

3 The recent strength of survey-based indicators: what does it tell us about the depth and breadth of real GDP growth?

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Recent opinion surveys point to a solid increase in real GDP, which raises the question whether this strong growth dynamic can be expected to continue. For example, “soft” data from the two most prominent surveys for the euro area – the European Commission’s business and consumer surveys and the IHS Markit PMI (PMI refers to Purchasing Managers’ Index) – have lately shown a remarkable strength, which appears to indicate that the euro area economy is growing solidly. Both of these surveys are closely monitored by analysts and policymakers because they are considered a timely and often unique indicator of economic developments: survey results are released on a monthly basis (from the third week of the reference month onwards), while the preliminary flash GDP estimate is published only 30 days after the end of the reference quarter. This box focuses on a key data series from each survey, i.e. the Economic Sentiment Indicator (ESI) and the composite output PMI, as the two indicators involved are typically best correlated to developments in real GDP.

The ESI and the composite output PMI are both useful for gauging movements in real GDP, but feature methodological differences. The European Commission’s surveys have a broad coverage in terms of countries (all euro area countries are covered except Ireland), sectors, questions and sample size (it comprises 75,000 private sector companies and 26,000 consumers). A detailed picture of economic developments can thus be obtained. As part of these surveys, the ESI includes confidence indicators for five sectors, with each one encompassing an average of two to four sub-questions. Some of the questions are related to orders, expected production/demand or employment and, as such, are of a forward-looking nature. The weights underlying the ESI are fixed as follows: industry at 40%, services at 30%, consumer (household) at 20%, and both retail trade and construction at 5%.⁹ However, financial services are not included in the ESI. This is a shortcoming because the financial sector affects real GDP and developments in this sector can be very different to those in the rest of the economy, as seen during the financial crisis.

The composite output PMI is derived from replies to a question on month-on-month output changes with three possible responses: “up”, “unchanged” or “down”. It applies a weight of 65% for services-related activity (covers 2,000 private sector companies from the four largest euro area countries and Ireland), with the remaining 35% assigned to manufacturing output (covers 3,000 companies at the country level,

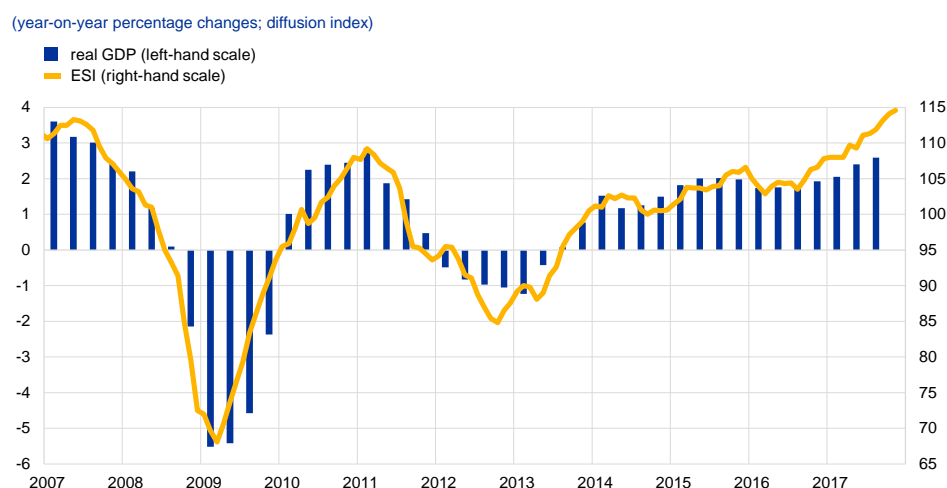
⁹ See Gelper, S. and Croux, C., “On the Construction of the European Economic Sentiment Indicator”, *Oxford Bulletin of Economics and Statistics*, 72(1), February 2010, pp. 47-62; Pošta, V. and Pikhart, Z., “The Use of the Sentiment Economic Indicator for GDP Short-term Forecasting: Evidence from EU Economies”, *Statistika*, 49(1), 2012, pp. 41-55; and Sorić, P., Lolić, I. and Čižmešija, M., “European economic sentiment indicator: an empirical reappraisal”, *Quality & Quantity – International Journal of Methodology*, 50(5), September 2016, pp. 2025-54.

including from the Netherlands, Austria and Greece). Important sectors are thus missing, e.g. public services and non-manufacturing industry (mainly construction).

The ESI and the composite output PMI suggest that the euro area economy continued to grow strongly in the fourth quarter of 2017. As illustrated in Chart A, the ESI is constructed to track contemporaneous movements in year-on-year real GDP.¹⁰ The close correlation between the ESI and year-on-year real GDP indicates a continued solid economic expansion in the fourth quarter. Part of the recently observed discrepancy between the ESI and year-on-year growth can be explained by the fact that the recent upswing in the ESI is largely related to the forward-looking components underlying it. Thus, the recent improvement in the ESI may also point to solid developments beyond the fourth quarter.

Chart A

Euro area real GDP and the Economic Sentiment Indicator



Sources: Eurostat and European Commission.

The composite output PMI is designed to track quarter-on-quarter changes in real GDP growth. A simple PMI-based GDP tracking rule is illustrated in Chart B, i.e. the quarter-on-quarter percentage change in real GDP equals 10% of the quarterly average composite output PMI from which 50 is subtracted. The link between quarterly changes in real GDP and the composite output PMI has at times tended to weaken, particularly during the first years of the financial crisis (2008/09). Nevertheless, since 2003 (the start of the release of a flash GDP estimate for the euro area) this simple tracking rule has been more accurate in predicting the final GDP data released for calendar years than the first GDP vintage in about half of the

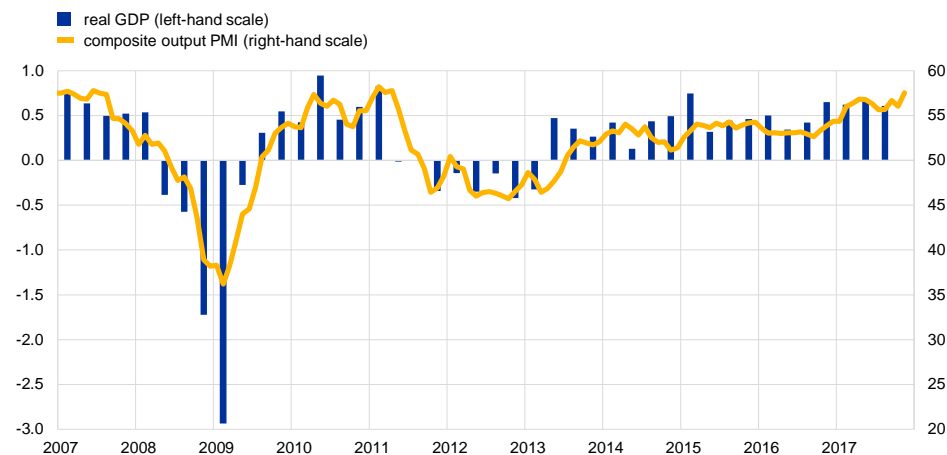
¹⁰ For empirical evidence, including a comparison of the two surveys and considering year-on-year as well as quarter-on-quarter changes in real GDP, see the Special topic entitled “ESI and other BCS indicators vs PMI – properties and empirical performance” in “European Business Cycle Indicators: 2nd Quarter 2017”, *European Economy Technical Paper*, No 17, European Commission, July 2017, pp. 18-26. More details about a PMI-based GDP tracker, including a comparison with the first flash GDP estimates, can be found in Bondt, G.J. de., “Nowcasting: Trust the Purchasing Managers’ Index or wait for the flash GDP estimate?”, *EcoMod2012 Conference Paper*, July 2012. Updated PMI results, including a range of stability tests, indicate that there are no signs of a significant change in the link between the PMI and GDP.

time covered. This rule indicates that, in the fourth quarter of 2017, real GDP grew broadly in line with our staff estimate for December 2017 on a quarterly basis.¹¹

Chart B

Euro area real GDP and the composite output PMI

(quarter-on-quarter percentage changes; diffusion index)



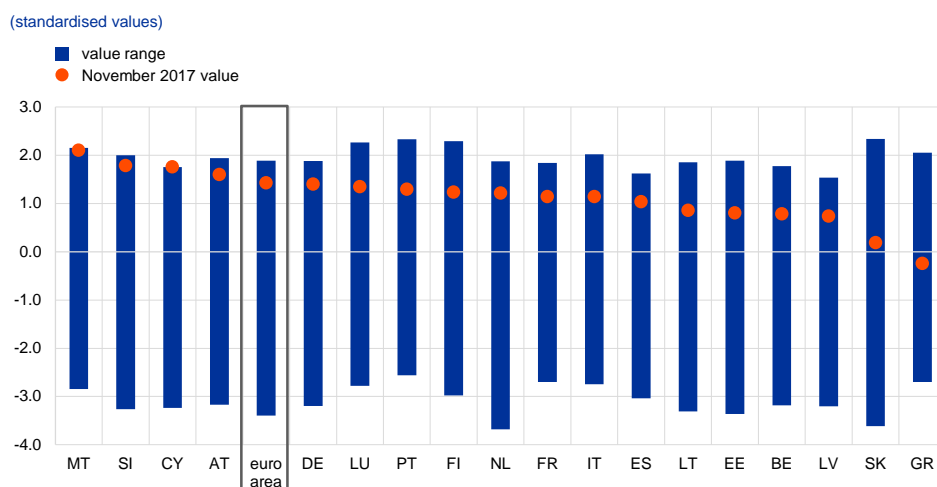
Sources: Eurostat and IHS Markit.

The ESI suggests that there will be a continued, unabated increase in real GDP across the euro area over the near term, with most countries experiencing this trend. Given the extent of its coverage, the ESI is more suitable for taking a closer look at the country and sectoral dimensions. The latest ESI results, which are for November 2017 (see the red dots in Chart C), show that the indicator is above its long-term average (represented by the zero line) for all euro area countries except Greece. Moreover, in all countries, excluding the three Baltic States, Belgium, Slovakia and Greece, the ESI is currently more than one standard deviation above its average level. The ESI reached its historical maximum in Malta and Cyprus in November (as indicated by the position of the red dots at the top of the blue bars).

¹¹ See the December 2017 Eurosystem staff macroeconomic projections for the euro area published on the ECB's website.

Chart C

Economic Sentiment Indicator

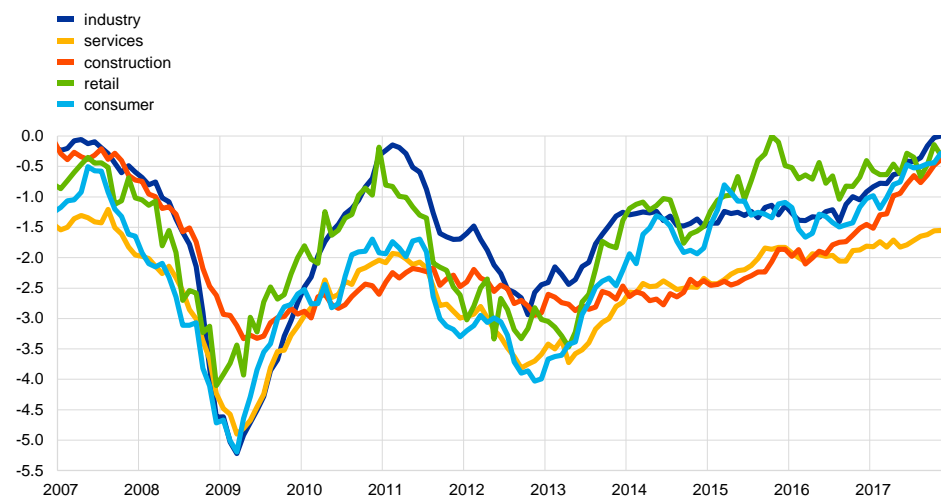


Notes: The blue bars show the maximum and minimum levels since the start of the respective country series; the red dots represent the latest results; and the zero line marks the average.
Sources: European Commission and ECB staff calculations.

A broadly positive picture also emerges at the sectoral level, with high levels of confidence being registered in most sectors across the euro area. At the sectoral level, in November 2017 the confidence indicators underlying the ESI were at a record high for manufacturing and close to an all-time high for the household (consumer) sector, retail trade and construction (see Chart D). The latter sector, in particular, displayed a remarkable cyclical upswing. In contrast, the latest results for the services sector were comparatively weak, though still above its long-term average as well as the previous peak registered in 2011. These sectoral differences are economically important. For example, aggregating the European Commission's services and industry confidence indicators – using the composite output PMI's sectoral weights (65% for services and 35% for industry) – would yield a substantially lower estimate for year-on-year real GDP growth for the fourth quarter of this year than that implied by the ESI (illustrated in Chart A). Overall, the sectoral readings suggest that all sectors are currently contributing to growth, albeit to different degrees.

Chart D Confidence across sectors

(standardised values of deviations from the maximum)



Notes: The calculations for the confidence data start in January 1985 for all sectors except services (for which they start in April 1995).
Sources: European Commission and ECB staff calculations.