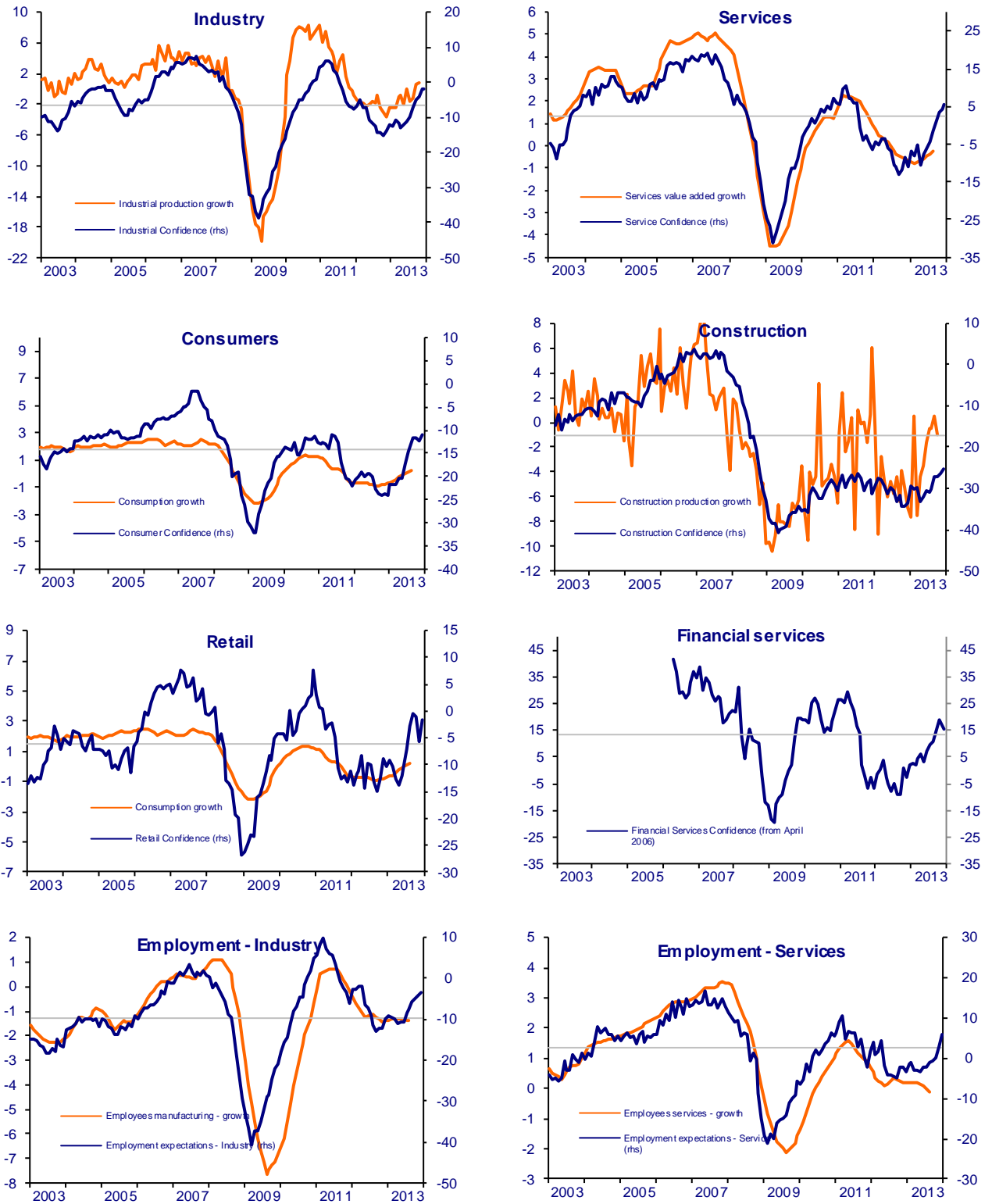
The increase in the EU/euro area industrial confidence indicator was driven by a more positive assessment of all questions entering the calculation of the indicator. In both areas, the question displaying the sharpest improvement concerned managers' assessment of their order books. Also their assessment of the stock of finished products and their production expectations was judged more positively. The latter, however, worsened in December, partly offsetting the October and November increases. As for the survey questions not included in the industrial confidence indicator, all of them were consistent with an increased level of confidence during the fourth quarter of 2014. However, managers' assessment of production trends observed during recent months saw a small decrease in December, after an important increase in November.

October's results for the ***quarterly manufacturing survey*** showed marginal increases in the capacity utilisation rate of 0.1 pp in the euro area (to 78.4%) and 0.2 pp in the EU (to 78.3%). The capacity utilisation rate is still more than 2.5 points below its long-term average. Positive signs resulted from the markedly higher share of managers assessing their current production capacity as 'not sufficient' (in view of current order books and demand expectations).

Services confidence improved markedly in the fourth quarter of 2013, continuing the steady recovery observable since May 2013. While all components of the confidence indicator picked up in Q4, the assessment of the past demand was particularly positive in both areas. The appraisals of the past business situation and demand expectations improved markedly, too, but in December euro-area managers' demand expectations became somewhat less optimistic.

Services confidence increased in all the largest EU economies, except Germany where it remained broadly unchanged over the quarter. In the UK the indicator jumped by 9.9 points. In the Netherlands and Spain, readings at the end of Q4 were around 10 and 9 points higher than at the end of the previous quarter. In Italy the indicator rose by 2.4 points and in France by 0.8 points.

Graph 1.1: **Sectoral confidence indicators and reference series for the EU (January 2002 to December 2013 for survey data)**

Industry

Industrial production growth
Industrial Confidence (rhs)

Services

Services value added growth
Service Confidence (rhs)

Consumers

Consumption growth
Consumer Confidence (rhs)

Construction

Construction production growth
Construction Confidence (rhs)

Retail

Consumption growth
Retail Confidence (rhs)

Financial services

Financial Services Confidence (from April 2006)

Employment - Industry

Employees manufacturing - growth
Employment expectations - Industry (rhs)

Employment - Services

Employees services - growth
Employment expectations - Services (rhs)

Note 1: The horizontal line (rhs) marks the long-term average of the survey indicators.
Note 2: Confidence indicators are expressed in balances of opinion and hard data in y-o-y changes. If necessary, monthly frequency is obtained by linear interpolation of quarterly data.

Graph 1.2: **Economic Sentiment Indicator — Selected EU Member States
(January 2002 to December 2013 for survey data)**
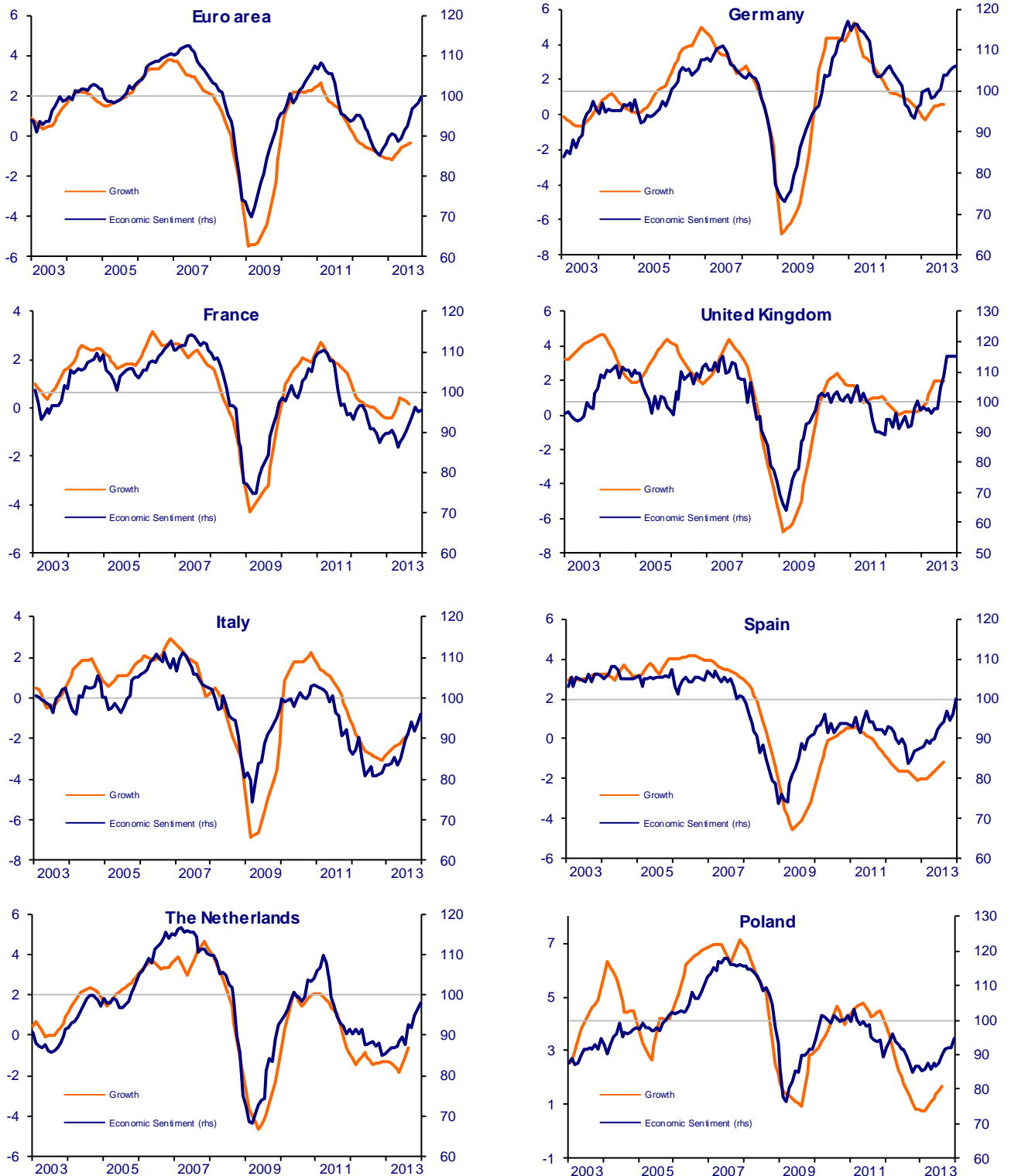
Note 1: The horizontal line marks the long-term average (=100) of the sentiment indicator.
Note 2: Confidence indicators are expressed in balances of opinion and GDP in y-o-y changes. Both variables are plotted at monthly frequency. Monthly GDP data are obtained by linear interpolation of quarterly data.

In the fourth quarter of 2013, **retail trade** confidence saw a further improvement in the euro area, while it worsened in the EU. In the euro area, the increase in confidence was based on favourable developments in all components (past business situation, adequacy of stocks and business expectations), while in the EU managers' assessment of the past business situation worsened compared to the end of the previous quarter. Among the seven major EU economies, confidence increased in Poland, France and Spain. By contrast, confidence decreased in the Netherlands, Germany and Italy. In the UK, the indicator plummeted in November and, despite a rebound in December, scored lower at the end of Q4 than in September.

Also confidence in **construction** increased in the course of the fourth quarter. In the EU, the indicator showed an upward trend over the quarter, while at the euro-area level, the increase was due to a single marked increase in December. In both the euro area and the EU, the overall increase in the fourth quarter results from an improvement of both components (managers' employment plans and the assessment of the level of order books). At country level, confidence improved in six out of the seven largest EU economies. Marked increases were registered in Spain, the Netherlands and Italy, while the indicator decreased in France.

The upward trend in **consumer** confidence that set in at the end of 2012/beginning of 2013 was temporarily interrupted during the fourth quarter of 2013. While the indicator scored an overall increase in December compared with September, the monthly profile showed decreases in November in the euro area and the EU. In both areas, the indicator's development was lifted by consumers' more positive expectations regarding the future general economic situation of their country. Improvements in the assessment of households' expected financial situation and envisaged savings were less strong. By contrast, unemployment expectations were worse in December than in September. As for the largest EU economies, cross-country differences in the development of consumer confidence were significant. The indicator improved by more than 14 points in the Netherlands, while increases were less strong in Poland (+2.7) and Germany (+1.8). In Spain confidence increased only marginally, while in the UK, Italy and France it weakened compared to the end of the previous quarter.

Confidence in **financial services** – which is not included in the ESI – was lower in December compared with the end of the third quarter. In both areas, the indicator shows a rebound in December which, however, did not compensate for the decreases registered earlier in the quarter. In the euro area, managers were more positive about the past demand, while their assessment of the past business situation and their demand expectations

worsened over the fourth quarter. In the EU the component development was rather similar with the difference that managers' assessment of the past business situation remained broadly stable.

The overall positive developments over the fourth quarter are illustrated by the evolution of the climate tracers. The economic climate tracer for the EU has moved further up and is now in the expansion quadrant. In the euro area it is still in the upswing quadrant but is coming closer to the border with the expansion quadrant (see Annex 1 and Annex 2 for further details). This movement is backed by the climate tracers for the individual sectors. The EU industry and retail trade climate tracers have arrived in the expansion area, while for services, consumers and construction the tracer moved further up within the upswing quadrant. The services climate tracer is very close to the border towards the expansion quadrant.

2. Recent developments in selected Member States

In the fourth quarter of 2013, economic sentiment booked increases in six out of the seven largest EU economies.

Economic sentiment in **Germany** increased over the fourth quarter of 2013, continuing the upward trend in place since May. At 106.0 points in December, the ESI stands well above its long-term average of 100. The main drive of the quarterly increase came from industry and consumers. Services and construction confidence only made a small contribution, while retail trade confidence decreased.

In **France** the ESI stands at a higher level now than in September. This improvement, however, was mainly due to a strong increase in October, while the indicator decreased somewhat in November and remained broadly unchanged in December. Confidence improved in industry, retail trade and services, while it worsened in construction and among consumers. At 95.3 points, the ESI remains below the euro-area reading and well below its long-term average of 100.

Confidence in the **United Kingdom** remained remained broadly unchanged at the level reached in September (when the ESI had registered a sharp increase of more than 6 points). Currently, the ESI stands at 115.1, which is just 1.4 points below its historic maximum of December 1997. The flat outcome over the quarter is the result of a significant confidence increase in services and a lower rise in construction, which were offset by decreases in retail trade, industry and among consumers.

In **Italy,** despite a drop recorded in October, the ESI continued its upward trend observable since May. The improvement was fuelled mainly by positive developments in industry, construction and services. By contrast, consumer and retail trade confidence indicators decreased over the fourth quarter of 2013 compared with the end of the third qurter. Standing at 96.2 points, the Italian ESI remains below the euro-area reading and its historical average of 100.

In **Spain**, the ESI continued its recovery in place since September 2012. In December it reached its long-term average for the first time since December 2007. The continued recovery was driven by significant increases in retail trade and services confidence. The gains in industry, construction and among consumers were smaller.

Economic sentiment in the **Netherlands** continued to recover from the low levels reached at the end of 2012. The important increase registered in the fourth quarter was mainly driven by noticeably rises in services and among consumers. Increases were recorded also in the construction and industry sectors. By contrast, sentiment in the retail trade sector worsened. The ESI currently stands at 97.9 points, still below its long-term average of 100.

Sentiment in **Poland** increased over the fourth quarter, particularly due to a marked increase in December. All sectors contributed to the increase over the quarter. Nevertheless, at 94.6 points, the ESI is still well below its long-term average of 100 and the score for the EU.

3. Results of the autumn 2013 EU Investment Survey in the manufacturing sector

Developments in overall investment

According to the latest Investment Survey carried out in October/November 2013, real manufacturing investment in the euro area is expected to have decreased by 2.7% in 2013 compared with 2012. Concerning 2014, manufacturers expect an increase in investment of around 3.4% (see Graph 1). Compared with the previous survey conducted in March/April 2013, managers revised downwards their assessment for 2013 (by 3.9 pp). Results for the EU are more optimistic as managers anticipate an increase of 0.4% for investment in 2013 and expect a further increase of 4.1% for 2014.

The results from the investment survey are not directly comparable with official Eurostat estimates or Commission forecasts of gross fixed capital formation (GFCF). The Investment Survey exclusively covers manufacturing companies and therefore only roughly 40% of total GFCF in the economy. Official statistics provide breakdowns for GFCF in the manufacturing sector only for selected countries and not for the

euro area or EU aggregates. While there is thus no branch-specific breakdown of GFCF that could be used to gauge the Investment Survey results, equipment investment (transport equipment and other machinery and equipment) may be used as a proxy for investment activity in the manufacturing sector. Compared to total GFCF, equipment investment typically reacts stronger to the business cycle, a feature that is likely also for manufacturing investment. Nevertheless, there is no full congruency with the investment growth estimate derived by the Investment Survey.

Graph 1 presents manufacturing managers' estimates of investment growth over the years 1998-2012 (surveyed in March/April of each subsequent year) along with Eurostat figures for the two (imperfect) benchmark series (total GFCF and equipment investment).

Until 2002, manufacturing managers' assessments were quite close to the official outcomes for total/equipment investment. Between 2003 and 2006, managers' estimates of past investment growth were consistently lower than the outcomes for total GFCF and equipment investment. Prior to and up to the crisis in 2009, the correspondence between the series became closer again. However, in 2010, manufacturing managers reported a weaker recovery of their investment than the one recorded in the total economy and, especially, for equipment investment. For 2011 and 2012, manufacturers' assessments from the Investment Survey were significantly above the official outcomes for total/equipment investment.

Graph 1: Growth in real gross fixed capital formation (GFCF) and surveyed change of investments in the euro area (annual changes in %)
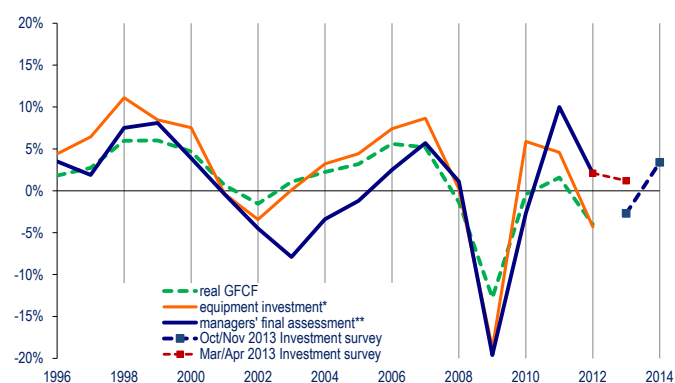
*Real GFCF in transport equipment and other machinery and equipment.
**Mar/Apr year t surveys, managers' assessment of investment in year t-1.
Source: Commission services.

For 2013 and 2014, the Investment Survey estimates are more optimistic than the European Commission's autumn forecast for total GFCF in the euro area (-3.3% and +1.9%) but quite close to the forecast for equipment investment (-2.9% and +3.7%).

Investment dynamics by sectors in the euro area

Looking at the sectoral breakdown of the survey (see Graph 2), only the food and beverage industry (which is part of the non-durable consumer goods sector) reports an increase in real investment for 2013. Decreases are reported in the durable consumer goods sector and, more significantly so, in the intermediate goods and investment goods sectors.

Graph 2: **Surveyed change of investments in the euro area by sectors (annual % changes)**
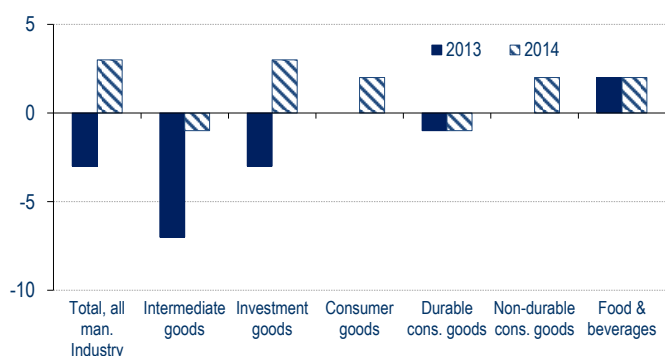
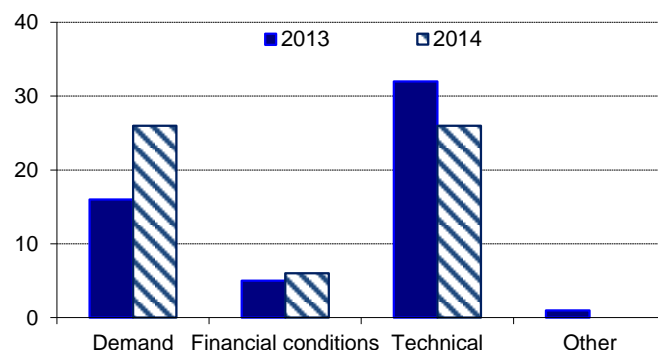
Source: Commission services.

For 2014, managers in the investment goods and consumer goods sectors are more optimistic, foreseeing increases of around 2 to 3%. The optimism in the consumer goods sector is driven by non-durable goods, especially food and beverages. Managers in the intermediate goods and durable consumer goods sectors expect their investments to decrease further by around 1%.

Factors influencing investments

The autumn Investment Survey also provides information on the factors influencing investment, namely: demand, financial resources/expected profits (availability and cost of financing, opportunity costs of investment, etc.), technical (e.g. technological developments and the availability of labour) and other factors (e.g. taxation and the possibility of moving production abroad). For both 2013 and 2014, technical factors and demand are reported as factors stimulating investment in the euro area (see Graph 3). For 2014, demand is expected to be more stimulating than in 2013, while technical factors are expected to be slightly less supportive than in 2013.

Factors linked to financial resources are expected to become slightly more supportive in 2014 than in 2013.

Graph 3: Factors influencing investment in the euro area (balance statistic*)

*Balances are the weighted averages of the percentages of answers describing each factor as 'very stimulating' (coefficient 1), 'stimulating' (0.5), 'limiting' (-0.5) and 'very limiting' (-1).
Source: Commission services.

Investment structure

Firms are also asked to assign their investments to four categories: replacement of worn-out plant or equipment, extension of production capacity, investment designed to streamline production (rationalisation), and other investment objectives (pollution control safety, etc.). For 2013, the largest share of investments goes to replacement and extension purposes (28% each), followed by rationalisation purposes (26%) and other objectives (18%). In 2014, the share of investment that will serve replacement and exension purposes is expected to increase to 35% and 32%, respectively. Meanwhile the share of rationalisation investment should decrease to 19% and only 14% will be used for other investment objectives (see Graph 4).

Graph 4: Investment structure in the euro area (percentage of total investment)
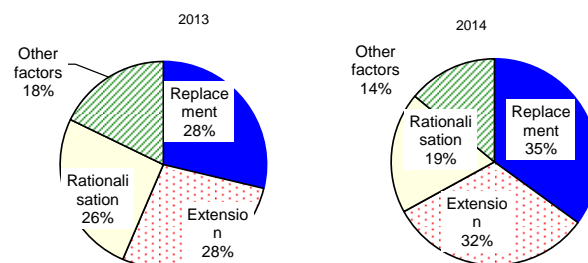
Source: Commission services.

Developments by country

The picture at country level is rather mixed. While a slight majority of EU Member States expect negative real investment growth in 2013, most Member States foresee an increase for 2014 (see Graph 5).

Graph 5: Surveyed change of investments in the EU Member States (annual changes in %)
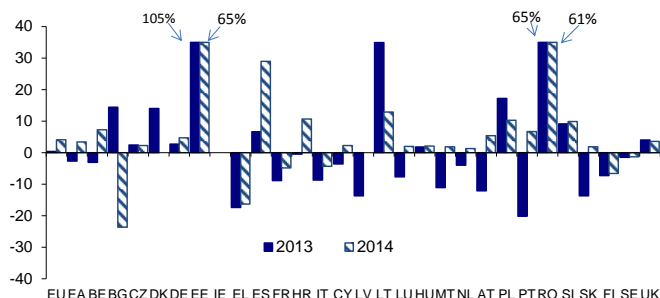
Source: Commission services.

In the largest EU Member States, investment is expected to grow in both 2013 and 2014 in Poland, Spain, the UK and Germany. More precisely, Polish managers reported their real investments in 2013 to increase by 17.2% and expect a further increase by 10% in 2014. In Spain, investment should have increased by 6.6% in 2013 and is expected to surge by 29.0% in 2014. In the UK, managers expect their investment to have risen by 4.0% in 2013 and by 3.6% in 2014. Managers in Germany assessed their invesments to have increased by 2.7% in 2013 and expect an additional rise of 4.7% in 2014. In the Netherlands, investments were estimated to decrease by 4.0% in 2013 but to increase in 2014 by 1.3%. By contrast, in Italy and France, investment was estimated to decline in 2013 (by 8.7% and 8.9%, respectively) and to further contract in 2014 by 4.3% and 4.8%.

Graph 6: Structure of investments in the big Member States in 2012, 2013 and 2014 (share in %)
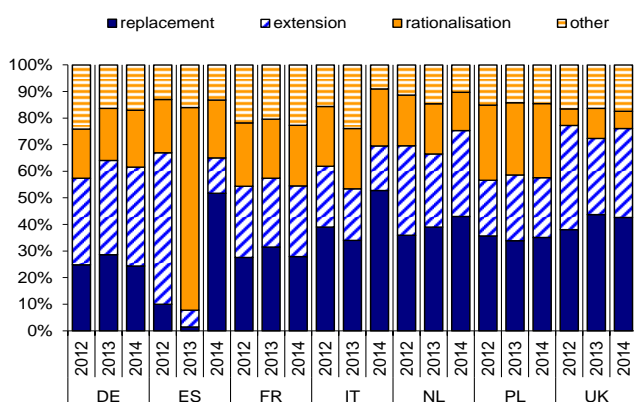
Source: Commission services.

The structure of investment in 2013 varies across countries (see Graph 6). Investment mainly served replacement needs in all the largest Member States, except in Germany (where investments were driven mainly by extension needs) and in Spain (where investments were driven to nearly 80% by rationalisation objectives). Generally, the second largest share of investment was used for extension needs. For 2014, the picture remains broadly the same. The main change concerns Spain, where a much larger share of investments is foreseen for replacement purposes (around 50%), while the importance of rationalisation investment should drop to around 20%.

Graph 7 shows which factors are stimulating or limiting investment in the largest Member States in 2013 and 2014.

Graph 7: Factors influencing investment decisions in large EU Member States in 2013 and 2014 (balance statistic)
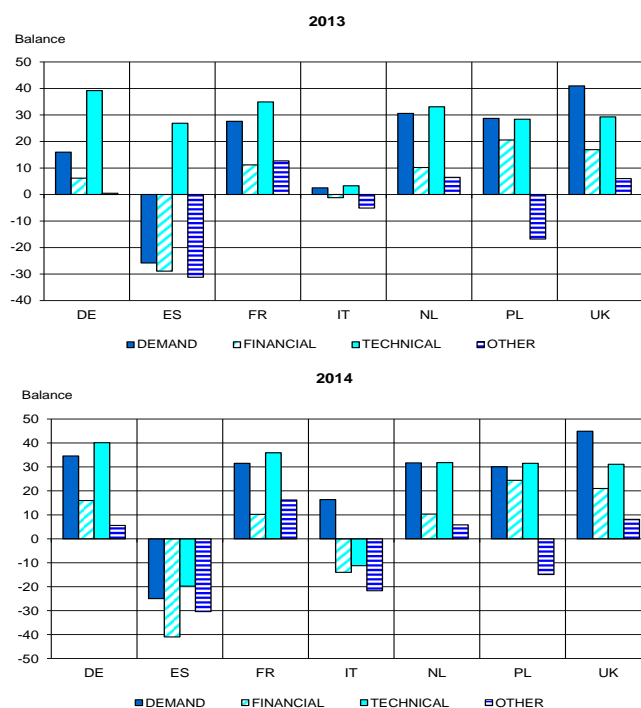
Source: Commission services.

For 2013, demand was considered as stimulating investments in all the largest Member States, except for Spain. Financial conditions were assessed as stimulating in Germany, France, the Netherlands, Poland and the UK, while they were assessed as a limiting factor in Spain and, to a lesser extent, Italy. Technical factors stimulated investment in all the largest Member States. Finally, other factors (e.g. taxation and the possibility of moving production abroad) were seen as limiting in Spain, Italy, and Poland and as stimulating in France, the Netherlands, and the UK. These patterns change very little for 2014. The exceptions are Italy, where managers

expect demand to become more supportive of investment while all other factors are considered as limiting, and Spain, where on top of the perceived limiting influence of demand and financial factors also technical factors are foreseen to limit investments in 2014. This appears somewhat at odds with the fact that investment in Spain is expected to increase substantially in 2014. However, this constellation might be explicable by the strong need for (necessary) replacement investment in 2014 (Graph 6).

A closer look at developments in investment by enterprise size

According to the survey, medium-sized and large enterprises (employing, respectively, between 50 and 249 and between 250 and 499 employee) should have experienced contractions in investment volumes in 2013 (by around 10% and 5%, see Graph 8). By contrast, among the small and very large enterprises (those employing less than 50 and more than 500 people), real investment should have increased by around 7% and 2% respectively.

For 2014, medium-sized and very large enterprises project to increase their investment volumes by 3% and 4%, respectively, while small and large enterprises expect to decrease their investment volumes by around 22% and 4%, respectively. Overall, while small enterprises are significantly more pessimistic for 2014 than for 2013, all other enterprises revise their investment plans upwards compared to 2013.

Graph 8: Surveyed change of investments in the euro area by company size (annual % changes)
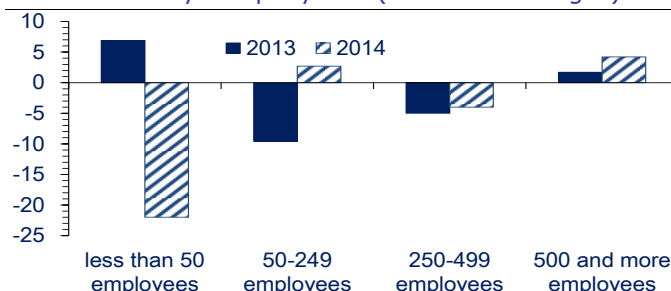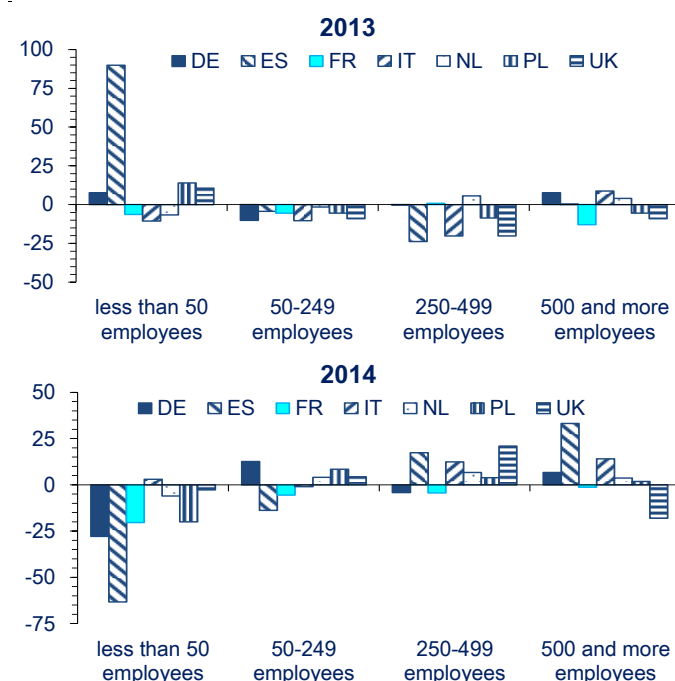

Source: Commission services.

Looking at the size-breakdown across countries, the picture for 2013 is rather homogeneous among medium and large enterprises (mostly expecting decreasing real investment across countries), while more mixed for small and very large firms (see Graph 9). Very large German, Italian and Dutch firms expected positive investment growth while French, Polish and British enterprises foresaw decreasing real investment for 2013. Among small firms, investments should have increased markedly in Spain and to a lesser degree in Germany, Poland and the UK. Managers expected a decrease in France, Italy and the Netherlands.

In 2014, the situation is expected to be more negative across European small enterprises, with only Italian small firms expecting a slight increase of their investments. Cuts in investment are expected to be particularly severe among small firms in Germany and Spain. By contrast, managers in large and very large firms foresee a rise in investment in the majority of large EU Member States, the main exception being very large enterprises in the UK. Medium-sized firms expect to increase investment in Germany, the Netherlands, Poland and the UK while further contraction is expected in Spain and, to a lesser extent, France and Italy.

Graph 9: Surveyed change of investments in large EU Member States by size (annual % changes)

Source: Commission services.

Generally, the picture for 2014 appears to be more positive for (very) large enterprises than for the small ones. This seems to confirm the existence of structural differences in the shape of the recovery from the crisis across company size. Indeed, in 2011 and 2012, managers in small enterprises were more pessimistic than (very) large firms (see Graph 10). For 2013, investment growth was reported to outnumber that in all larger enterprises but in 2014 managers of small firms again expect important cuts in their investments, while very large enterprises foresee further increases.

Graph 10: Surveyed change of investments in the euro area by company size over the period 2000-2014* (annual % changes)
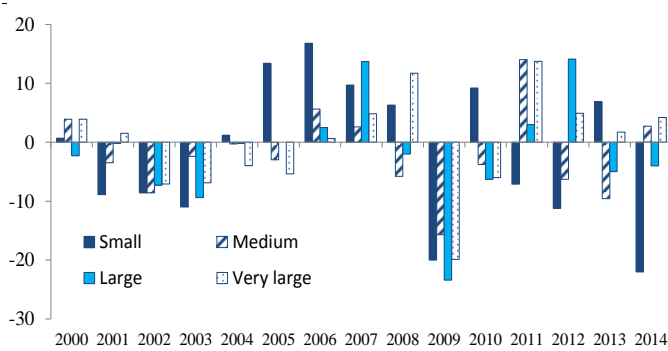

* Until 2012, managers' assessment of investment in year t-1 reported in the Mar/Apr year t surveys. For 2013 and 2014 is the assessment in the in the Oct/Nov 2013 survey.
Source: Commission services.

Looking at the factors driving investment, very large enterprises considered demand and financial factors much more detrimental to their investment than small enterprises in the crisis year 2009. Over 2010 to 2012, they considered the influence of demand and financial factors as more stimulating than small enterprises. For 2013, very large enterprises were again more pessimistic than small enterprises with regard to the impact of especially financial factors. However, in 2014 demand and financial factors should again be more stimulating for very large enterprises than for small ones (see Graph 11).

Graph 11: Factors influencing investments (balance statistic)
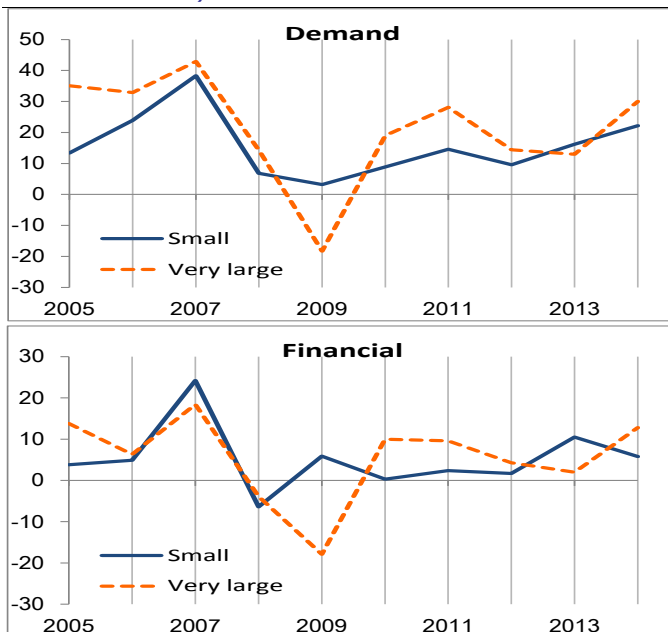
Source: Commission services.

Medium and large enterprises take an in-between position in this comparison. It has to be noted that

the 'financial factors' refer quite broadly to 'financial resources or expected profits' and are thus not limited to issues related to the access to external financing.

Again focusing on the two extreme size-groups of enterprises, differences between small and very large enterprises are also visible in the reported structure of their investment. Generally, the main part of small firms' investment is replacement investment, while very large firms' investment mainly serves extension purposes (see Graph 12). For very large firms, the share of extension investment in total investment has recovered somewhat from the 2009 dip, and in 2014 is expected to represent broadly the same share as before the crisis. By contrast, for small firms the share of investment for extension purposes is expected to decrease again in 2014.

Graph 12: Investments structure (percentage of total investment)
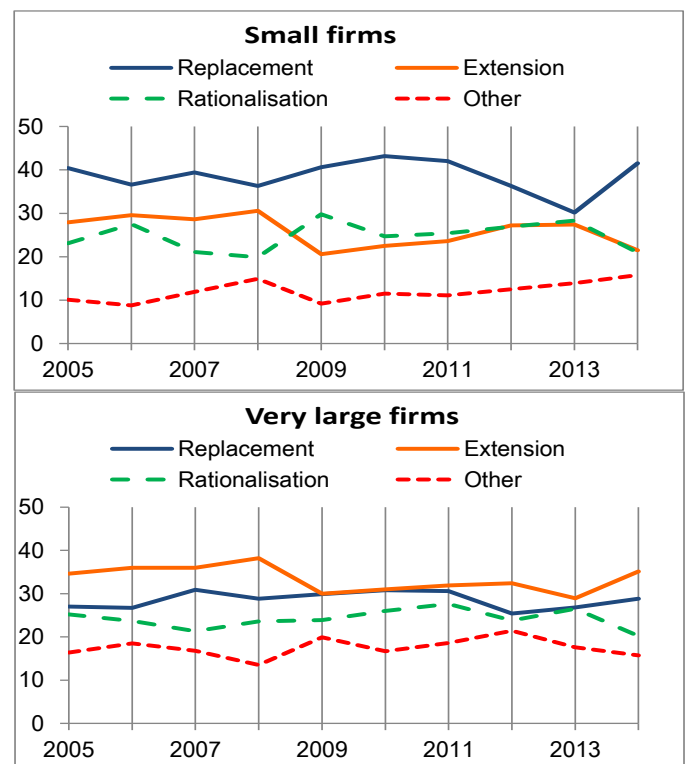
Source: Commission services.

All in all, results from the autumn Investment Survey in the manufacturing sector indicate a contraction in investment activity for 2013 but point to positive real investment growth of 3.4% in the euro area in 2014. Results for the EU are somewhat more optimistic, with managers anticipating a small increase for 2013 and expecting a further increase in 2014. At the sector level the outlook is rather pessimistic across the board for 2013, as real investment is expected to increase only in the food and beverage sub-sector, while for 2014 also managers in the investment and

the overall consumer goods sectors expect increases. At the size level, an increase of investment is foreseen for 2013 in small and very large enterprise. For 2014, small enterprises anticipate an important cut of their investments while very large enterprises expect a further increase. Following negative investment growth in 2013 for medium and large enterprises, the latter foresee a (slighter) contraction also for 2014.

4. Highlight: What is driving consumers' attitudes towards saving? An analysis using BCS data

After the deep recession following the financial and sovereign-debt crises, the year 2013 has seen the euro area (EA) slowly moving back to positive growth. There is wide agreement that, for the upturn to be sustainable, domestic demand would need to pick up. Against this background, private consumption (and investment) will have a prime role to play in sustaining the fragile recovery.

Considering the historically low levels of interest rates in many Member States, the persistent prevalence of saving among households is at odds with standard economic theory. Household saving behaviour is driven by a multitude of motivations (e.g. precautionary savings, savings for old age, Ricardian motives,…) and factors (disposable income, interest rates, the stock of debt,…) that are difficult to disentangle. This highlight section aims to contribute to a better understanding of what is driving households' perceptions about saving in Europe, thereby paying particular attention to cross-country differences.

In more detail, we empirically assess the drivers of consumers' attitudes towards saving as measured by question 10 (*Q10*) of the consumer questionnaire of the Joint Harmonised EU BCS Programme. This question asks respondents to indicate whether, in view of the general economic situation, it is a good or a bad moment to save. The focus is thus on the drivers of the perceived advisability of saving rather than on actual saving (as it is when using e.g. the saving ratio).

The use of *Q10* as a dependent variable has two distinct advantages. Firstly, households' answers to *Q10* are aggregated into a balance series (percentage of positive answers *minus* percentage of negative answers) without being weighted by households' incomes. Thus, a poor household's judgment about saving counts as much as the judgment of a wealthy household. Assuming that the drivers of saving attitudes (and behaviour) differ across income classes, the use of *Q10* as a dependent variable makes sure that the dominant drivers of saving attitudes of the majority of households rather than of the highest income classes are identified. Secondly, *Q10* asks respondents to gauge the advisability of saving *in the light of the general economic situation*. Thus, answers can be assumed to be motivated by more than just the

personal financial situation (disposable income, income expectations, etc.). They arguably contain elements which do not depend on income and assess the advisability of saving in more general terms. In particular, we consider the following factors as potential drivers of consumers' perception about the desirability and/or advisability of saving: i) the ability to save (households can only save if sufficient income is available), ii) the necessity to save (in view of perceived uncertainty about the future) and iii) the attractiveness of saving in terms of potential returns.[1]

Dataset

Monthly consumer survey data from the Joint Harmonised EU BCS Programme offer a valuable source of information to properly analyse the issue at stake. Qualitative information extracted from the BCS dataset makes it possible to directly measure a number of economic concepts (e.g. households' expectations about their future income and consumption plans) which are not measured by (quantitative) official statistics.

As measures of households' *ability* to save, we consider a number of survey questions arguably related to households' financial strength. First of all, households' assessment about their current financial situation (*Q12*: from "we are saving a lot" to "we are running into debt"); secondly, households' expected financial situation over the next 12 months (*Q2*); finally, respondents' expectations about future purchases of durable goods within 12 months as compared to their expenditure over the last 12 months (*Q9*)[2]. In the latter case, a negative association with current saving indicates a trade-off between consumption and saving which is particularly characteristic of poorer households.

As an indicator of the *necessity* to save, we focus on the degree to which households perceive the current situation as uncertain. Practically, we exploit information about the dispersion of positive and negative answers to *Q4* regarding households' perception of the general economic situation over the next 12 months as an uncertainty indicator (*IEU*).[3,4]

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[1] Obviously, component i) is a pre-condition for saving, while components ii) and iii) are likely to have a decisive bearing on the saving intensity of a given household.

[2] While questions 2 and 9 refer to the future, they enter the regression in lagged form such that they can be argued to capture the households' current financial condition.

[3] See Bachmann R., S. Elstner, E. Sims (2010), Uncertainty and economic activity: evidence from business survey data. NBER Working paper 1643; European Commission (2013), *European Business Cycle Indicators*, Issue 3, "Using survey data for measuring uncertainty", 7-14.

We also consider the EU index of policy uncertainty (*IPU*).[5] If the necessity to save is an important determinant of saving attitudes, then we should identify a positive association between uncertainty measures and the target variable.[6]

Finally, to account for the *attractiveness* of saving, quantitative information about money and financial markets is used.[7] In particular, we consider real interest rates on bank deposits (*DEP*, source Eurostat) and real domestic stock market indexes (*STK*, source: Global Insight),[8] interpreting a positive association with the target variable as a sign that households' attitudes towards saving is guided by potential returns to saving.[9]

All series are monthly and refer to two European aggregates (EA and EU), as well as the following EA countries: Austria (AT), Belgium (BE), Finland (FI), France (FR), Germany (DE), Ireland (IE), Italy (IT), Netherlands (NL), Portugal (PT), and Spain (ES). The sample span of the analysis covers the period 2004m1-2013m10.[10]

Before performing the empirical analysis, all survey series have been transformed in year-on-year changes

$$svy_t = SVY_t - SVT_{t-12} \qquad (1)$$

where *SVY* stands for a generic question included in the BCS dataset (namely, *Q2*, *Q9*, *Q10*, and *Q12*), and

t indexes time. The responses to these four BCS questions are taken as central tendencies (or net balances).

The same transformation is applied to construct year-on-year changes for the interest rates on bank deposits (*dep*), the index of political uncertainty (*ipu*), and the (logarithm of) stock market indexes (*stk*).

As for the measure of economic uncertainty, it is constructed as:

$$ieu_t = [(IEU_t^+ + IEU_t^-) - (IEU_t^+ - IEU_t^-)^2]^{1/2}$$

where IEU_t^+ (IEU_t^-) indicates the share of respondents giving a positive (negative) reply to *Q4* at time t.[11]

Model specification

The general specification of the regression model takes the following form:

$$q10_t = \beta_0 + \beta_1 q10_{t-1} + \beta_2 q12_{t-1} + \beta_3 q2_{t-1} + \beta_4 q9_{t-1} + \beta_5 \Delta_{12} ieu_{t-1}$$
$$+ \beta_6 (\Delta_{12} ieu_{t-1})^2 + \beta_7 ipu_{t-1} + \beta_8 (ipu_{t-1})^2 + \beta_9 dep_{t-1}$$
$$+ \beta_{10} stk_{t-1} + e_t \qquad (2)$$

where β's represent the parameters to be estimated, Δ_{12} is the 12th-difference operator, and e_t is a residual term. All explanatory variables enter the model with a lag: this is to avoid that dependent and explanatory variables are constructed on the basis of replies from the same set of consumers interviewed. Given that consumers are chosen randomly in each survey wave, and that each survey wave is likely to be representative of the whole economy, our modelling strategy should not be affected by biases due to simultaneity and/or endogeneity problems. Furthermore, in the set of regressors we have also introduced squared values of both indexes of uncertainty. The rationale behind this choice is that uncertainty can be viewed as a pervasive driving force for economic fluctuations (*via* investment and/or consumption decisions) especially above a critical threshold. In our context, where uncertainty enters as a rate of change, it implies that uncertainty might have a role in explaining consumers' saving decisions especially when sharp variations in the indexes occur.

Econometric evidence

Starting from equation (2) we obtain parsimonious specifications for each economy under scrutiny by selecting the relevant series through an automatic

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[4] The precise wording of the survey questions used in the analysis and their answering categories can be found in the Annex.

[5] Baker S., N. Bloom, S. Davis (2013), Measuring economic policy uncertainty. Chicago Booth Research Paper No. 13-02.

[6] Ideally, a measure of household net wealth would have been included in the set of regressors so as to capture households' need for deleveraging. Unfortunately, cross-country comparable information on net household financial wealth on a monthly basis is not publicly available to the best of our knowledge.

[7] Quantitative information on labour market developments has been considered as well in the early stages of the empirical investigation. Unfortunately, unemployment rates have exhibited a very limited informative content in all regression we have performed.

[8] Eurostat series on bank deposit rates are no longer available on Eurostat's website as of December 12, 2013. Interest rate and stock index series have been deflated by the HCPI index (source: Eurostat).

[9] Baker S., N. Bloom, S. Davis (2013), Measuring economic policy uncertainty. Chicago Booth Research Paper No. 13-02.

[10] The time horizon of the analysis is dictated by the availability of data for interest rates on bank deposits.

[11] As detailed in European Commission (2013), *European Business Cycle Indicators*, Issue 3, "Using survey data for measuring uncertainty", very positive and positive fractions of answers have been aggregated into the category '+' in condition (2). The same applies for very negative and negative fractions so as to get the category '–'.

model selection procedure based on a general-to-specific modelling strategy.[12] In its essence, such a method starts from a general unrestricted model, i.e. model (2) above, and suggests standard testing procedures to reduce its complexity by eliminating statistically insignificant variables. Moreover, the reduction process should be able to ensure that the resulting final model satisfies some predetermined test.[13] Table 1 presents the results of the analysis for the EA and the EU aggregates.

Table 1: Estimation results for European aggregates

	EU	EA
$q10_{t-1}$	0.684**	0.651**
$\Delta_{12}ieu_{t-1}$	0.148**	0.291**
$(\Delta_{12}ieu_{t-1})^2$	2.098**	
dep_{t-1}	2.612**	2.974**
stk_{t-1}	5.312**	
W(prob)	0.028	.
R^2adj	0.862	0.628
DW	2.000	1.845

Note. Double (single) asterisk indicate significance at the 5% (10%) level or better. W is the Wold test for the joint significance of the terms of the index of economic uncertainty. DW is the Durbin-Watson statistics for first-order serial correlation.

The first observation is that uncertainty (in terms of Bachmann et al.'s indicator) exerts a statistically significant and positive effect on the savings question *q10*: The higher the change in uncertainty, the more dominant is the share of consumers perceiving saving as opportune. In the case of the EU, the relationship is even nonlinear. On a more general level, the uncertainty effect provides evidence that the *necessity* of saving is an important determinant of whether households qualify the current situation as a good moment to save or not.

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[12] Hoover, K., S. Perez (1999), Data mining reconsidered: Encompassing and the general-to-specific approach to specification search. *Econometrics Journal*, 2, 167–191; Krolzig, H.-M., D. F. Hendry (2001), Computer automation of general-to-specific model selection procedures, *Journal of Economic Dynamics and Control*, 25, 831-866.

[13] As in Bulligan G., M. Marcellino, F. Venditti (2012), Forecasting economic activity with higher frequency targeted predictors, Temi di Discussione, Bank of Italy, No. 847, we include in the battery of diagnostic tests the following ones: normality tests; LM autocorrelation test up to fifth order autocorrelation in the residuals; heteroscedasticity test for the residuals; Chow predictive failure test with a break at 50% and 90% of the sample for parameter constancy. In our application, the significance level for the selection t-tests is set to 0.05, while the significance level for the five diagnostic test is set to 0.01.

Table 1 furthermore shows that households attach high importance to the *attractiveness* of saving. In both the EU and the EA, increases in interest rates on deposits are associated with a more favourable judgment about saving. In the EU also positive stock market developments induce people to cherish saving.[14]

Apart from the uncertainty-, interest rate- and stock market-effect, the analyses for the EA and the EU do not provide evidence of any impact of the selected BCS questions on savings. The likely explanation of this finding is that the effect of the questions differs strongly across Member States, with country-specific impacts cancelling each other out at EU/EA aggregate level. [15]

Repeating the above analysis at country-level suggests that European economies can be clustered into two different groups.[16]

A group of EA "core countries" consisting of Germany, the Netherlands, Austria and Finland (see Table 2) has in common that the perceived *necessity* and *attractiveness* of saving are the key determinants of attitudes towards saving.

As for the *necessity* of saving, Germany and Austria witness a positive, nonlinear relation between Bachmann et al.'s uncertainty indicator and the inclination to save. In case of the Netherlands, the relation is linear and an independent effect of *policy-induced* uncertainty (captured by the Stanford Policy Uncertainty Index) can be distilled. Finland is the only of the four countries, where uncertainty cannot be shown to have a statistical effect on the savings question. The *attractiveness* of saving, captured by financial market developments, proves highly significant. German, Dutch and Austrian households seem to be very responsive to changes in the interest rates. When considering that average interest rate levels and changes in the analysed period were substantially lower in the Netherlands than in Austria and Germany, the practical effect of interest rates on the perceived attractiveness of saving seems to be of

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[14] The fact that the effect is discernible in the EU, but not in the EA, might suggest that the effect of stock market developments on the perceived appropriateness of saving is particularly pronounced in the UK.

[15] Imperfect harmonisation of the wording of *Q10* in the national questionnaires might be an additional explanation for the finding of insignificant relations between the analysed variables at the EU/EA level.

[16] Regressions for Belgium and Ireland are not reported, since they failed to identify any economically relevant relationship between variables. The estimated equations indeed show that the dependent variable looks like an autoregressive process with a limited (i.e. scant significant) positive effect for consumers' expected financial situation of their household (*q2*).

comparable magnitude in all three countries, contrary to what the higher Dutch coefficient might suggest at first glance. Furthermore, the results show that positive developments on the domestic stock markets render saving more attractive to German, Austrian and Finnish households. Arguably, the fact that German, Dutch, Austrian and Finnish households are so responsive to changes in the (potential) returns to savings is in line with their comparatively high and stable incomes, which allow for a certain amount of the income to be shifted between consumption and saving with relative ease.

As regards the *ability* to save, it turns out that none of the questions associated to households' financial situation are significant. The only exception is a negative coefficient for *q2* in Germany, which suggests that Germans cherish saving more in economically tight times.[17]

Table 2: Estimation results for "core" European countries

	AT	DE	NL	FI
$q10_{t-1}$	0.426**	0.502**	0.573**	0.849**
$\Delta_{12}ieu_{t-1}$	0.098	0.011	0.109*	
$(\Delta_{12}ieu_{t-1})^2$	2.126*	1.755**		
ipu_{t-1}			0.032**	
$q2_{t-1}$		-0.277**		
dep_{t-1}	7.100**	2.511*	13.221**	
stk_{t-1}	7.609**	9.019**		6.042**
W(prob)		0.023		
adjRsq	0.782	0.585	0.463	0.902
DW	1.966	2.114	2.054	2.143

Note. See Table 1.

Table 3 reports a group of euro area "periphery countries" (Italy, Spain, Portugal), as well as France, which differ from the former group in so far as their judgment about savings is driven by factors relating to the *ability* to save, rather than the *attractiveness* of saving. The only commonality with the "core countries" is that the *necessity* of saving is an important factor, too.

In more detail, in all four countries at least one of the questions capturing households' *ability* to save is found to be statistically significant. In Spain and Portugal, an increased share of households planning to spend more (rather than less) on major purchases (*q9*) is associated with a lower inclination to save. This finding underlines the importance of the trade-off between consumption and saving which households in these countries have faced over recent years. In a similar vein, in Italy and France, *q12*, which assesses

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[17] It has to be noted that the forward-looking variables are included in lags in the regressions so that they can be interpreted as reflecting the current situation.

households' financial situation, proves highly significant. When the indicator drops, households also qualify the current situation as a bad moment to save.

Finally, Spain displays a positive relation between households' financial situation (*q2*) and the perceived appropriateness of saving. Households in this country thus behave opposite to German ones; Spanish consumers tend to cherish saving less in economically difficult times and more in good times. This suggests that in Spain households' attitudes towards saving are bound by their (in-) ability to save. Turning to the issue of uncertainty, all countries, with the exception of France, display a positive relation between the level of the Bachmann et al. indicator and the appropriateness of saving (nonlinear in the case of Spain). Thus, the appraisal of saving can be argued to be influenced by whether it is perceived to be *necessary* at a given point in time. Finally, as regards the *attractiveness* of saving, neither changes in interest rates on deposits, nor developments on the national stock markets, have any influence on the degree to which households in these countries cherish saving.

Table 3: Estimation results for other European countries

	FR	IT	PT	ES
$q10_{t-1}$	0.845**	0.783**	0.751**	0.593**
$\Delta_{12}ieu_{t-1}$		0.192**	0.112**	-0.386**
$(\Delta_{12}ieu_{t-1})^2$				3.955**
$q2_{t-1}$				0.331*
$q9_{t-1}$			-0.144**	-0.295**
$q12_{t-1}$	0.403**	0.335**		
W(prob)				0.041
adjRsq	0.807	0.643	0.691	0.628
DW	2.263	2.067	2.198	2.046

Note. See Table 1.

Conclusions

Our analysis has looked at the determinants of households' perceptions about the advisability of saving in Europe. It turns out that two groups of countries must be distinguished.

The first group consists of core EA economies, where private saving is dominated by considerations about its attractiveness. Although current interest rates on deposits are historically low and should induce households' to cherish saving less, this effect is counter-balanced by buoyant stock market developments in these countries. In the second group, instead, factors related to households' financial conditions play a key role in explaining consumers' saving decisions.

A common feature shared by both groups is the necessity of saving as a determinant factor (as a shield against uncertainty about the future). In the light of the ongoing fragile recovery in Europe, our findings

suggest that a reduction of the degree of perceived uncertainty would help spur consumption in both core and non-core EA countries. In the latter group, however, reduced uncertainty should ideally be accompanied and reinforced by healthier domestic fundamentals improving households' ability to spend, e.g. via the reduction of unemployment. In case of the core countries, less buoyant developments on the stock markets could act as an addition channel to induce households to favour consumption over saving.

Annex: List of survey questions used in empirical analysis

Q2. How do you expect the financial position of your household to change over the next 12
months? It will:
++ get a lot better; + get a little better; = stay the same; - get a little worse; -- get a lot worse; N don't know.

Q4. How do you expect the general economic situation in this country to develop over the next 12 months? It will:
++ get a lot better; + get a little better; = stay the same; - get a little worse; -- get a lot worse; N don't know.

Q9. Compared to the past 12 months, do you expect to spend more or less money on major purchases (furniture, electrical/electronic devices, etc.) over the next 12 months? I will spend:
++ much more; + a little more; = about the same; - a little less; -- much less; N don't know.

Q10. In view of the general economic situation, do you think that now is…
++ a very good moment to save; + a fairly good moment to save; - not a good moment to save; -- a very bad moment to save; N don't know.

Q12. Which of these statements best describes the current financial situation of your household?
++ we are saving a lot; + we are saving a little; = we are just managing to make ends meet on our income; - we are having to draw on our savings; -- we are running into debt;
N don't know.

Annex 1: The Economic Climate Tracer

The graphs below show the economic climate tracer for the EU (including sectoral components), the euro area and the seven largest EU Member States.

The series levels are plotted against their first differences (m-o-m changes), so that each chart depicts — at the same time — the current stance of the sector/country and its most recent dynamics. Series are smoothed to eliminate short-term fluctuations.

The four quadrants of the graphs enable to distinguish four phases of the business cycle: "expansion" (top right quadrant), "downswing" (top left), "contraction" (bottom left), and "upswing" (bottom right).

Cyclical peaks are positioned in the top centre of the graph, and troughs in the bottom centre.

In order to make the graphs more readable, two colours have been used for the tracer. The darker line shows developments in the current cycle, which in the EU and euro area roughly started in January 2008.

Economic climate tracer across sectors, EU
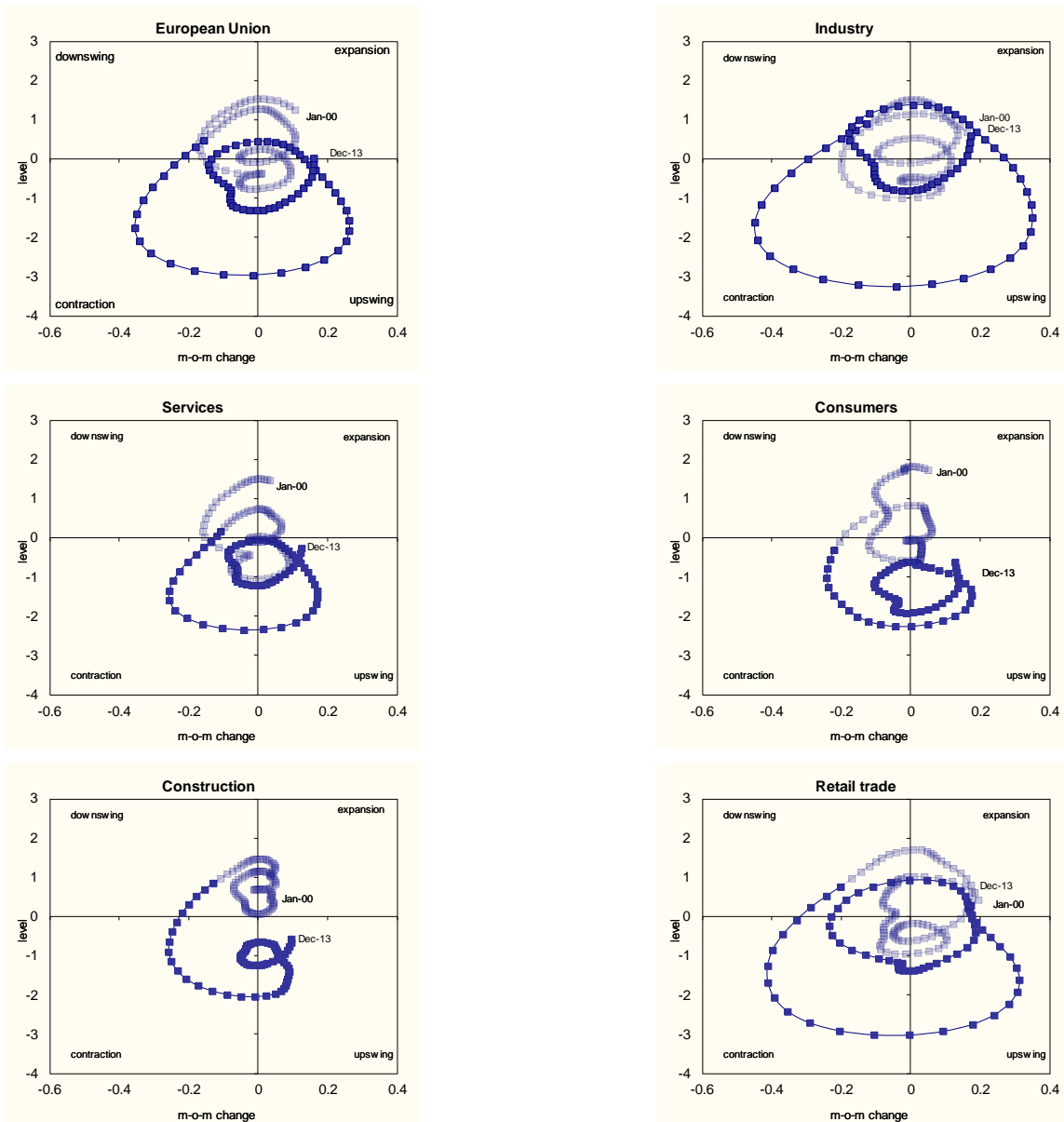
Economic climate, largest EU Member States
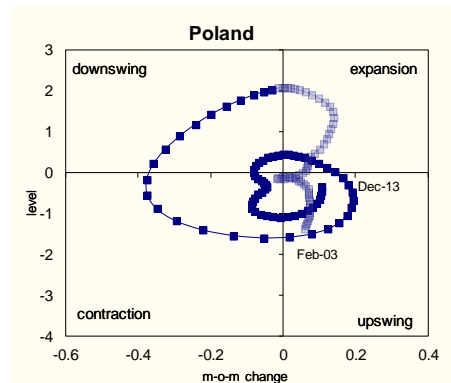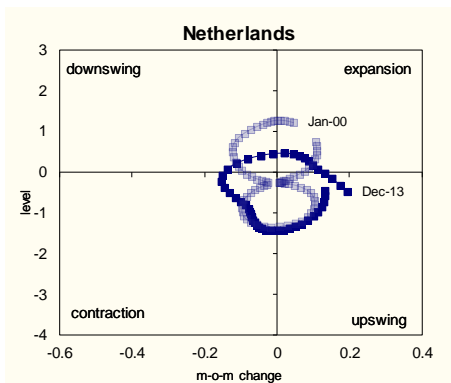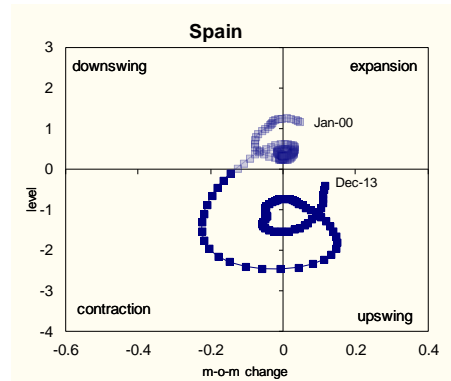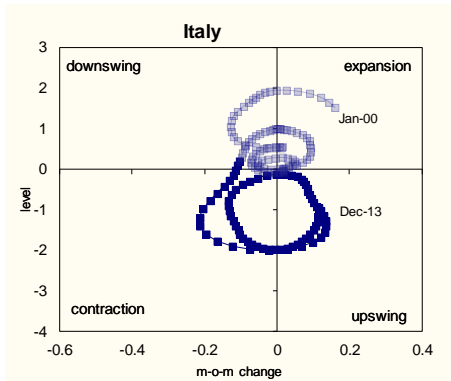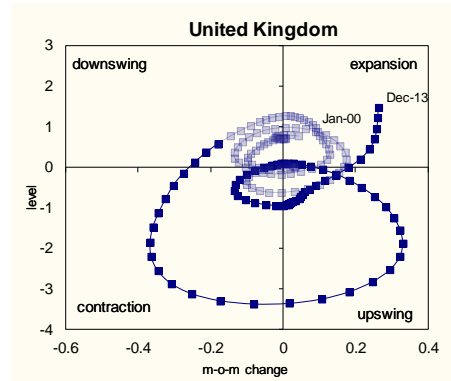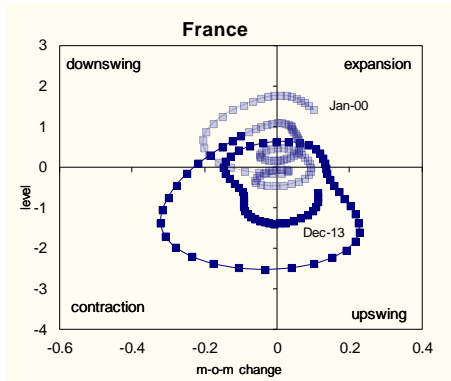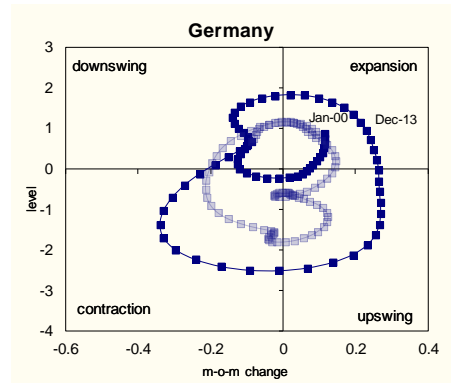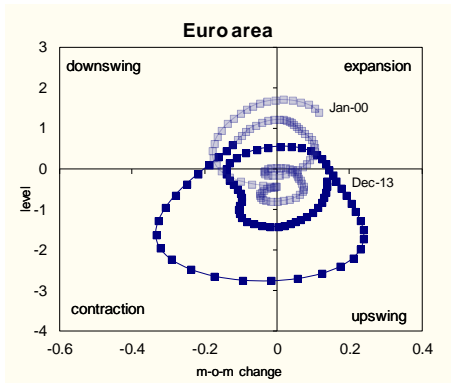
Annex 2: Reference series

The reference series are from Eurostat, via Ecowin:

Confidence indicators	Reference series (volume/year-on-year growth rates)
Total economy (ESI)	GDP, seasonally- and calendar-adjusted
Industry	Industrial production, working day-adjusted
Services	Gross value added for the private services sector, seasonally- and calendar-adjusted
Consumption	Household and NPISH final consumption expenditure, seasonally- and calendar-adjusted
Retail	Household and NPISH final consumption expenditure, seasonally- and calendar-adjusted
Building	Production index for building and civil engineering, trend-cycle component

Economic Sentiment Indicator

The economic sentiment indicator (ESI) is a weighted average of the balances of replies to selected questions addressed to firms and consumers in five sectors covered by the EU Business and Consumer Surveys Programme. The sectors covered are industry (weight 40 %), services (30 %), consumers (20 %), retail (5 %) and construction (5 %).

Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The Commission calculates EU and euro-area aggregates on the basis of the national results and it seasonally adjusts the balance series. The indicator is scaled to have a long-term mean of 100 and a standard deviation of 10. Thus, values greater than 100 indicate above-average economic sentiment and vice versa. Further details on the construction of the ESI can be found at:

Methodological guides - Surveys – DG ECFIN website

Long time series of the ESI and confidence indicators are available at:

Survey database – DG ECFIN website

Economic Climate Tracer

The economic climate tracer is a two-stage procedure. The first stage consists of building economic climate indicators. These are based on principal component (PC) analyses of balance series (s.a.) from the surveys conducted in industry, services, building, the retail trade and among consumers. In the case of industry, five of the monthly questions in the industry survey are used as input variables (employment and selling-price expectations are excluded). For the other sectors the number of input series is as follows: services: all five monthly questions; consumers: nine questions (price-related questions and the question about the current financial situation are excluded); retail: all five monthly questions; building: all four monthly questions. The economic climate indicator (ECI) is a weighted average of the five PC-based sector climate indicators. The sector weights are equal to those underlying the economic sentiment indicator (ESI), i.e. industry 40 %; services 30 %; consumers 20 %; construction 5 %; and retail trade 5 %. The weights were allocated on the basis of two broad criteria: the representativeness of the sector in question and historical tracking performance in relation to GDP growth.

In the second stage of the procedure, all climate indicators are smoothed using the HP filter in order to eliminate short-term fluctuations of a period of less than 18 months. The smoothed series are then standardised to a common mean of zero and a standard deviation of one. The resulting series are plotted against their first differences. The four quadrants of the graph, corresponding to the four business cycle phases, are crossed in an anti-clockwise movement. The phases can be described as: above average and increasing (top right, 'expansion'), above average but decreasing (top left, 'downswing'), below average and decreasing (bottom left, 'contraction') and below average but increasing (bottom right, 'upswing'). Cyclical peaks are positioned in the top centre of the graph and troughs in the bottom centre.