This article examines the relation between the development of the different indicators of short-term business statistics (STS) and the evolution of the general economic sentiment indicator (ESI) and sector-specific confidence indicators in the European Union (EU).

**Introduction: short-term statistics and economic sentiment indicators**

STS cover four major economic sectors: industry, construction, retail trade and services (excluding financial and insurance services). STS focus on the empirical development of production, turnover, prices and some other economic variables (labour input, costs). The STS indicators mentioned in this article are part of the principal European economic indicators (PEEI) which were developed to monitor the economic development of the European Union and its Member States and in particular to conduct monetary policy in the euro area.

The ESI is derived from surveys gathering the assessments of economic operators of the current economic situation and their expectations about future developments. From the survey-based data the Commission’s Directorate General for Economic and Financial Affairs computes the ESI as well as monthly confidence indicators for industry, construction, retail trade, services, consumers (at country level, EU and euro area level) and financial services (EU and euro area).

The ESI and the confidence indicators are survey data and are mainly based on estimations and speculations. One of the major benefits of these indicators is their capacity to correctly indicate the future economic development. One possible way to determine the exactness and correctness of the ESI is to compare it to official European Statistics such as the STS indicators.
Statistical findings for the European Union

The ESI series start in 1985, summarising developments in the five sectors covered by the confidence indicators. Explicit weights are allocated for the computation of the composite indicator:

- Industry: 40%
- Construction: 5%
- Services: 30%
- Consumers: 20%
- Retail trade: 5%

The given weights are determined according to two criteria, namely representativeness of the sector in question and tracking performance vis-à-vis the reference variable which is the GDP growth.

For each of the five surveyed sectors, confidence indicators are produced to reflect the overall perceptions and expectations at the individual sector level in a one dimensional index. Each confidence indicator is calculated as the simple arithmetic average of the (seasonally adjusted) balances of answers to specific questions chosen from the full set of questions in each individual survey. In order to be able to track overall economic activity, the broader economic sentiment indicator (ESI) is calculated as a composite indicator.

STS indicators are published as indices which show the changes of the indicator in comparison with a fixed reference year. STS indicators for the EU-28 and the euro area are calculated as weighted averages of countries’ indicators. The weights reflect the countries relative sizes in the reference year for the relevant economic sectors and indicators.

Figure 1 shows the ESI in the euro area and the EU-28. It also indicates some major events on the economic and financial markets in order to put the development of the indicators into the historical context. It can be noticed that the differences between the ESI in the euro area and the EU-28 are rather small. Both display a major drop starting in July 2007 and a recovery approximately two years later. Another fall of both indicators can be found the following year. Since the end of 2012 the ESI keeps increasing in both cases. The following figures only display the evolution of the whole EU-28.

![Figure 1: Economic sentiment indicators for the EU and the euro area, monthly data 2000 - 2014](image)

Generally speaking the economic sentiment indicator (ESI) and the sector-specific confidence indicators for industry, construction, retail trade and services are developing in a similar way (Figure 2). However, it can be noticed, that the confidence indicator for industry develops more steadily than the confidence indicators in the other sectors. Another aspect to mention is that the confidence indicator for construction is the only one not to recover after the strong drop in 2007 and 2008. All the other indicators regain their pre-crisis level.
For industry the confidence indicator (right axis) and the production index develop (left axis) in a very similar way, the correlation coefficient between the series equals 0.76 (January 2004 – April 2014). The drop of industrial production starting in April 2008 is preceded by a decline of the ESI that already starts more than half a year earlier in mid-2007. The recovery of the industrial production is also predicted by the ESI that starts growing again in March 2009 while industrial production picks up again only one month later. It should be noted that the time gap between the predicted increases respectively decreases of industrial production and the actual change in growth rates generally varies. Furthermore it is visible that the anticipations have larger amplitudes than the actual production. Both negative and positive developments are expected to be more pronounced than they actually are.
Construction

For the construction sector the approximate evolution of the confidence indicator (right axis) and the production index (left axis) is similar as can be seen in Figure 4. The correlation coefficient between the two series equals 0.78 (January 2004 – March 2014). The recession starting in February 2008 is already indicated through the ESI that starts to drop in September 2007. Yet the decline of production in construction is not as strong as suggested by the ESI. Furthermore some of the ups and downs in production in construction are more pronounced than the evolution of the confidence indicator suggested. This is for example true for the upswing in March 2010 but also for the drops in December 2010 and February 2012.

Figure 4: EU-28, index of production (volume) and confidence indicator for construction, monthly data 2004 - 2014

Retail trade

Figure 5 shows the evolution of the confidence indicator (right axis) and the deflated turnover in the sector of retail trade (left axis) in the EU-28. A comparison between the index of deflated turnover in retail trade and the development of the ESI shows are lower congruence for the both series than for the sectors of industry and construction.

Figure 5: EU-28, deflated turnover and confidence indicator for retail trade, monthly data 2004 - 2014
From 2004 to 2007 the development of the index of deflated turnover in retail trade is rather stable. The drop during the economic and financial crisis from 2007 to 2009 is only moderate in comparison to the developments in industry and construction. The ESI on the other hand is quite volatile and indicates strong ups and downs of the economic sentiments. With a correlation coefficient of 0.30 (January 2004 – April 2014) between the two series the predictive power of the ESI appears to be more limited than in the case of industry and construction. One possible explanation for these deviances might be linked to the methodological differences between a deflated turnover index and a production index.

Services

Figure 6 shows the development of the index of turnover (left axis) and the confidence indicator in the sector of services (right axis) for the EU-28. In this case – in contrast to the previous sectors – quarterly data are compared. Therefore the Confidence Indicator was correspondingly aggregated. This explains the smoother progression of the graphs.

![Graph showing turnover and confidence indicator for services, quarterly data 2004 - 2013](image)

**Figure 6: EU-28, turnover and confidence indicator for services, quarterly data 2004 - 2013**

The aggregated turnover in services – similarly to the sector of retail trade – is more stable than the corresponding ESI. Thus a lack of congruence between the two indicators can be observed. In order to understand this lack it should be kept in mind that the STS indicator for services is a value indicator and not a volume indicator as for the other economic areas presented above. On the other hand the scope of services industries covered by the STS indicator differs from the scope of service industries included in the ESI. For example the confidence indicator does not fully cover NACE industries such as water transport (H50), air transport (H51) or information services activities (J63). However other NACE industries such as gambling and betting activities (R92) or repair of computers and personal and household goods (S95), are not covered by the STS indicator for services but covered by the confidence indicator in at least some countries. This restricts the comparability of the two indicators and consequently also limits the possible predictive power of the ESI in the sector of services (correlation coefficient equal to -0.37, 1st quarter 2004 – 4th quarter 2014). However the graph shows that the ESI still precedes some of the developments of the index of turnover, as the drop during the recession in 2008 and also the then following recovery. Subsequently the major trends are approximately indicated through the confidence indicator.
Data sources

Short-term business statistics (STS) are compiled within the scope of the STS Regulation 1165/1998 of 19 May 1998 concerning short-term statistics and subsequent amendments.

The data in this article are presented using NACE Rev. 2. The industrial production index and the construction production index conceptually measure changes in value added.

The volume measure of the retail trade turnover is a short-term indicator for final domestic demand. It is a deflated version of the turnover index for retail trade.

The aim of the service turnover index is to show the development of the market for services. Turnover, or sales, comprises the total invoiced by an observation unit (enterprise) during the reference period and this corresponds to market sales of goods to third parties.

Business and consumer surveys are compiled in accordance with the framework of the Joint Harmonised EU Programme of business and consumer surveys. At present, this programme is governed by Commission Decision 2241/1997 of 15 July 1997 and Commission Communication 0379/2006 of 12 July 2006.

Data are not only available for the European Union and the euro area but also for the Member States.

Context

The ESI surveys provide an important indication as to the likely evolution of business activity (upward, downward, no change), with information being collected in a rapid manner. It includes information that is known by the survey respondents but not yet reflected in aggregate economic variables. Confidence indicators can also reveal important information about optimist or pessimist expectations which are important drivers of the business cycle. The significance of the presence of confidence within the economy was demonstrated through the financial crisis and the euro area debt crisis. Both were characterised by a general climate of exceptionally low confidence.

While these surveys do not generally provide information on the level of production, sales, prices or employment, information on expectations can be suitable for monitoring and forecasting business cycles.

Short-term business statistics (STS) are provided in the form of indices that allow the most rapid assessment of the economic climate within industry, construction, retail trade and services providing a first evaluation of recent developments. STS show developments over time, and so may be used to calculate rates of change, typically showing comparisons with the month or quarter before, or the same period of the previous year. As such, STS do not provide information on the level of activity, such as the monetary value of output (value added or turnover), or actual prices.

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- [Economic Sentiment Indicators](#)
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- [The joint harmonised EU programme of business and consumer surveys – User guide](#)
- [Confidence indicators and economic developments (ECB, Monthly Bulletin, January 2013)](#)