# European Business Cycle Indicators

N.B.: Business survey data since May 2010 are now classified in accordance with an updated version of the Nomenclature of Economic Activities (NACE Rev. 2); recent developments should therefore be interpreted with caution.

- **Economic sentiment on the rise**
- **Industry contributes most to overall improvement**
- **Confidence among consumers regains momentum**
- **Multispeed recovery at country level**
- **Special focus: results of quarterly manufacturing and services surveys**

In July, the Economic Sentiment Indicator (ESI) edged up to 102.2 (by 1.9 points) in the EU and to 101.3 (by 2.3 points) in the euro area.

GRAPH 1a: ESI and GDP growth for the EU

$\rho_{98-09} = 0.93$
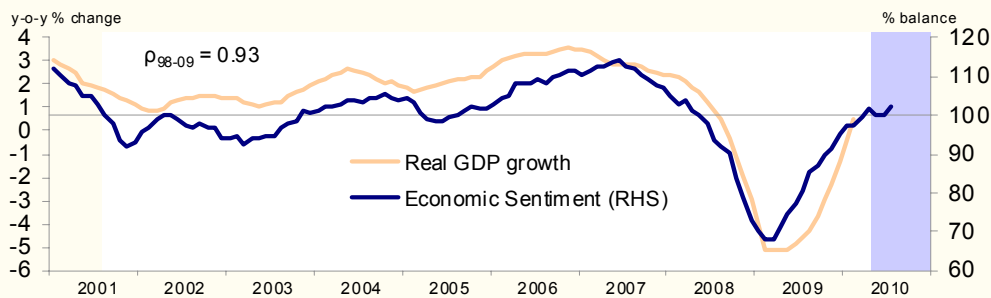
GRAPH 1b: ESI and GDP growth for the euro area

$\rho_{98-09} = 0.95$
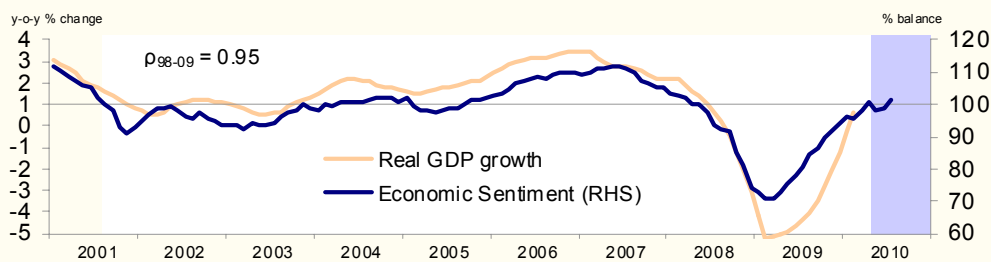
Source: European Commission

Note 1: The horizontal line (RHS) marks the long-term average of the sentiment indicator (100 = average for 1990 to 2009).
Note 2: Both series are plotted at monthly frequency. Monthly GDP data are obtained by linear interpolation of quarterly data.

Sentiment in industry — which was the main contributor to the overall improvement — gained 2 points in both regions (see Graph 2). The majority of respondents in this sector reported substantial improvements in their order books. However, managers were cautious about their production expectations. The quarterly manufacturing survey indicates an increase in capacity utilisation. It now stands at about 77% in both the EU and the euro area, though still below the long-term average (81%).

The current level of the indicator suggests that the recovery of economic activity in industry will continue in the coming months.

GRAPH 2: Industrial confidence indicator and industrial production for the euro area

Source: European Commission
Note: The horizontal line marks the long-term average of the confidence indicator.
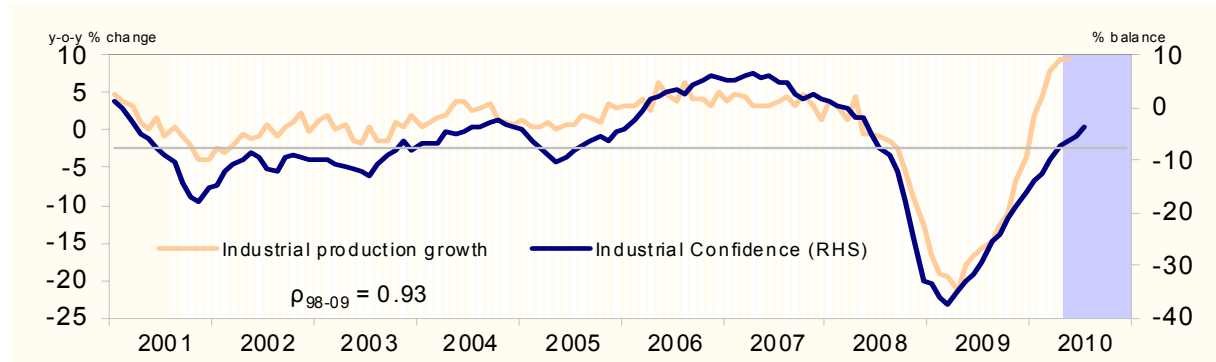
Confidence in services also improved by 2 points in the EU and the euro area, driven by brighter assessments of demand and the business situation over the past three months (see Graph 3). Confidence in the retail trade went up by 2 points in the euro area and by 4 points in the EU, while in construction, it remained broadly unchanged in both regions.

In line with the flash estimate, confidence among consumers regained momentum (+3 in the euro area and +1 in the EU). Increased optimism about the general economic situation and significant easing of unemployment fears in Germany contributed to the overall improvement. However, the level remains below its long-term average.

GRAPH 3: Sectoral confidence indicator and reference series for the euro area

Source: European Commission
Note: The horizontal line marks the long-term average of the confidence indicators.
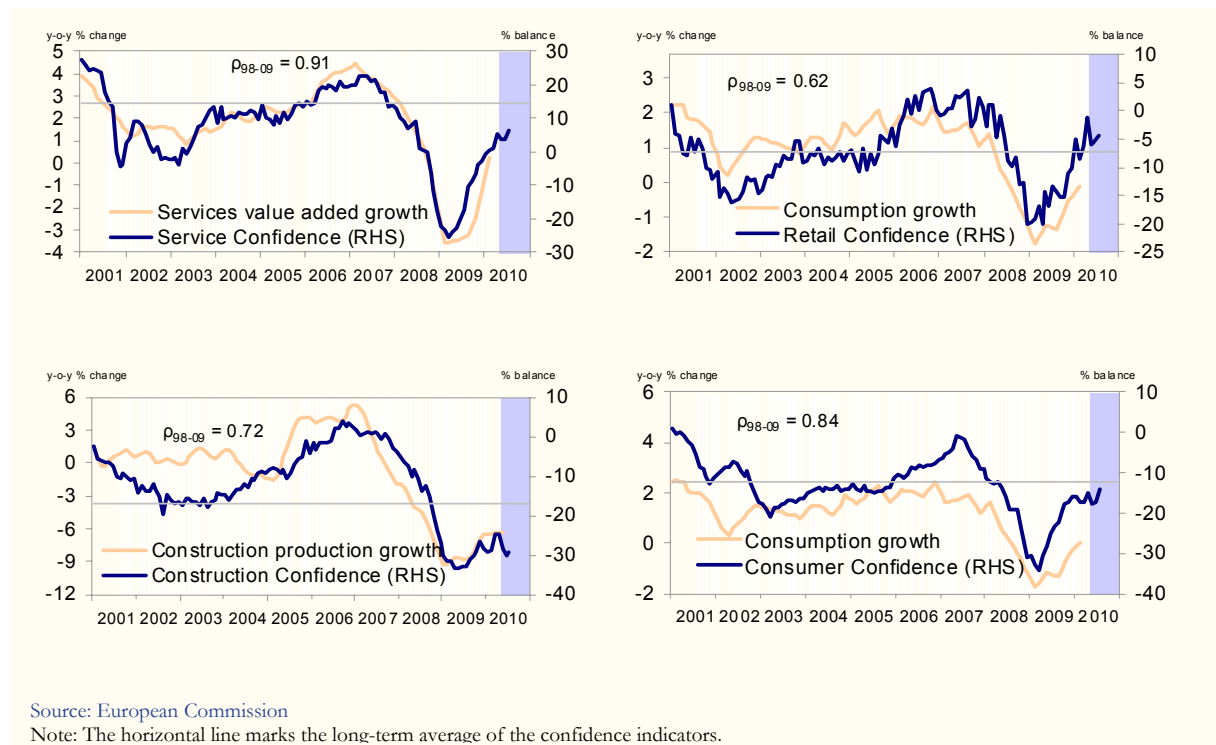
Economic sentiment indicators for the four largest euro area Member States and the UK

All but Spain reported an improvement in July. However, indicators follow diverging trends, suggesting recovery at different speeds (see Graph 4).

Germany reported the most significant increase (+4.0). Confidence improved in all sectors and was especially marked in the retail trade and among consumers.
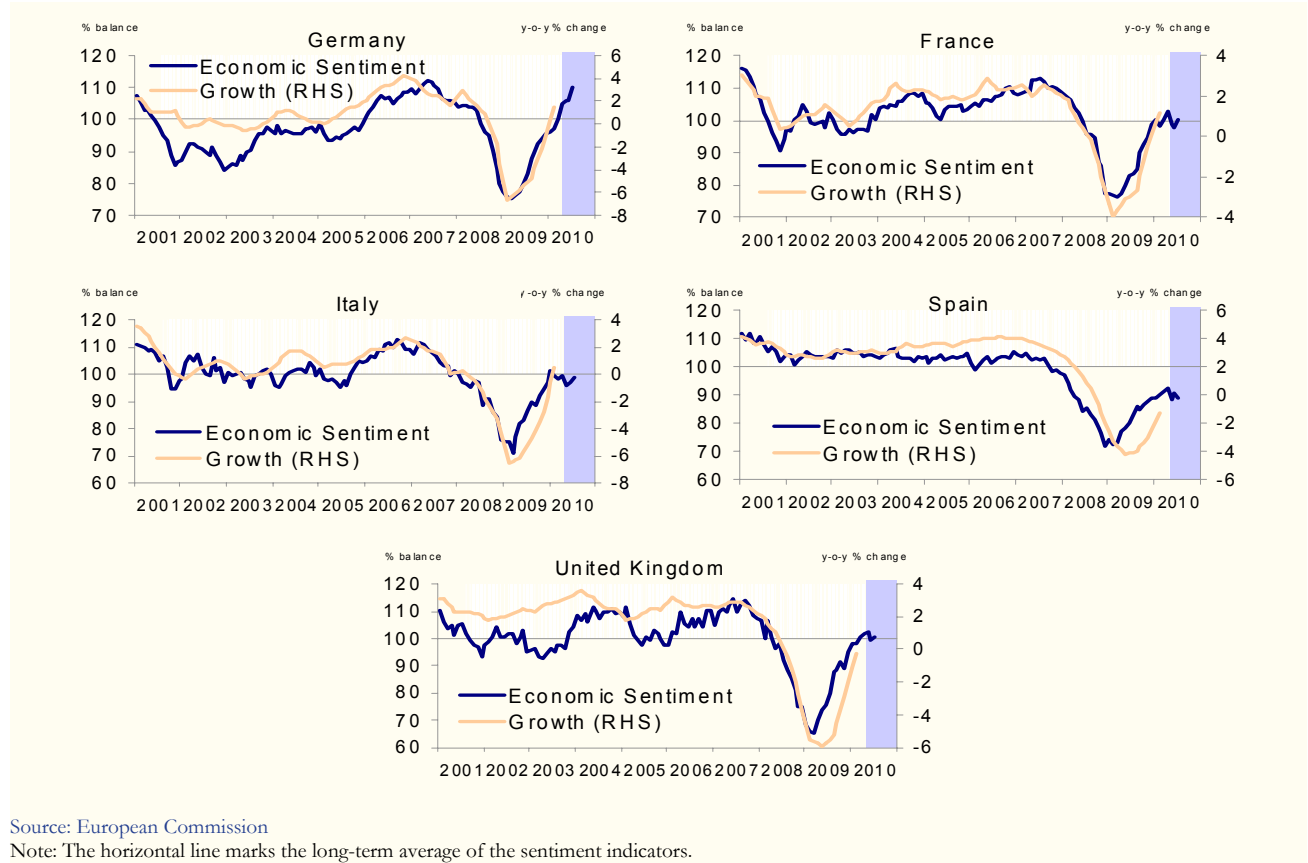
Sentiment also improved in France (+2.6), mainly thanks to optimistic views in industry, in which it rose markedly. Confidence also improved in services and construction, while it weakened slightly in the retail trade. Confidence remained unchanged among consumers.

The ESI increase was less pronounced in Italy (+1.7). On the back of an improving assessment of order book levels, confidence improved significantly in industry. Confidence also rose, though less markedly, in services, construction and among consumers. In contrast, confidence deteriorated in the retail trade.

Spain, where the level of the ESI is among the lowest in the euro area, reported a decline (-1.2). Overall, the decline in sentiment resulted from a sizeable drop in the retail trade, followed by services, industry and among consumers. By contrast, confidence in construction improved somewhat.

The UK reported an improvement in sentiment (+1.4). Confidence in the retail trade showed an exceptional improvement. Sentiment also improved markedly in industry, while it worsened substantially among consumers, followed by services and construction. All surveys were conducted after the unveiling of the budget on June 22.

GRAPH 4: ESI and GDP growth (year-on-year) for the four largest euro area Member States and the UK

Source: European Commission
Note: The horizontal line marks the long-term average of the sentiment indicators.
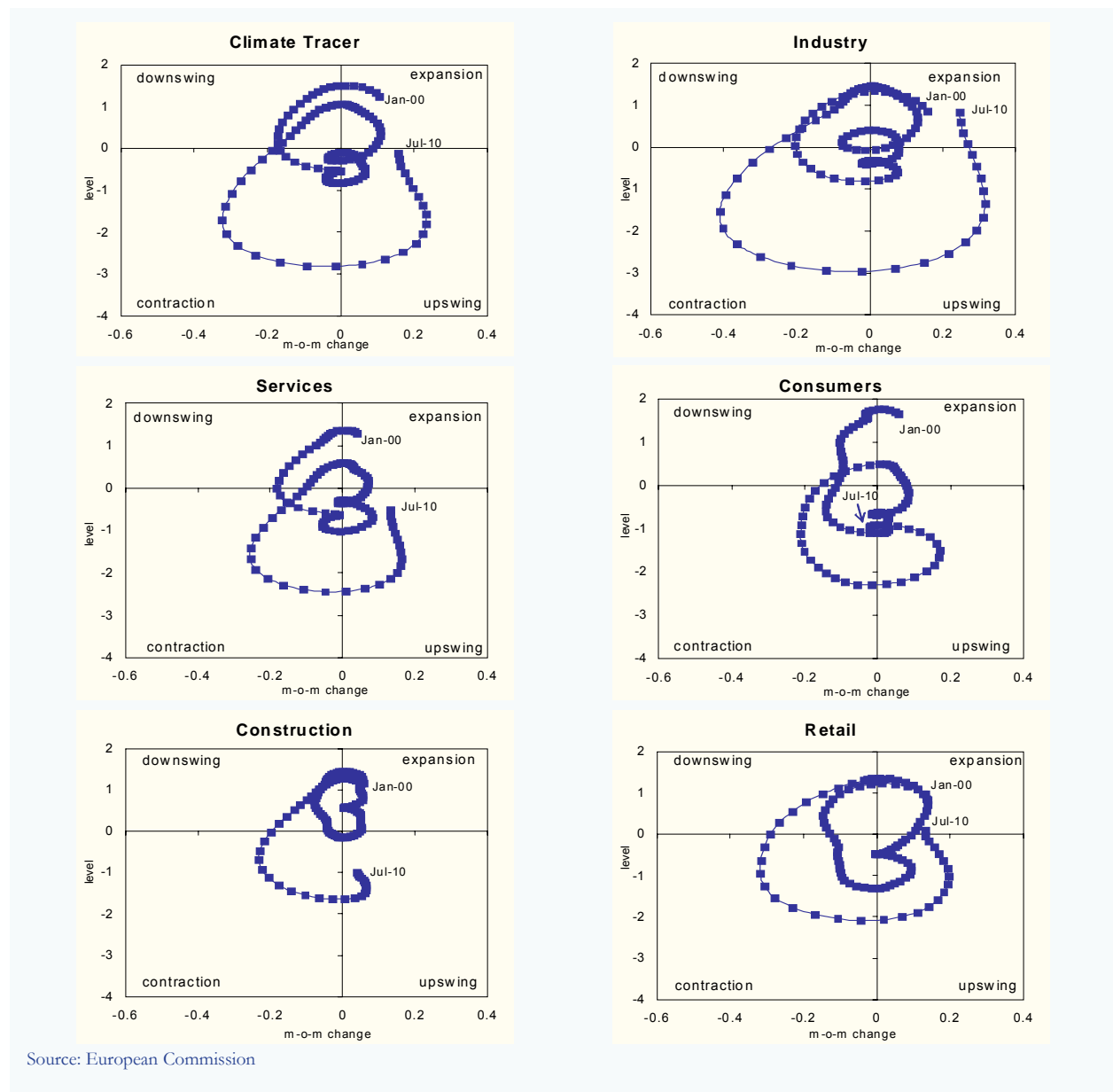
The economic climate tracer

Graph 5a shows the economic climate tracer (and its sectoral components) for the euro area. The graph distinguishes between four phases of the business cycle — represented by its four quadrants — namely 'expansion' (top right), '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.

Based on NACE Rev. 2 input data since May 2010 and NACE Rev. 1 data until April, the economic climate tracer for the euro area remains firmly in the upswing quadrant, approaching that for expansion. The climate tracers for industry and the retail trade are in the expansion area, while services and construction are still in the upswing phase, with construction lagging behind. The consumer climate tracer has moved back to the contraction quadrant.

> This section shows the economic climate tracer (ECT): both cyclical movements (Graphs 5a and 5b) and its most recent values across sectors (Graph 6). The economic climate tracer is compiled from a larger set of series than the ESI and involves a smoothing step (see Annex 1 for details). As a consequence, the resulting message may differ from the analysis set out in previous sections.

GRAPH 5a: Economic climate tracer across sectors, euro area

Source: European Commission

Graph 5b displays the economic climate tracer for the four largest Member States in the euro area and for the UK. Germany is firmly in the expansion phase, followed by the UK. The other countries are still in the upswing quadrant, with Italy leading, and Spain lagging behind.

GRAPH 5b: Economic climate tracer for the four largest euro area Member States and the UK
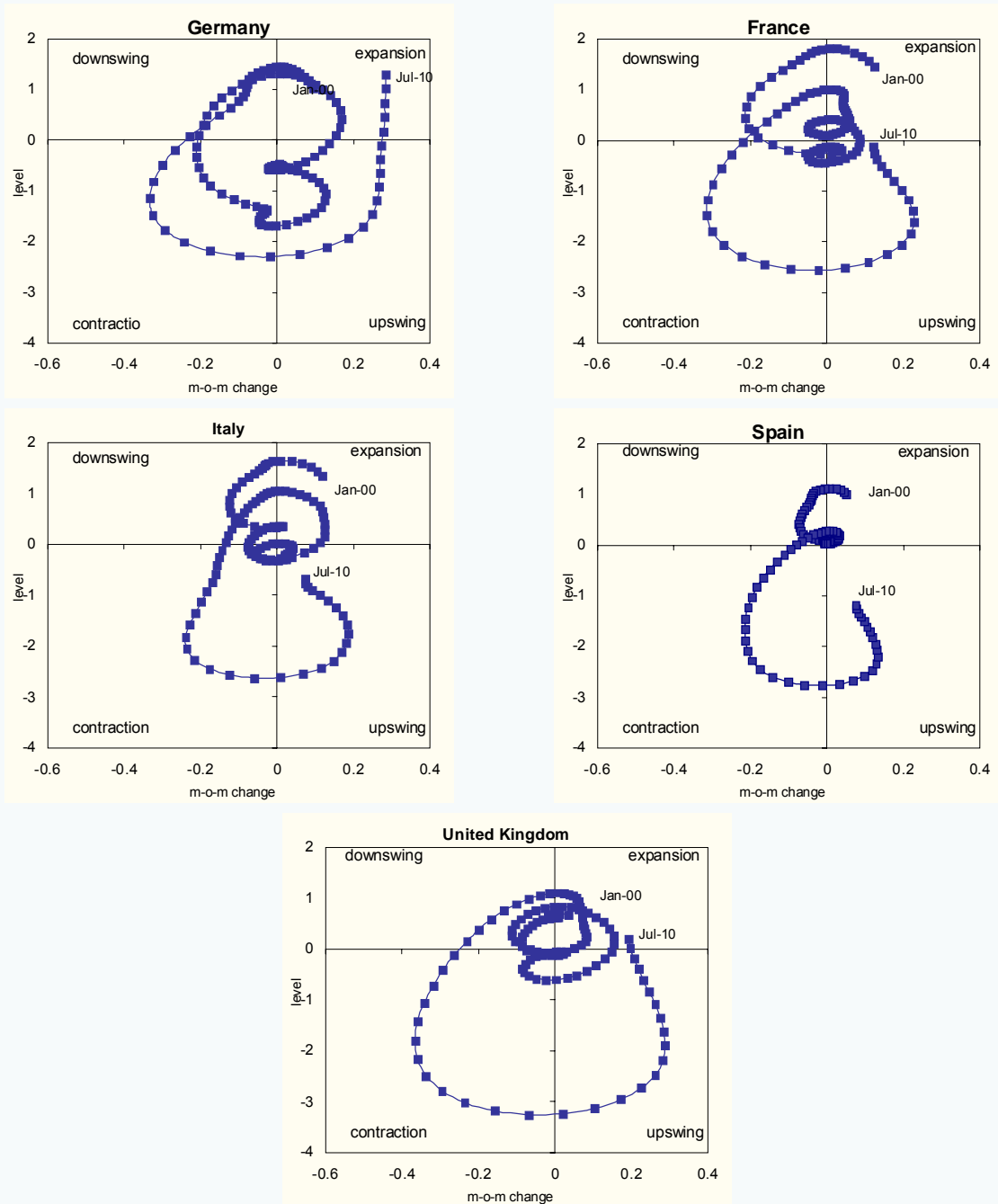
Source: European Commission

Graph 6 shows the latest values for the climate tracer broken down by sector. In Germany, all the sectoral climate tracers are now in the expansion quadrant. The same is true for the retail trade and industry in both France and the UK. Industry is in the upswing quadrant for both Italy and Spain. The consumer climate indicator stayed in the contraction phase in Spain, Italy, France and the UK.

GRAPH 6: Sectoral breakdown of the climate tracer for the four largest euro area Member States and the UK
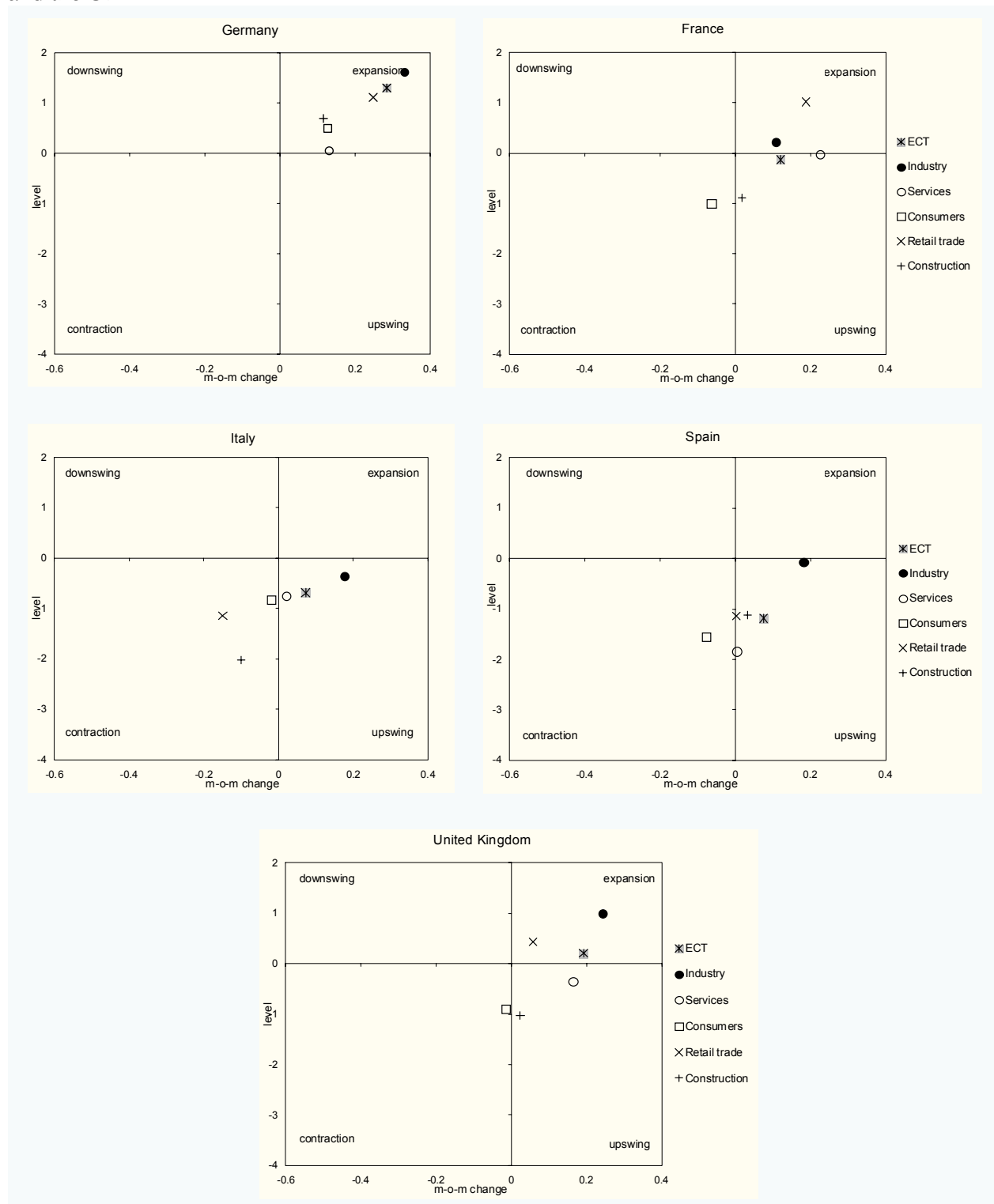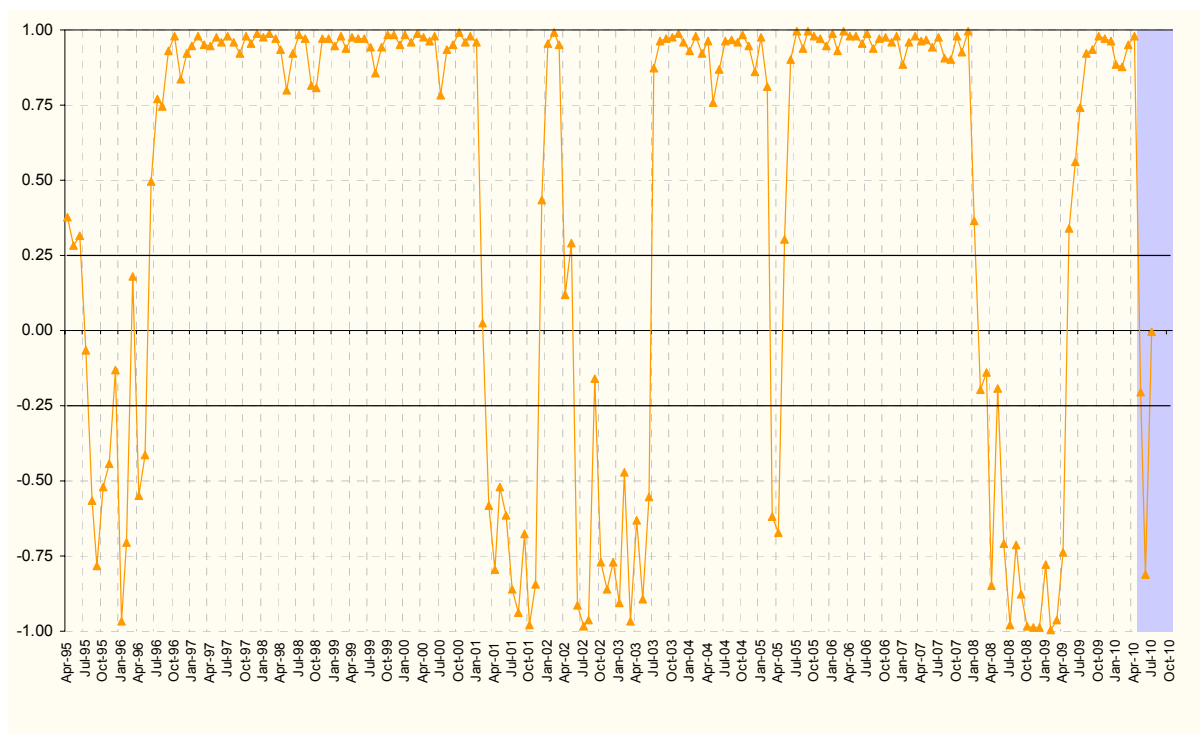

Source: European Commission

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) moved up to zero in July.

By design, the turning point's computation (coding step) aims to extract the surprises — positive or negative — from new information in the surveys. Thus, after the drop last month, confidence picked up again, and therefore reveals positive change. The TPI now stands at zero and this indicates considerable economic uncertainty, as the signals are very mixed and do not indicate any clear-cut direction (see Annex 1 for details).

GRAPH 7: Turning point index for the euro area

Source: European Commission

Results from quarterly surveys among managers: Positive, encouraging signals

by **Roberta Friz,** *economic analyst at DG ECFIN, economic studies and business cycle surveys unit.*

This month's special focus presents July 2010 results from the quarterly surveys carried out among managers in industry and services sectors.

In these surveys, managers are requested to indicate main limiting factors for their business, as well as to assess order developments, capacity utilisation and their competitive position on the markets.

Background

This special focus presents July 2010 quarterly[1] results[2] for industry and services. The main topics covered by the quarterly questions are *factors limiting production* (industry and services), *order developments*, *production capacity*, *capacity utilisation*, and *competitive position on the markets* (industry).

Factors limiting production

Managers in both industry and services were asked to indicate the main factors, if any, which currently limit their production or business.
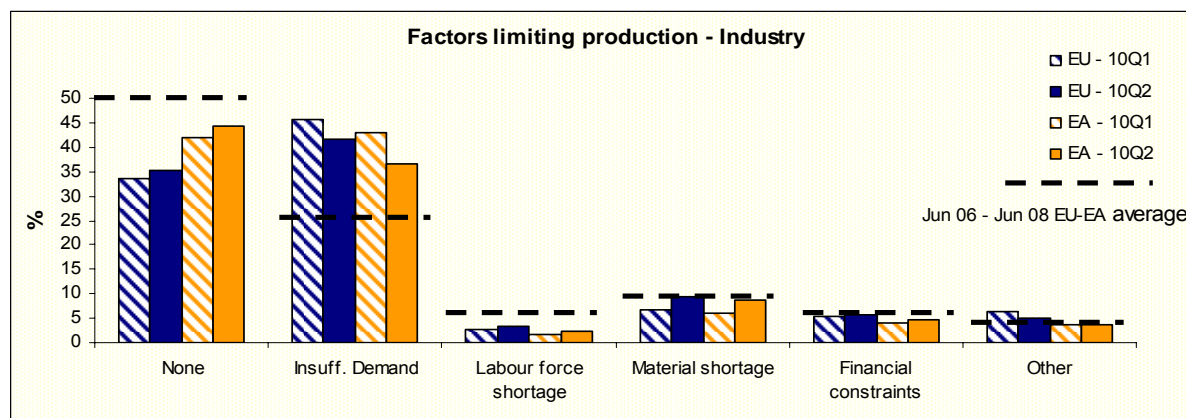
Around 41% of the managers surveyed in industry in the EU as a whole and 37% in the euro area think that insufficient demand is the main factor limiting their production (Graph 1). This represents a reduction of 5 and 6 percentage points respectively compared with the first quarter of 2010. Labour force and material shortage and financial constraints are far less important: however, the percentage of managers mentioning these factors as limiting their production increased compared with the April 2010 quarterly survey in both the EU and the euro area. Also, the percentage of respondents saying there are no factors limiting their production increased.

Developments between April and July 2010 brought levels more in line with the pre-crisis situation: even though the percentage of managers viewing insufficient demand as the major problem is still nearly twice as high as pre-crisis, the gap is closing. Other factors are also approaching pre-crisis levels.

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[1] Four times a year (in January, April, July and October) a few additional questions are included in the monthly surveys in industry, services, construction and among consumers.

[2] Hereafter July 2010 quarterly results will be labelled as 2010 Q3.

GRAPH 1: Factors limiting production — Industry

Factors limiting production - Industry

Legend: EU - 10Q1, EU - 10Q2, EA - 10Q1, EA - 10Q2, Jun 06 - Jun 08 EU-EA average

Categories (x-axis): None, Insuff. Demand, Labour force shortage, Material shortage, Financial constraints, Other
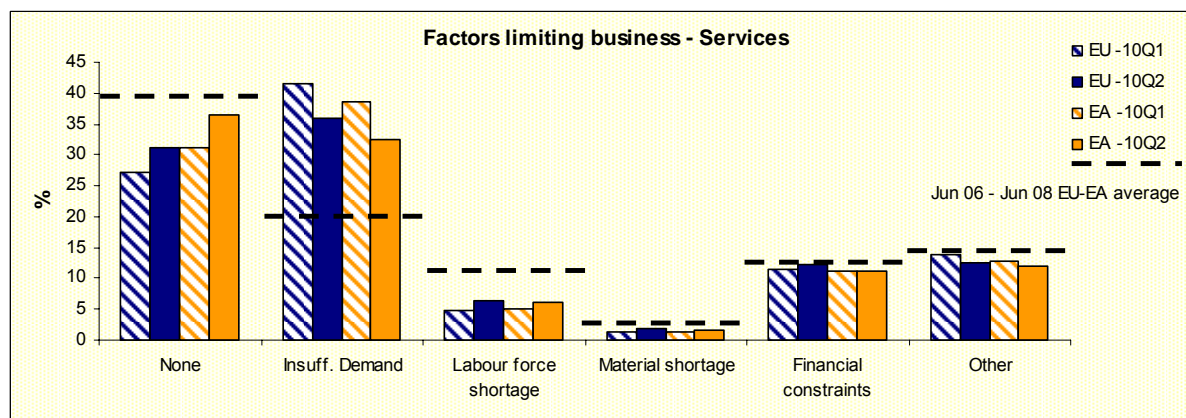
Y-axis: % (0 to 50)

Source: European Commission

In services (Graph 2), financial constraints seem to play a more important role, currently being the source of worry for about 12 % of managers in the EU and 11 % in the euro area. However, insufficient demand is the main limiting factor (36 % in the EU and 32 % in the euro area). Also in services, this percentage decreased markedly compared with the last survey.

Compared with pre-crisis levels, the percentage of managers viewing insufficient demand as the major problem is still nearly twice as high, while the share of those reporting no constraints or labour force shortage is approaching pre-crisis levels.

GRAPH 2: Factors limiting business — Services

Factors limiting business - Services

Legend: EU -10Q1, EU -10Q2, EA -10Q1, EA -10Q2, Jun 06 - Jun 08 EU-EA average

Categories (x-axis): None, Insuff. Demand, Labour force shortage, Material shortage, Financial constraints, Other

Y-axis: % (0 to 45)

Source: European Commission

The overall picture indicates a clear improvement. Managers in both industry and services continue to express concerns about insufficient demand for their products, but the improvements in their assessment of labour force shortage and material shortage suggest possible new hiring and increasing demand.

Orders developments

After the trough observed in the first quarters of 2009, managers in industry reported steady improvement in their order books. As of January 2010, assessment of past and future order books is back to pre-crisis levels, in both the EU and the euro area. In July 2010, results show a broadly unchanged situation compared with April 2010 (Graph 3).

GRAPH 3: Orders developments
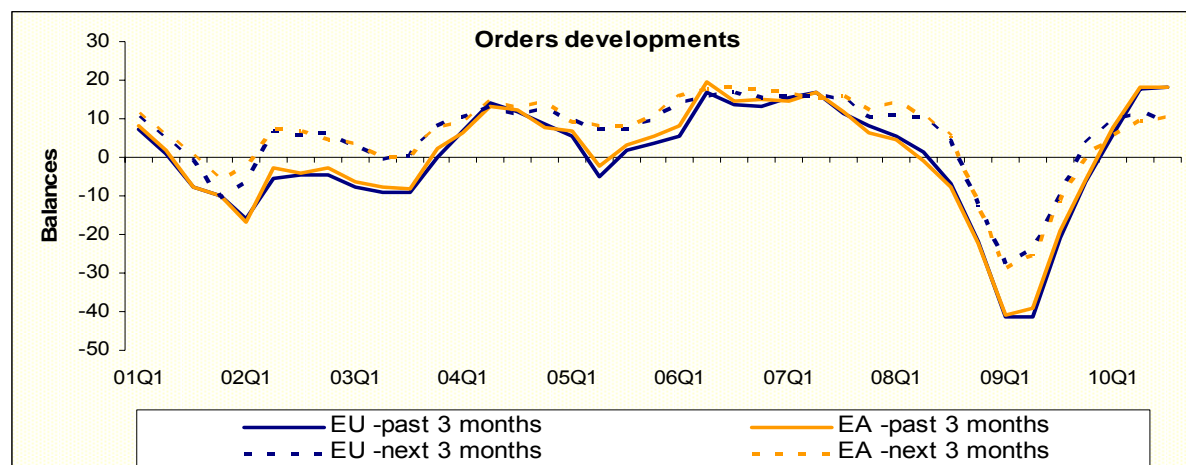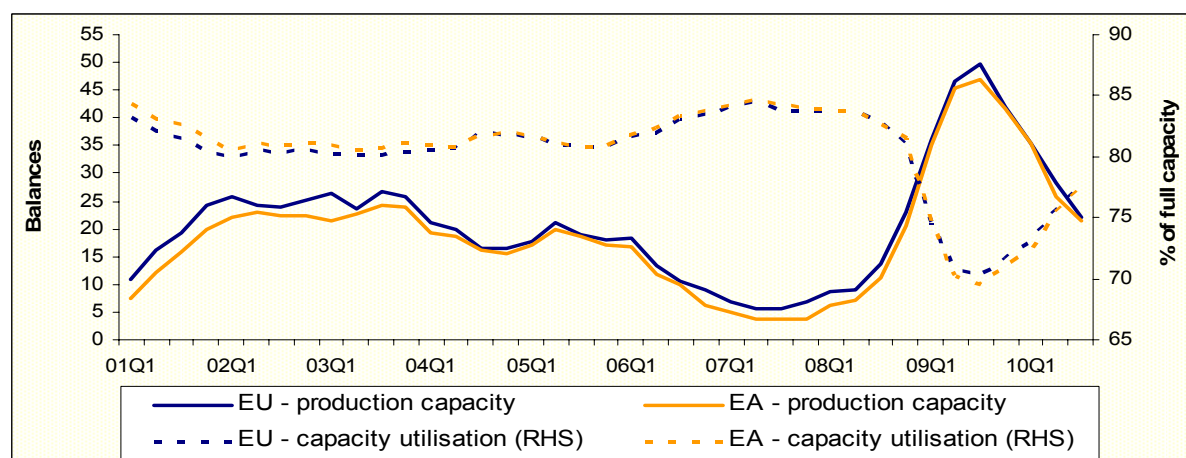

Source: European Commission

Production capacity and capacity utilisation

In the quarterly surveys, managers are asked to give their assessment of current production capacity, considering order books and expected changes in demand over the coming months. In the same survey they are also asked to evaluate at what level their company is operating, as a percentage of full capacity.

The two series historically exhibit a high negative coincident correlation (- 0.92 for the EU, and -0.93 for the euro area). Graph 4 clearly depicts this pattern: the trough observed in capacity utilisation between the second and the third quarters of 2009 was accompanied by a peak in the assessment of unexploited production capacity.

The latest available data signal that excessive production capacity is declining, and the gap with the long-term average is rather narrow. In line with that, the rate of capacity utilisation is increasing, though the increase is less marked and lagging behind the production capacity developments.

GRAPH 4: Production capacity and capacity utilisation
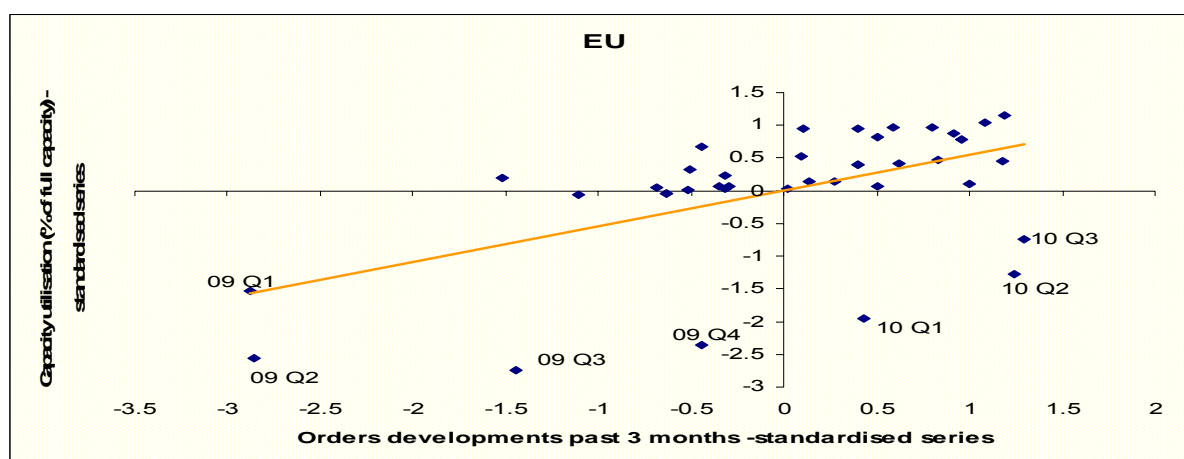

Source: European Commission

Is there a mismatch between orders developments and capacity utilisation?

Results show that orders developments are now back at the pre-crisis level, whereas capacity utilisation is still below 'normal' levels.

Indeed, looking at the historical relationship between the two series, for both the EU and the euro area (Graph 5 and 6, respectively) it appears that managers' assessment of capacity utilisation is more gloomy than could be expected on the basis of orders developments. While the very low level of capacity utilisation could have been consistent with the orders outlook in the first quarters of 2009, current figures seem overly subdued.

The rather pessimistic view that managers have on the rate of capacity utilisation possibly could mean that either they underestimate the actual figure, or they are still fulfilling orders exclusively by means of destocking, thus keeping capacity utilisation very low.

GRAPH 5: Orders developments and capacity utilisation — EU

Source: European Commission

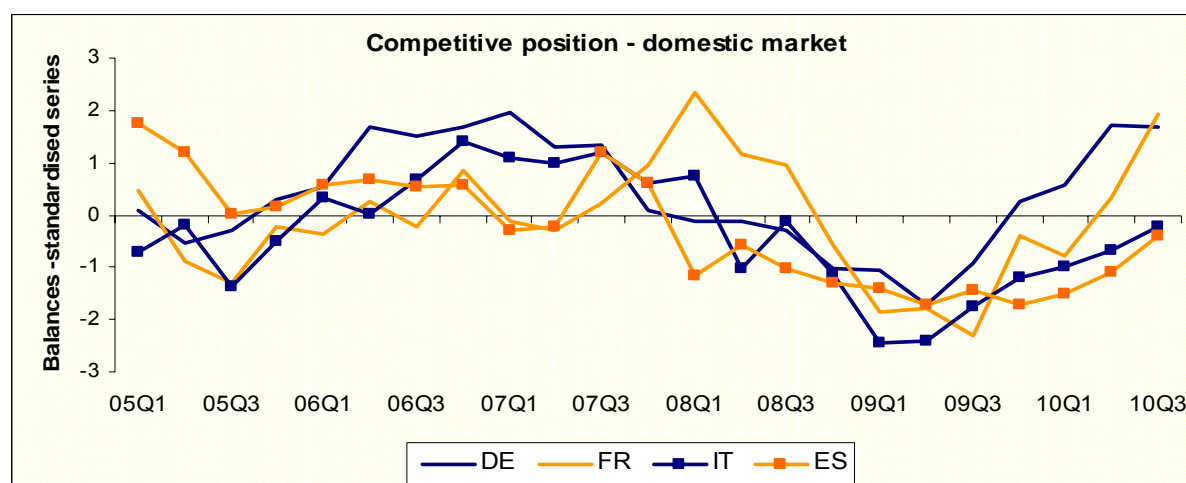**GRAPH 6: Orders developments and capacity utilisation — euro area**
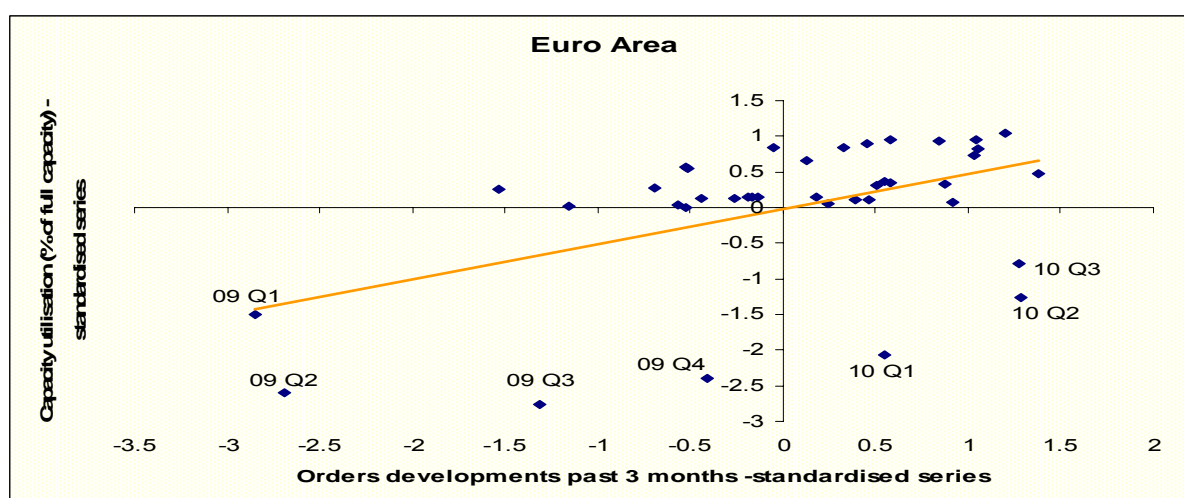
Source: European Commission

Competitive position on the markets

Finally, quarterly questions also investigate the competitiveness dimension on domestic and foreign markets. Managers are asked to evaluate developments over the past three months.
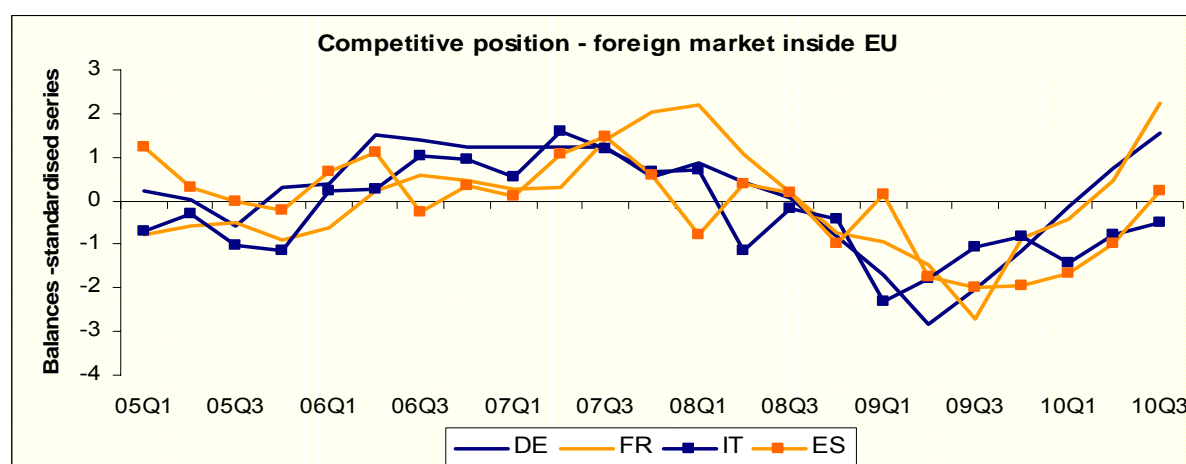
When focussing on the domestic market for the four largest euro area Member States (Graph 7), we observe a positive trend in all four euro-area countries. The recovery pattern is, however, more evident in the opinions of German and French managers, whereas most Spanish and Italian companies continue to judge their competitive position negatively. This picture is complemented by the revealed competitive position on foreign markets inside the EU (Graph 8), with Germany and France steadily on an upward path, followed by Spain; while the competitive position of Italy's companies is still gloomy and lagging behind. Lastly, when looking at the competitive position on foreign markets outside the EU, all the largest euro-area countries show a clear upward trend (Graph 9).

GRAPH 7: Competitive position on domestic markets — four largest euro area Member States

Source: European Commission
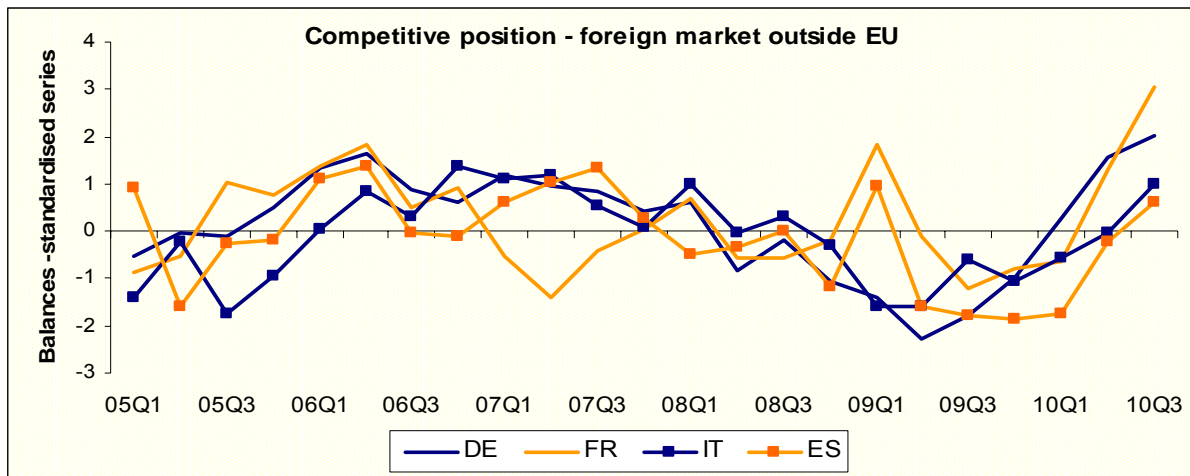
GRAPH 8: Competitive position on foreign markets — four largest euro area Member States

Source: European Commission

GRAPH 9: Competitive position on foreign markets — four largest euro area Member States

Source: European Commission

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

Note: Monthly data are obtained by linear interpolation of quarterly data.

Economic Sentiment Indicator

The economic sentiment indicator (ESI) is a weighted average of the balances of 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 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 construction of the ESI can be found at:
http://ec.europa.eu/economy_finance/db_indicators/surveys/method_guides/index_en.htm
Long time series of the ESI and confidence indicators are available at:
http://ec.europa.eu/economy_finance/db_indicators/surveys/time_series/index_en.htm.

Economic Climate Tracer

The economic climate tracer is a two-step procedure. The first consists of building economic climate indicators. They are based on principal component (PC) analyses of balance series (s.a.) from the surveys conducted in industry, services, building, 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: 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. In the case of the euro area, the first principal component explains between 65% (retail) and 92% (industry) of the variance of the input balance series in question.

The economic climate indicator (ECI) is a weighted average of the five PC-based sector climate indicators. The sector weights equal 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 broadly on the basis of two criteria: the representativeness of the sector in question and historical tracking performance vis-à-vis GDP growth.

In the second step 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 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 turning point index model, based on the work of Grégoir and Lenglart (2000)[3], aims at identifying economic growth trends in the euro area, using as input all the confidence indicators derived from the surveys of industry, services, building, retail trade and consumers. 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 whether the previous period was marked by acceleration or deceleration. By contrast, the signal is very consistent when TPI values draw 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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[3] 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.