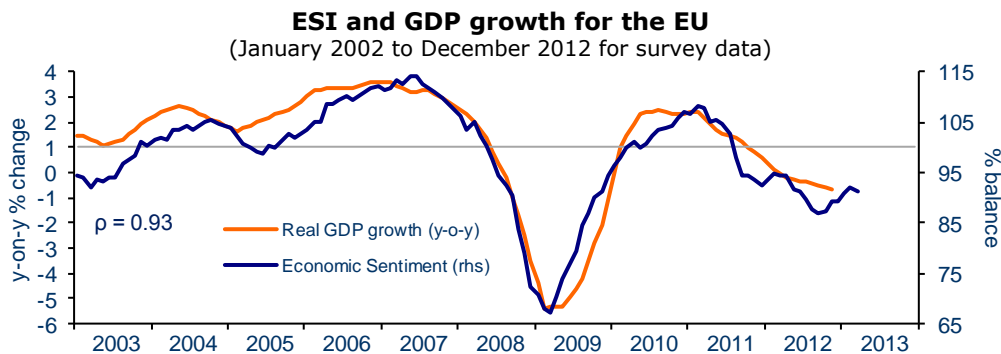# European *Business Cycle* indicators

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

Developments in business and consumer survey data in 2013Q1

■ *The first quarter of 2013 saw sentiment increasing in January and February, continuing the upward trend that had started last autumn. However, the survey results of March put the recovery on hold. The ESI remains well below its level one year ago and its long-term average.*

■ *The improvements in sentiment were driven by developments in industry and services.*

■ *While confidence at the end of the first quarter of 2013 is brighter than at the end of the previous quarter, the deterioration in March suggests that confidence among business managers and consumers remains fragile.*

Highlight: Perceptions of competitiveness in euro-area manufacturing

The highlight section looks at competitiveness developments using self-reported data on perceived competitiveness gathered through the EU-wide harmonised business surveys. Managers in industry are asked how their competitive position on domestic and foreign markets (inside and outside the EU) has developed over the past 3 months: these soft data can provide a direct, timely and comprehensive measure of perceived changes in competitiveness and could serve to complement other measures of competitiveness across countries. The balance series on perceived competitive positions are highly correlated with the industrial confidence indicator, suggesting that managers do not fully recognize if a perceived or expected loss in sales comes from a general market contraction or from a firm-specific decrease of market shares. In general, there appears to be a relatively strong link between perceived competitiveness and price/cost competitiveness. Relative price/cost developments thus appear to be an important driver of perceived competitiveness. A striking exception to this observation among the large euro-area countries is Spain, where perceptions are much more optimistic about the competitive position than pure cost measures suggest.

ESI and GDP growth for the EU
(January 2002 to December 2012 for survey data)

ρ = 0.93
Real GDP growth (y-o-y)
Economic Sentiment (rhs)

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

The first quarter of 2013 saw the Economic Sentiment Indicator (ESI) increasing in January and February, continuing the upward trend that had started last autumn. However, the survey results of March put the recovery on hold. When taking a look at the different types of survey questions used for the construction of the ESI (inquiring respondents about past, current and future developments), it turns out that the negative developments of March are mainly driven by the questions referring to future developments. That observation, however, is limited to the services, retail trade and construction sectors.

Compared to the readings at the end of the fourth quarter of 2012, the ESI has booked significant gains of 2.1 (EU) and 2.0 points (euro area). Standing currently at 91.4 (EU) and 90.0 (euro area), the ESI has undone about half of the losses it booked over the second and third quarters of 2012. While the quarterly profile of the ESI is in line with the results of the ZEW Financial Market Survey (Eurozone expectations) and Ifo's Business Climate Index for Germany, Markit Economic's Eurozone Composite PMI registered losses already in February.

At the sector level, the ESI continues being driven by developments in industry and services. Compared to the developments in the fourth quarter of 2012, consumer confidence, which had been described as bottoming out, eventually brightened significantly in January. The momentum of the recovery, however, seems to have faded with flat developments over February/March. The same goes for construction, which saw a sharp increase in January and a flat (EU) / declining (euro area) tendency in February/March. Retail trade continued its volatile path along a flat trend.

At the country level, Germany, France and Spain have broadly followed the ESI's path for the EU/euro area. All have seen recoveries from autumn 2012 onwards that were put on hold in March. The same goes for the Netherlands, where, however, the recovery started only in January 2013. In Italy and Poland the upward trend remained intact in March. In the UK, the first quarter of 2013 saw sentiment moving sidewards.

Sector developments

In the course of the first quarter of 2013, confidence in **industry** improved by 0.8 and 1.7 points in the EU and the euro area respectively. This is a continuation of the 1.5 point increase witnessed in the fourth quarter of 2012. The increases would have been significantly higher (1.7 and 3.0 points) without the March set-backs. Compared to December 2012, the
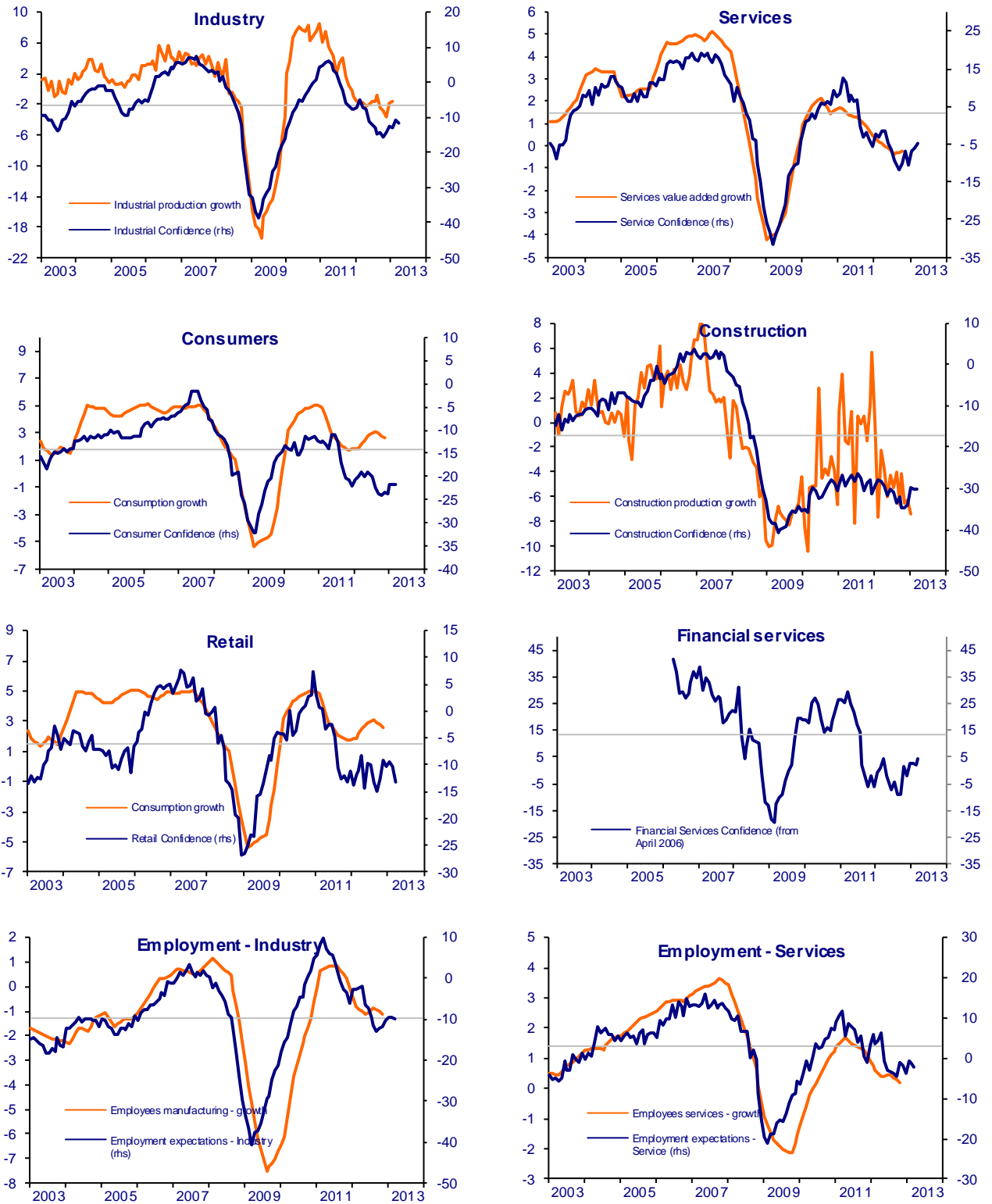
industrial confidence indicator increased significantly in Germany, France, the Netherlands and – to a lesser extent – in Italy and Spain. By contrast, industrial confidence deteriorated in Poland and (more sharply so) in the UK.

The improvement in industrial confidence was driven by sharp increases in managers' production expectations. The assessment of the current level of order books, by contrast, remained virtually unchanged. The main reason for industrial confidence not improving as markedly in the EU as in the euro area is a worsening assessment of the stock of finished products in the former. Of the survey questions not included in the industrial confidence indicator, managers' assessment of production trends observed during recent months, as well as their export order books improved significantly over the first quarter of 2013. Employment expectations improved in the euro area and remained virtually unchanged in the EU. Selling price expectations of industry managers deteriorated sharply over the quarter.

January's results for the quarterly manufacturing survey showed capacity utilisation increasing for the first time after three consecutive quarters of declining readings. Capacity utilisation stands at 77.6% in the EU (up from 77.4%) and 77.2% in the euro area (up from 76.9%). The levels are still 3-4 points below the long-term average capacity utilisation.

During 2013Q1, confidence in **services** continued the upward trend it had embarked upon in October 2012. In case of the euro area, a drop in sentiment in March casts some doubts on the sustained nature of the upturn. The brightening confidence can be attributed to improvements in all components of the confidence indicator (past and expected demand and past business situation). Compared to the EU, the increases are less pronounced in the euro area, particularly for demand expectations. Among the seven largest EU Member States, confidence brightened significantly in Germany (due to a sharp increase in February) and continued to improve in Italy. Spanish, French and Dutch sentiment, by contrast, booked losses throughout the first quarter of 2013. Poland and the UK managed to recover from significant drops in confidence that had been registered in January and December respectively.

Graph 1.1: **Sectoral confidence indicators and reference series for the EU (January 2002 to December 2012 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 - Service (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 September 2012 for survey data)
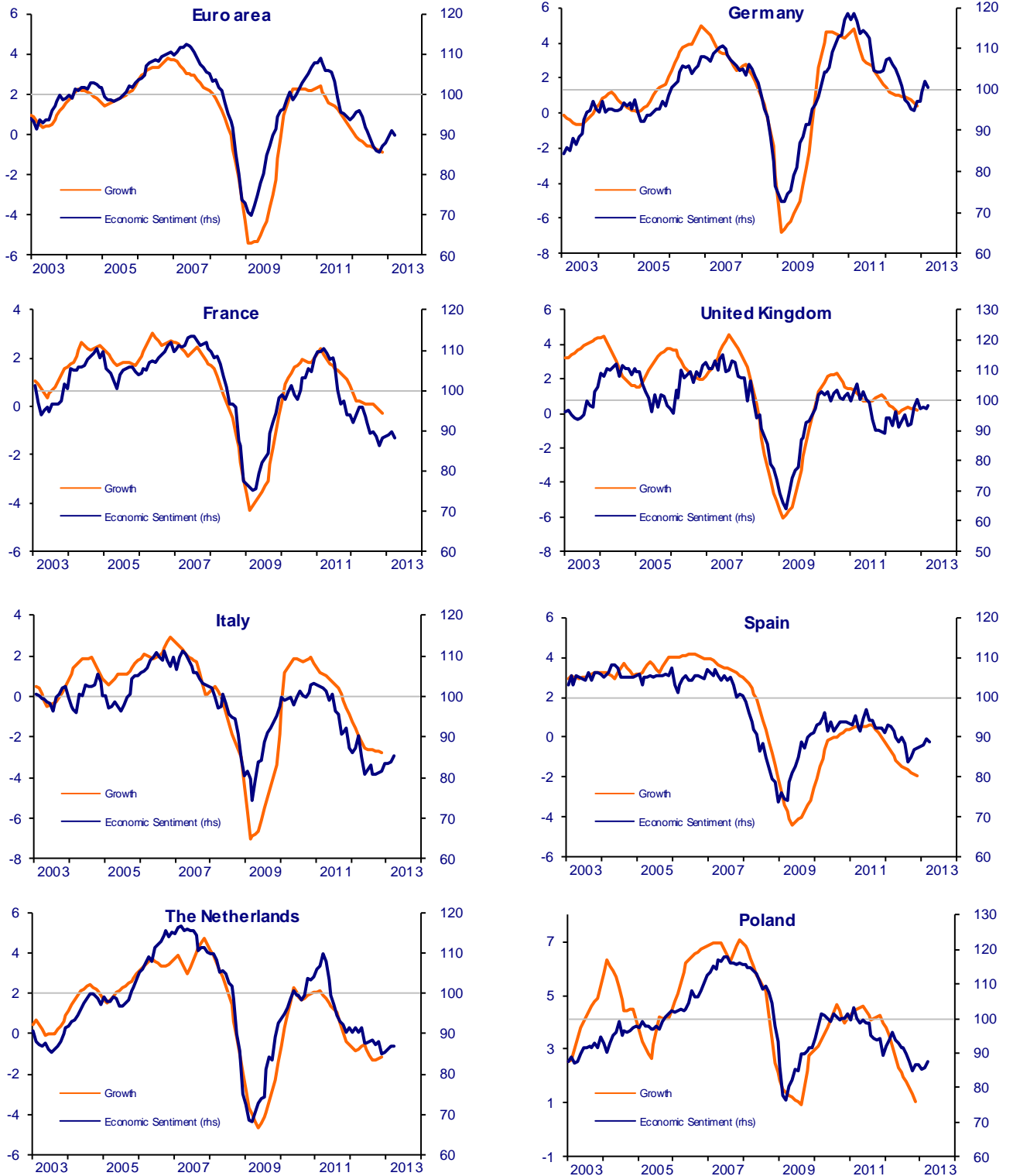
Note 1: The horizontal line marks the long-term average (=100) of the sentiment indicator.
Note 2: Confidence indicators are expressed in balances of opinion and GDP in y-o-y changes. Both variables are plotted at monthly frequency. Monthly GDP data are obtained by linear interpolation of quarterly data.

The **retail trade** confidence indicator registered losses in the first quarter of 2013, which brought the indicator back to its level of roughly half a year ago. The developments suggest a continuation of the pattern observed since late 2011, notably a significant degree of volatility around a flat trend. In terms of its components, slipping confidence is discernible in the appraisal of companies' past and expected business activity as well as their assessment of the adequacy of their stocks of finished products. The latter, however, mainly goes for the EU, while the assessment in the euro area remained virtually unchanged. Losses in retail trade confidence were booked in all major EU economies, except for Spain and Poland, where the indicator at the end of 2013Q1 was slightly higher than at the end of the previous quarter.

Sentiment in **construction** improved sharply in January, thereby breaking a downward trend that had characterised the indicator throughout 2012. The ensuing losses of February and March were contained in comparison to the upturn so that the indicator at the end of 2013Q1 stood significantly higher than at the end of the previous quarter. The positive developments are resulting from spikes in both components, i.e. managers' employment expectations and their assessment of their current order books. On a country level, the described pattern can be observed in Germany, Spain and the Netherlands. The UK and Italy differ in that the former saw increases not only in January, but in every single month of the first quarter, while developments in the latter were more tentative than in the other countries. Finally, construction confidence followed a flat path in Poland, while continuing its downward trend in France.

After the bottoming-out in 2012Q4, **consumer** confidence started increasing in the first quarter of 2013. The sharpest increases were booked in January. The developments were driven by consumers' expectations about their financial situation and the general economic situation, as well as declining unemployment expectations. Savings, on the other hand, were expected to decrease in the EU and (only slightly) in the euro area. Developments in Germany, Spain, Italy and Poland largely followed the overall EU/euro area developments. The Netherlands, on the other hand, saw sentiment going up and down in the first quarter, so that the current reading is virtually unchanged compared to the end of last year. France and the UK witnessed worsening sentiment in the first quarter.

Confidence in **financial services** – which is not included in the ESI – continued the recovery that had started in the last quarter of 2012. Compared to the previous quarter, where the recovery was driven by improved assessments of the past business situation and past demand, the brightening of sentiment was sparked by managers' demand expectations, while

the assessment of the past business situation and past demand deteriorated.

The developments over the first quarter are illustrated and confirmed by the evolution of the turning point indicator (TPI) and the climate tracers. The overall economic climate tracer for the EU has moved into the upswing quadrant (see Annex 1 and Annex 3 for further details). This movement is backed by the climate tracers for industry and services, the former of which moved even further into the upswing quadrant than the overall climate tracer. The retail trade and construction climate tracers also moved into the upswing quadrant, but are still very close to the border to the downswing quadrant. The consumer climate tracer is currently situated on the border between upswing and downswing quadrant. The turning point indicator for the euro area (Annex 2) — which extracts the (positive or negative) surprises from new available survey data — moved into negative territory in March, given that the survey results of March were interpreted as negative after the rallying sentiment observed over January/February.

2. Recent developments in selected Member States

During 2013Q1, sentiment has further recovered in the largest EU Member States. The only exception is France, where March's drop was so pronounced that the ESI stands lower than at the end of 2012. Germany is the only of the seven countries where the sentiment index is scoring slightly above its long-term average.

Economic sentiment in **Germany** continued the recovery that had started in November 2012, although reporting deteriorating sentiment in March. At 100.4 points, the ESI is slightly above its long-term average of 100. The improvement over the first quarter was driven by industry, services, construction and consumer confidence. It is noteworthy that the latter improved in every single month of the quarter, i.e. including March. Confidence in retail trade stands out with losses.

In **France,** the ESI registered sharp losses in March which offset the gains of January and February and result in the indicator being at a slightly lower level than at the end of 2012. At 88.2 points, sentiment is clearly below its long-term average of 100. The developments were driven by all sectors surveyed, except for industry, which, due to a significant increase in February, secured an increase over the first quarter when compared to the end of 2012.

After a sharp loss in December 2012, the ESI in the **United Kingdom** embarked on a sideward trend in

the first quarter of 2013. Standing currently at 98.2 points, it is close to its long-term average of 100. The horizontal movement of the ESI is the result of deteriorating industry, retail trade and consumer confidence, which was offset by increasing confidence in the services and construction sectors.

In **Italy,** the ESI continued the recovery that had started in October of last year. Standing at 85.3 points, however, it still remains well below its long-term average of 100. The increase was fuelled by significantly improving sentiment in services and mild improvements in industry and among consumers. Construction also reported brightening sentiment, but much of it was offset by a sharp drop in March. Confidence in retail trade, on the other hand, lost ground.

In **Spain**, the ESI continued the recovery that had taken its onset in September 2012, albeit sentiment edged down in March. At 88.8 points, the indicator is significantly lower than its long-term average of 100. While industry moved sidewards and services confidence deteriorated, the other three surveyed sectors reported improvements. The reason for the aggregate of all sectors moving upwards was a marked recovery in confidence in construction and among consumers.

In the **Netherlands**, sentiment picked up in January and February. In spite of a slight drop in March, the indicator stands higher at the end of the first quarter of 2013 (86.8 points) than at the end of the previous quarter. However, the indicator is still below its long-term average. The positive developments were the result of recovering confidence in industry, among consumers and – more pronounced – in construction. The increased confidence in those sectors more than offset the increased pessimism in the services and retail trade sectors.

Sentiment in **Poland** brightened in February and March, after a sharp drop in January. Overall, the first quarter brought a slight increase compared to December of last year. The Polish ESI currently stands at 87.6 points and thus below its long-term average of 100. The positive developments were driven by the services sector and consumers, both of which became less pessimistic. Also sentiment in retail trade improved slightly. The construction sector, on the other hand, saw a flat confidence curve and industry even a slightly downward-bending curve.

3. Highlight: Perceptions of competitiveness in euro-area manufacturing

The determinants of international competitiveness are numerous and multifaceted. Usually, the competitiveness of a country is assessed through measures of price and cost differentials with respect to trading partners. However, such measures do not take into account other, non-cost related characteristics of goods, such as changes in quality and variety.

This section takes another look at competitiveness by using data on perceived competitiveness of euro-area firms in the manufacturing industry. These self-reported data are gathered through the EU-wide programme of harmonised business surveys. Manufacturing managers are asked how their competitive position on domestic and foreign markets (inside and outside the EU) has developed over the past 3 months. The possible responses are 'improved', 'remained unchanged' or 'deteriorated'.

Since managers can be expected to have a comprehensive view of their competitive position, based not only on cost and price factors, the survey data on perceived competitiveness can potentially provide a direct, timely and more comprehensive picture of competitiveness developments that can complement the standard measures of international competitiveness.

Recent developments in perceived competitiveness

As a means to summarise managers' responses concerning their firms' competitive position, perceived changes in competitiveness are measured as balances, i.e. the percentage of respondents that have answered 'improved' minus the percentage of respondents that have answered 'deteriorated'.

At euro-area level, managers reported that their competitive position on domestic and foreign markets inside and outside the EU is on a downward path since end-2009/early-2010 (Graph 1). The loss of competitiveness seems to be more important in markets inside the EU.

Interestingly, the series on perceived changes in competitive positions largely follow the developments of the industrial confidence indicator[1], which itself is

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[1] The industrial confidence indicator summarises managers' assessents of their production expectations, order books and stocks of finished products. The correlation coefficient with the confidence indicator over the period March 1997 – March 2013 is 0.9 for the questions on domestic and EU markets and 0.6 for the question on non-EU markets.

highly correlated with industrial output growth. This suggests that managers do not fully recognize if a perceived or expected loss in sales comes from a general market contraction or from a firm-specific decrease of market shares, i.e. a worse performance compared to competitors. This being said, the lower degree of correlation in the case of the assessment of competitive developments on non-EU markets points to some complementary information related to developments outside the EU.

Graph 1: **Perceived competitive position and industry confidence indicator; euro-area; percentage balance (1997Q1 - 2013Q1)**
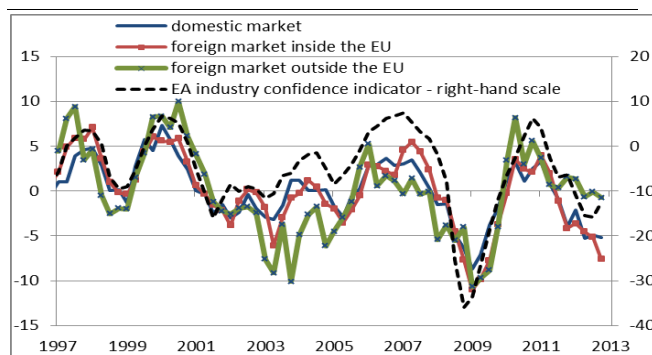
Source: European Commission.

When looking at the competitive position outside the EU for the five largest euro-area economies (Graph 2), a picture rather similar to the euro area aggregate emerges for Germany, Spain, Italy and the Netherlands. Only France shows a more volatile series.

Graph 2: **Perceived competitive position; five largest euro-area countries, percentage balance (1997Q1 - 2013Q1)**
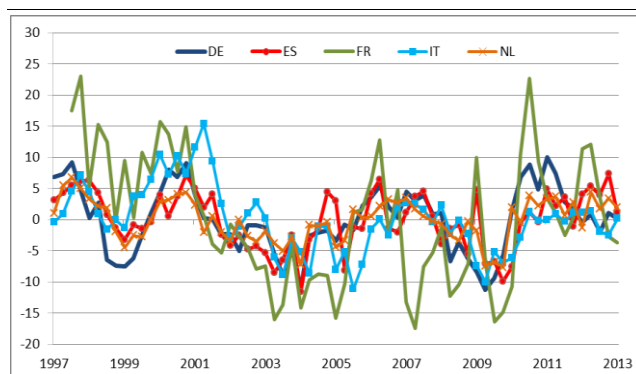
Source: European Commission.

An alternative way to look at the results is to cumulate the net balances. The rationale is that

balances are essentially perceived *changes* in competitiveness and adding them up over time allows to derive an indicator of the perceived *level* of competitiveness at a certain point in time, relative to a starting point.

Since the beginning of 2010, firms in the manufacturing sector perceived an improvement of their competitive position in markets outside the EU (Graph 3). After the losses registered during the financial crisis in 2008-2009, competitiveness perceptions are now approaching their peak levels reached at the end of 2001.

The trend in perceptions is mirrored in the relative cost index of competitiveness, measured as the nominal effective exchange rate deflated by unit labour costs for the total economy (REER). In general, there appears to be a relatively strong co-movement between the two series, even though survey data are lagging developments in the real exchange rate and the latter is more erratic than perceptions. Finally, while the pick-up in perceived competitiveness since 2009 is backed by similarly strongly improving cost competitiveness, the level of competitiveness according to the REER curve is still markedly below that in 2001.

In interpreting these results and the differences between the two curves, it is important to keep in mind that a one-to-one correspondence is not to be expected, given that the survey-based series of perceptions should measure a much broader concept of competitiveness than the index of cost competiveness. At the same time, the observable comovements between the series suggest that the perceived competitiveness of euro-area firms is to a considerable extent determined by relative costs.

Graph 3: **Cumulated perceived competitive position outside the EU, and the relative costs index of competitiveness; euro-area (1997Q1 - 2013Q1)**

* EER-20 Real ULCT Effective Exchange Rate Index, Euro 17 vis-à-vis a group of 20 trading partners (10 EU countries plus AU, CA, HK, JP, NO, SG, KR, CH, US and CN), EUR. Source: European Commission and ECB.

Graph 4: **Cumulated perceived competitive position outside the EU, five largest euro-area countries (1997Q1 - 2013Q1)**
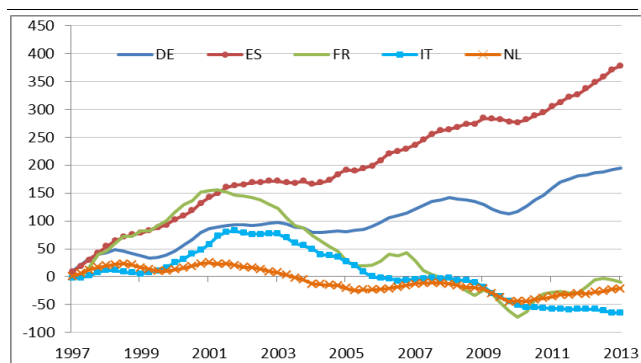
Source: European Commission.

At the country level, there is a large variation in terms of firms' perceived competitive position outside the EU according to the cumulated curves (Graph 4). Among the five largest euro-area economies, a downward trend since 2001 can be observed for Italy, the Netherlands and France. For the latter two there is a slight improvement since 2010. On the contrary, managers in Germany and Spain have perceived their competitive position improving almost constantly since 1997.

Table 1: **Correlations between firms' perceptions of competitive position outside the EU and the real effective exchange rate**

|	euro area	DE	ES	FR	IT	NL
lagging 2	-0.34	-0.95	0.82	-0.92	-0.71	-0.95
lagging 1	-0.26	-0.95	0.83	-0.90	-0.66	-0.97
coincident	-0.15	-0.93	0.84	-0.86	-0.60	-0.97
leading 1	-0.03	-0.90	0.85	-0.80	-0.52	-0.96
leading 2	0.08	-0.87	0.85	-0.75	-0.45	-0.93

Note: correlation coefficients are computed over the period 1997Q1 – 2012Q3; coincident correlation is computed using current quarter values for both survey and hard data while for the leading (lagging) correlation the hard data is shifted one or two quarters ahead (back).

When comparing the cumulated perceptions with the nominal effective exchange rate deflated by unit labour costs (REER), significant differences across countries emerge. Among the largest euro-area countries, the respective correlations are significant and – in line with economic rationale - negative in Germany, France, the Netherlands and, to a lesser

extent, Italy (Table 1). On the contrary, the correlation is positive in Spain, pointing to a mismatch between developments in cost competitiveness and perceived competitiveness.

Closer inspection of the two countries where perceived competitiveness increased over 1997-2013 shows that the upward trend in Germany is indeed in line with developments of the real effective exchange rate (Graph 5). Apart from the long-term trend also the short-term fluctuations around the trend are closely synchronised. On the contrary, the nearly uninterrupted improvement of perceived competitiveness in Spain is clearly not mirrored in the real effective exchange rate (Graph 6).
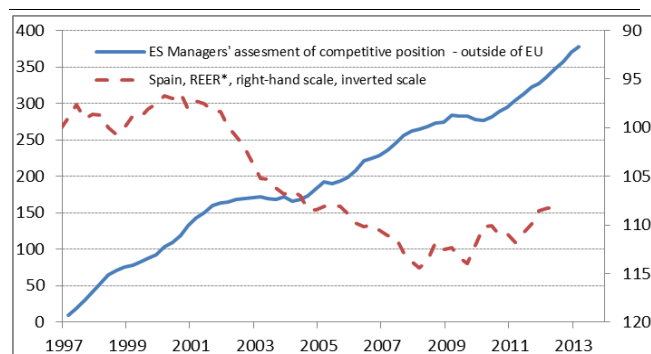
Graph 5: **Cumulated perceived competitive position outside the EU, and the relative costs index of competitiveness; Germany (1997Q1 - 2013Q1)**
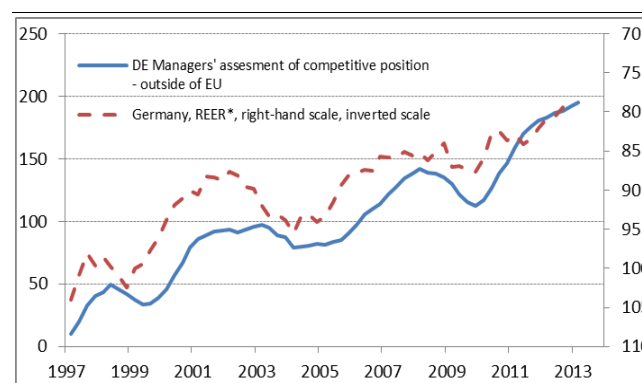
*Real HCI ULC Deflated, EER-20, DEM. Source: European Commission and ECB.

Indeed, while cost competitiveness deteriorated sharply between end-2000 and mid-2008, the majority of Spanish managers in the manufacturing sector continued to report an improving competitiveness position outside the EU. While the trend behaviour of the series is thus clearly opposed, the series of perceived competitiveness nevertheless displays some deceleration between 2001 and 2009 and a re-acceleration since 2010. This suggests that, while the series on perceptions can convey qualitative signals on competitiveness developments which are in line with developments in cost competitiveness, the level obtained through cumulating the changes in perceived competitiveness is misleading in the case of Spain. Indeed, the changes in perceived competitiveness from quarter to quarter, i.e. the underlying balances of Graph 2, are significantly positive on average across the sample. The average balance for Spain is +5.8, while it is -1.0 in Italy, -0.15 in France, -0.3 in the Netherlands and +3.0 in Germany. Cumulation thus leads to the observed strong upward path in perceived competitiveness.
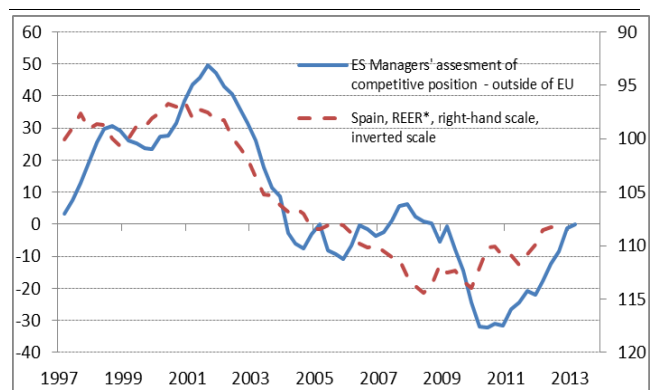
Graph 6: **Cumulated perceived competitive position outside the EU, and the relative costs index of competitiveness; Spain (1997Q1 - 2013Q1)**

*Real HCI ULC Deflated, EER-20, ESP. Source: European Commission and ECB.

The cause for such structural differences in the magnitude of average changes in perceived competitiveness appears to be the qualitative nature of the data that might partly reflect cultural/mentality differences of respondents. As an attempt to adjust for the apparent positive bias of the Spanish results when compared to other large euro-area countries, the underlying balance series can be mean-adjusted before being cumulated.

Graph 7: **Mean-adjusted cumulated perceived competitive position outside the EU, and the relative costs index of competitiveness; Spain (1997Q1 - 2013Q1)**

*Real HCI ULC Deflated, EER-20, ESP. Source: European Commission and ECB.

Using the mean-adjusted cumulated perceptions changes the results for Spain markedly. Compared with the non-mean-adjusted perceptions, the graph now points to losses in perceived competitiveness from mid-2001 to end-2009, followed by an improvement more recently (Graph 7). This pattern matches the developments in cost competitiveness in

Spain much closer; the correlation coefficient increases to -0.83 (-0.90 for a 2-quarter lag).

Conclusions

Quarterly results on industry managers' perceptions of their competitive position on domestic and foreign markets (both inside and outside the EU) can be a valuable supplementary source of information about the competitiveness of (the industrial sector of) a country, given that managers' perceptions should include elements of non-cost competitiveness.

Generally, the percentage balance series on perceived competitive positions closely follow the overall industrial confidence indicator, which itself traces developments in industrial output very closely. A possible explanation could be that managers, when asked to gauge developments in their firms' competitiveness, do not fully recognize if a perceived or expected loss in sales comes from a general market contraction or from a decrease of market shares, i.e. a worse performance compared to competitors.

Cumulated perceptions point to a decrease in perceived competitiveness in France, the Netherlands and Italy from 2001 to 2010/2011, followed by gains in France and the Netherlands since 2011; in Italy perceptions remained broadly stable since 2011. Meanwhile, in both Germany and Spain cumulated perceptions have improved nearly uninterruptedly since 1997.

In general, there appears to be a rather strong link between perceived competitiveness and price/cost competitiveness, as measured by the REER. Relative price/cost developments thus appear to be an important driver of perceived competitiveness. A striking exception to this observation among the large euro-area countries is Spain. While the continued increase in perceived competitiveness in Germany is very much in line with developments in cost competitiveness, the perception series is at odds with REER developments in Spain. Arguably, the survey-based series is not restricted to an assessment of prices/costs but comprises changes in quality and variety. However, it is hard to conceive that continued improvements in non-price competitiveness would have amply over-compensated Spanish losses in cost competitiveness in the eyes of business managers. Using the mean-adjusted cumulated perceptions, which correct for a possible 'optimism bias' over a longer time span, Spain shows a path (i) more similar to most of the other large euro-area countries, i.e. a decline from 2001 to 2010/2011 and an improvement thereafter and (ii) more in line with developments in Spanish cost competitiveness.

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 four phases of the business cycle to be distinguished:
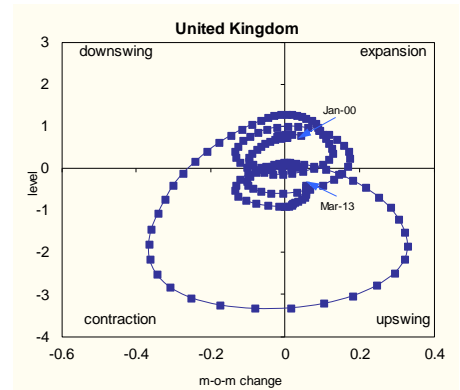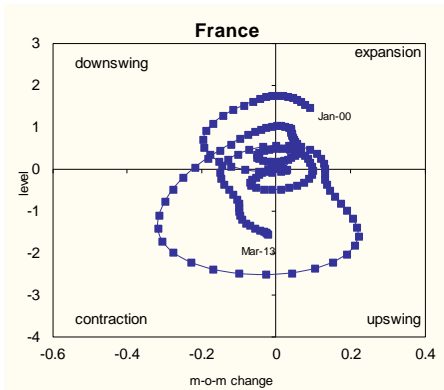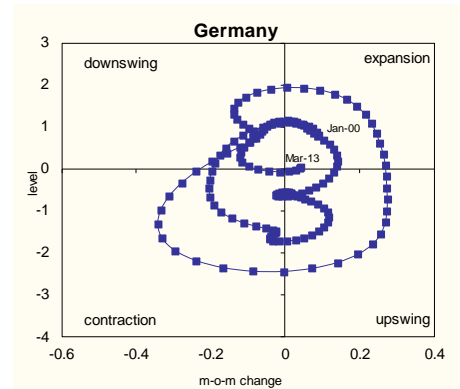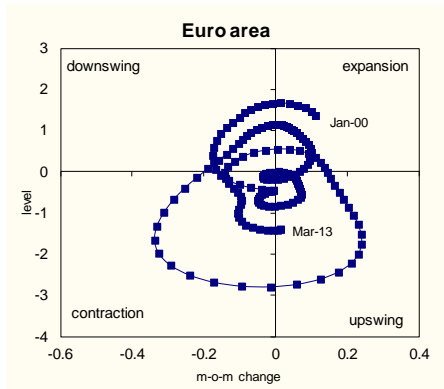- "expansion" (top right quadrant),
- "downswing" (top left),
- "contraction" (bottom left), and
- "upswing" (bottom right).

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

Economic climate tracer across sectors, EU
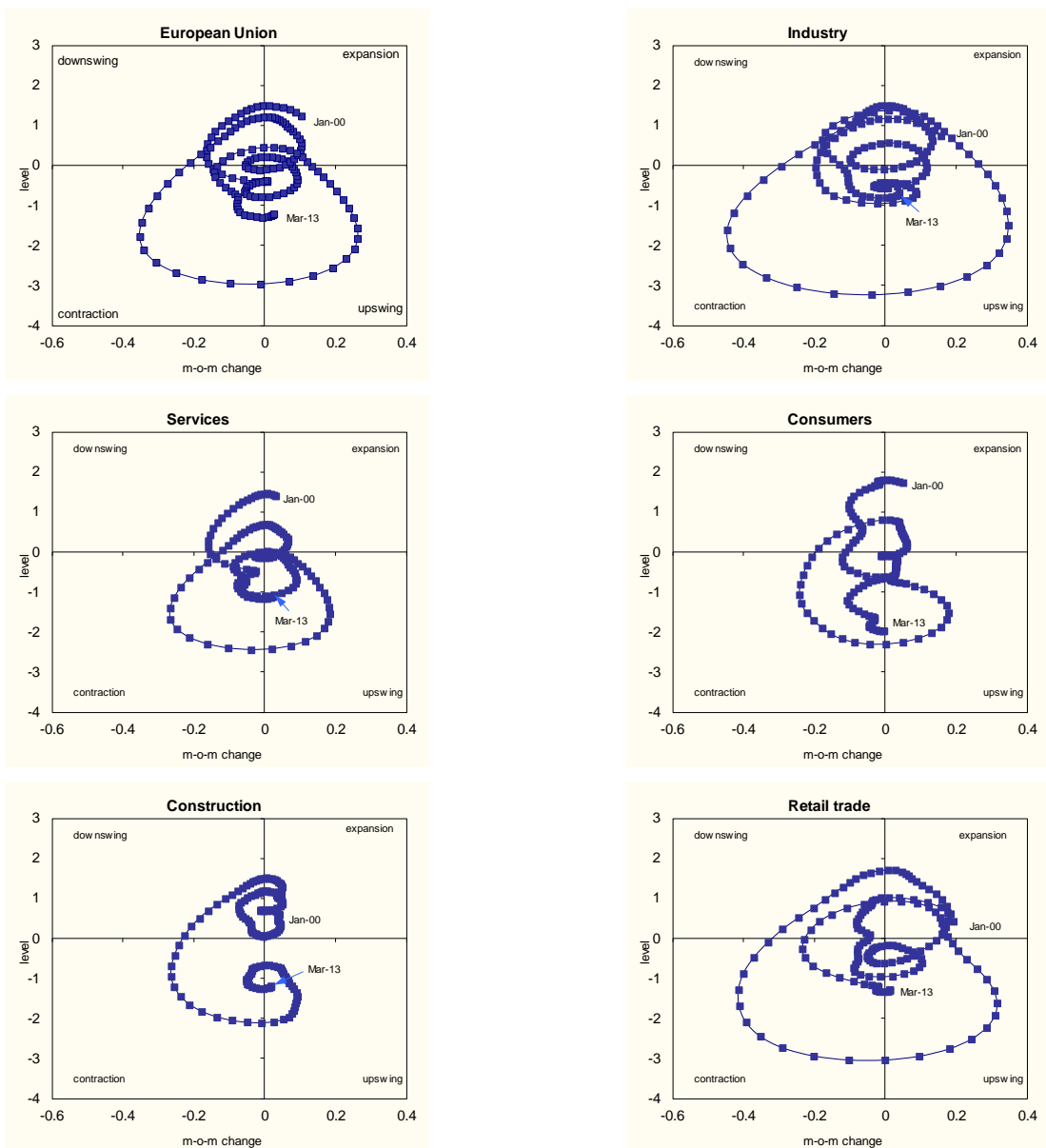
## Economic climate, largest EU Member States
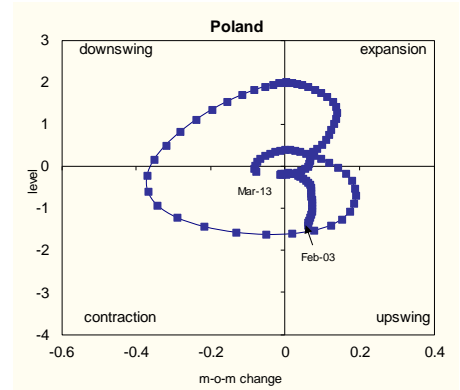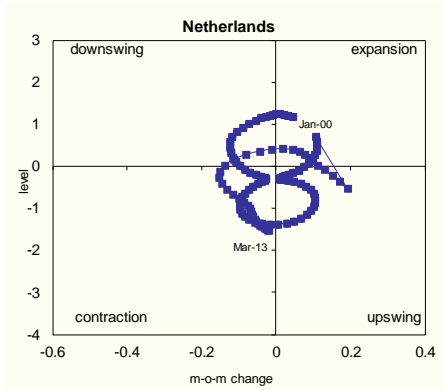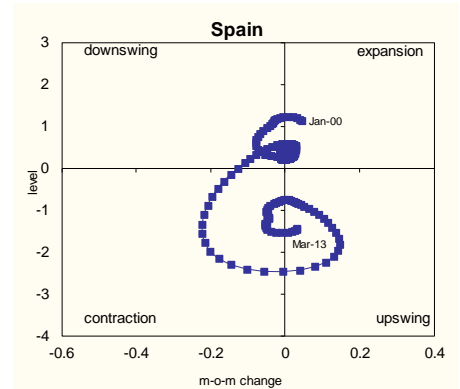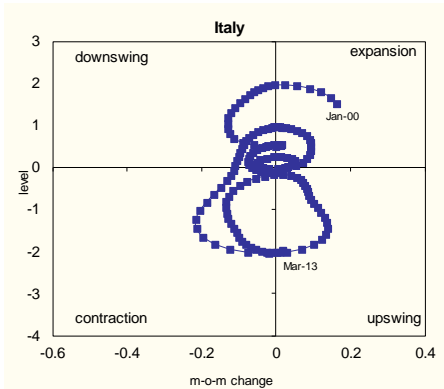
Annex 2: Euro-area turning point index

The turning point index — based on a Markov switching model — estimates the difference between high- and low-regime probabilities.

On the basis of the latest survey data for the euro area, the turning point index (TPI) was at -0.28 in March 2013 after readings of 0.89 and 0.55 in February and January respectively.

By design, the computation of the turning point aims to extract the surprises — positive or negative — from new information in the surveys. In the beginning of the first quarter of 2013 (January and February), confidence increased two months in a row by a magnitude that was last witnessed in January/February 2012. Therefore, the innovations within the framework of the AR modelling method are interpreted as positive. The negative results of March came accordingly rather unexpected and drove the TPI back into negative territory.

Turning point index for the euro area
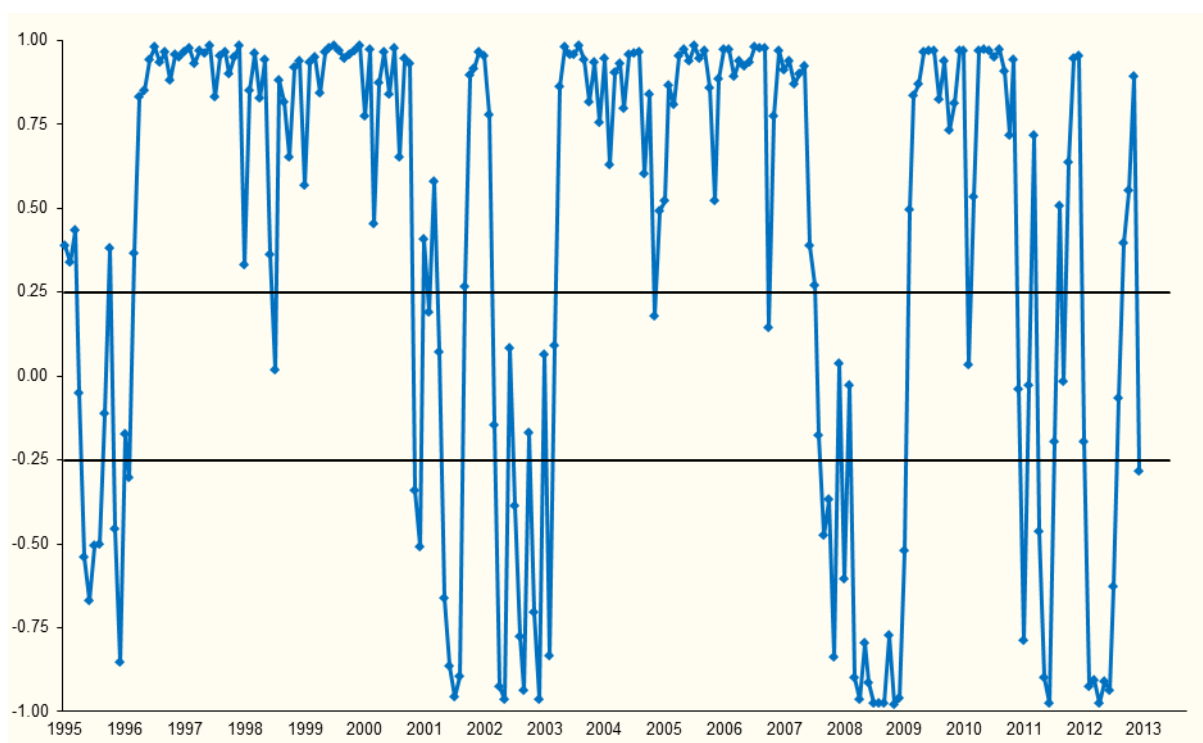
Annex 3: Reference series

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.

Markov Switching Turning Point Index

The purpose of the turning point index model, based on the work of Grégoir and Lenglart (2000)[2], is to identify economic growth trends in the euro area, using all the confidence indicators derived from the surveys of industry, services, building, and consumers as input. This model is symmetric in signalling turning points. TPI values within the ± 0.25 range imply stabilisation, when the pace of activity is around its potential (the signals received are very varied and indicate no clear-cut upward or downward movement). The economy is performing a soft landing or soft take-off, depending on whether the previous period was marked by acceleration or deceleration. By contrast, the signal is very consistent when TPI values are very close to or reach ± 1: the cyclical phase is deemed to be clearly favourable or unfavourable; economic activity is in a period of sharp acceleration (or sharp deceleration or even contraction).

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[2] Grégoir, S. and Lenglart, F. (2000), 'Measuring the probability of a business cycle turning point by using a multivariate qualitative hidden Markov model', *Journal of Forecasting*, 19.