

**Monitoring online media can also be used to predict investment activity. A new research by the IEER assessed this possibility. Based on more than 12 thousand articles containing investment-related terms, we determined those types of articles which help us the most to forecast investment activity as a whole and, investment activity of the private sector. In addition to articles on abstract and legal topics, articles from origo.hu and vg.hu deserve special attention in this regard.**

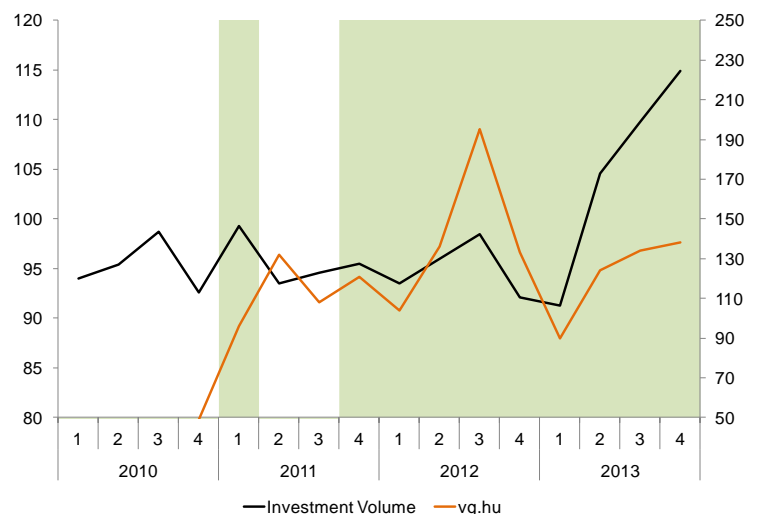
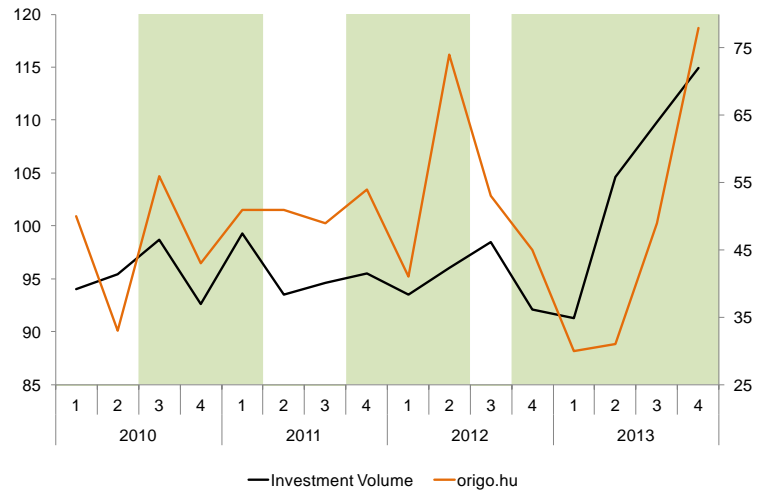
The basic idea of the study is that when an investment is being planned, some articles appear about it in the online media. Preparation for an investment takes time and even more time goes by when investment statistics are being published by the Hungarian Central Statistics Office (HCSO). Therefore, if we want to be quickly informed on the progress of the investments, it is useful to monitor online media. In this way we are able to get information on the progress of investment activity at the end of a given quarter, and not have to wait until the middle of the next quarter for this information when the data will be officially published.

For this reason, we collected all those articles in which the word "investment" was mentioned in one way or another and was published in the past four years. We included eight internet portals (origo.hu, hvg.hu, mno.hu, nol.hu, index.hu, vg.hu, hir24.hu, hetivalasz.hu). As a result, we obtained 12,215 articles – on these we performed content analysis with the help of Textplore software developed by IEER (<https://www.textplore.org/>).

One important result was the co-movement of the number of articles on the portals and the changes in the volume of investments. This was most obvious in the case of articles from origo.hu and vg.hu, hence they are subsequently shown.

Figure 1 shows that the number of articles and the volume of investments typically vary in the same direction. We marked with a green background those quarters when investment volume and the number of articles appearing on the portal changed in the same direction. As shown in the case of the vg.hu portal, it is now nine consecutive quarters when the articles have always changed in the same direction as the volume of investments. For origo.hu, meanwhile, in the past 4 years there were 11 quarters for which the same could be said.

Another important achievement was the isolation of subject groups on the basis of word usage characteristics, which are more closely connected to the development of investment volume. The articles were divided into four types by word usage characteristics with mathematical and statistical procedures. These types were given the following names: (i) benchmark, (ii) "abstract legal" (iii) "specific legal" (iv)



"specific business" types. The abstract legal type uses legal, administrative and political, abstract concepts (e.g., application, subsidy, priority) simultaneously. The specific legal type also uses legal and administrative concepts, but in combination with words that express physical, concrete, spatial, temporal and numerical phenomena (e.g., plant, percent). The specific business type associates terms of business and economy to the physical, spatial, temporal, and numerical terminology (e.g. built, decision, billion). In the "benchmark" group the investment word is involved, but it does not include any expressions with business, economic, physical or concrete, spatial, temporal or numerical relationships, neither legal, administrative or political, abstract concepts.

Figure 2 shows that over the past three years there were only two quarters when the number of appearances of abstract, legal articles and the volume of private sector investments did not change in the same direction.

Revealing this relationship is of the utmost importance, because thanks to this we learned that the online appearances of articles related to investments and observed with a time series generated by the Textplore software can be used to forecast the development of investment volume. Thus, it is possible to make a nowcast at the end of a reference quarter, which is roughly 40 days before this information reaches us through official disclosure.



Source: own calculations based on data from the Hungarian Central Statistical Office and Textplore.

Note: The left axis shows the volume index (volume expressed as a percentage of the corresponding period of the previous year), the right axis indicates the number of articles (items).

Note: the green fields indicate when the changes in the number of selected items move in the same direction with the development of investment volume.

## Macroeconomic trends: Eurozone growth recovering. Quarterly forecast of Ifo, Insee, and Instat institutes

The Eurozone recovery is expected to pick up in the first quarter of 2014 with a GDP growth rate of +0.4% (after +0.2% and +0.1% respectively in the previous two quarters). Growth is forecasted to decelerate slightly in the following two quarters. The recovery is expected to be broad based across sectors and countries and the consolidation of the upturn would be determined by a progressive improvement of domestic demand and a slightly positive contribution of the external sector. Private investment will continue to grow over the forecasting horizon due to the increase in activity and the need for new production capacity after the sharp adjustment phase determined by the financial crisis. However, prospects for consumption remain subdued owing to fiscal austerity measures in some member states combined with a continuing labor market slack and slow growth in real disposable income. Under the assumptions that the oil price stabilizes at USD 107 per barrel and that the euro/dollar exchange rate fluctuates around 1.38, the headline inflation is expected to increase marginally in the next two quarters, remaining well below the threshold of 2%.

Weaker external demand in emerging economies, especially in Asia, and an escalation of international tensions in Eastern Europe, which could determine a sharp rise in European gas prices and weight on households and firms' expenditure, are key downside risks related to this scenario.

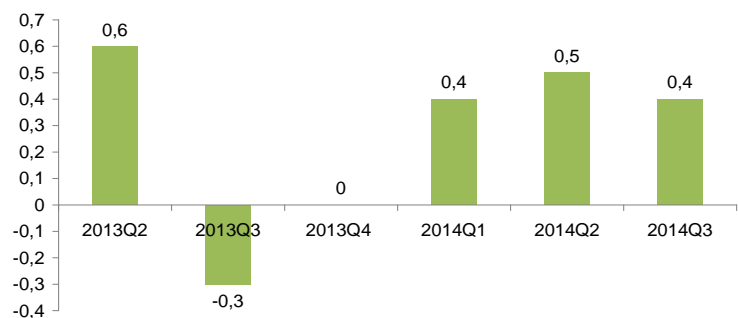
### Recovering industrial production

Recent business surveys for the Eurozone show a continuation of the upward trend. The European Commission surveys report output is increasing for all sectors but construction. In the latter sector, the deterioration of confidence indicators has stopped.

In January, industrial production surprised on the downside (-0.2%) mainly owing to mild weather during the winter that drastically weighted on production in the energy sector.

However, in line with survey indicators and the still positive statistical overhang (+0.2%), analysts still expect that industrial output will remain on a positive trail, fluctuating around 0.4% in the next three quarters.

Forecasted increase in industrial production compared to previous quarter, Eurozone (%), 2013Q2-2014Q3



Source: Eurostat and Ifo-INSEE-ISAE-ISTAT forecasts

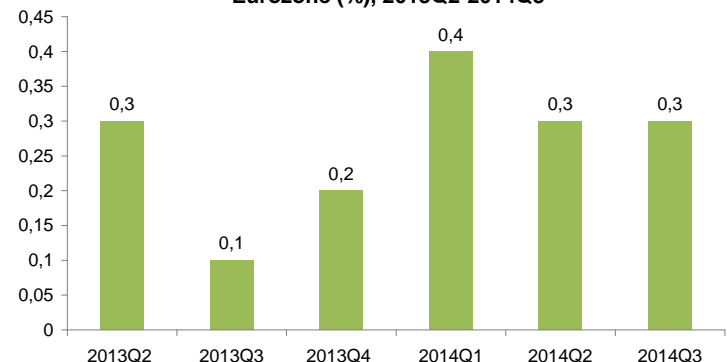
### GDP on an upward trend

According to the joint forecast, the recovery in the Eurozone will continue over the forecast horizon driven mainly by a progressive improvement in domestic demand. It is worth mentioning that the recovery will be more balanced across sectors and countries than in the past few months.

All in all, GDP will increase by 0.4% in Q1 and then slightly decelerate in the following two quarters (+0.3% in both Q2 and Q3) partly reflecting a normalization in weather conditions (in particular in Germany).

Prospects for private consumption remain subdued owing to a continuing labor market slack and slow growth in real

Forecasted GDP growth compared to previous quarter, Eurozone (%), 2013Q2-2014Q3



Source: Eurostat and Ifo-INSEE-ISAE-ISTAT forecasts

disposable income. Although improving, the pace of the recovery will remain insufficient to significantly reduce the unemployment rate. This is expected to stay at record highs in the short term and to decrease only moderately going forward.

Thus, real disposable income will grow only marginally and private consumption growth in the Eurozone will remain subdued over the next three quarters (+0.2% in Q1, Q2 and Q3).

According to survey data, a lack of equipment is starting to limit manufacturing output. This factor, combined with better profit growth prospects, suggests that investment growth is likely to strengthen over the forecast horizon.

Accordingly, the three institutes expect that investment will remain vibrant over the next three quarters (+0.8%, +0.4% and +0.7%), with the deceleration in Q2 determined by the effect of the favorable weather conditions in the winter of 2013/2014.

Notwithstanding this general trend, construction investment will remain weak. Equipment investment, on the contrary, will expand at a faster pace over the forecast horizon, stimulated by improving confidence, positive external demand and a gradual stabilization of domestic demand prospects.

### Inflation increases only marginally

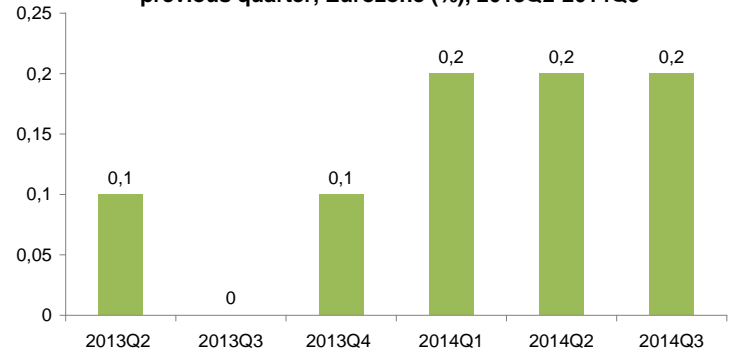
In Q1 2014 inflation hit a year-on-year growth of +0.7% after the +0.8% increase reported at the end of 2013. Under the assumptions that the oil price stabilizes at USD 107 per barrel and that the euro/dollar exchange rate fluctuates around 1.38 over the coming quarters, headline inflation is expected to increase marginally and to remain well below the 2% threshold (+0.8% and +0,9% respectively in Q2 and Q3).

This trend partly reflects impulses from the energy sector, while domestic price pressures are expected to remain subdued.

With weak demand and a persistently high unemployment, core inflation would not accelerate in spite of the recovery.

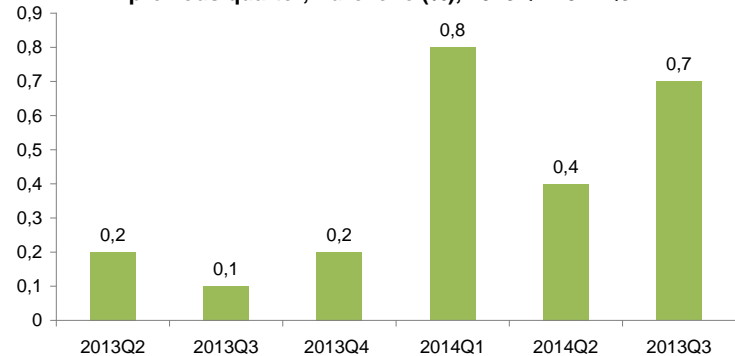
Source: Euro-zone Economic Outlook. April 7, 2014 (<http://www.cesifo-group.de/ifoHome/facts/Forecasts/Euro-zone-Economic-Outlook/Archive/2014/eeo-20140407.html>)

**Forecasted increase in consumption compared to previous quarter, Eurozone (%), 2013Q2-2014Q3**



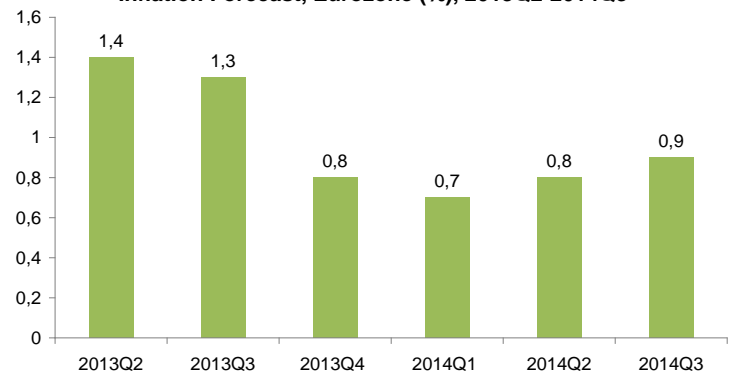
Source: Eurostat and Ifo-INSEE-ISAE-ISTAT forecasts

**Forecasted increase in investment compared to previous quarter, Eurozone (%), 2013Q2-2014Q3**



Source: Eurostat and Ifo-INSEE-ISAE-ISTAT forecasts

**Inflation Forecast, Eurozone (%), 2013Q2-2014Q3**

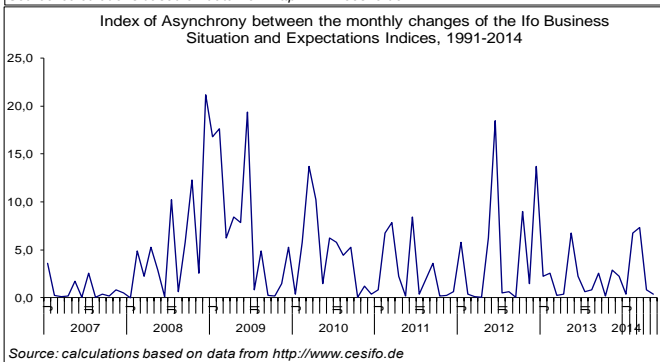
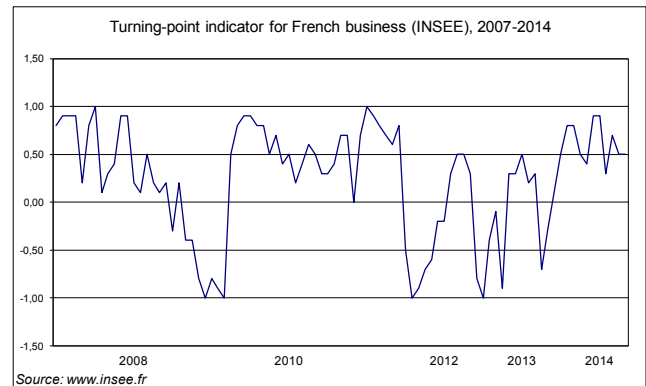
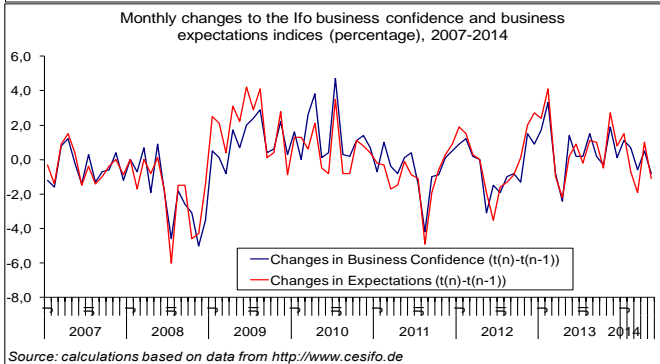
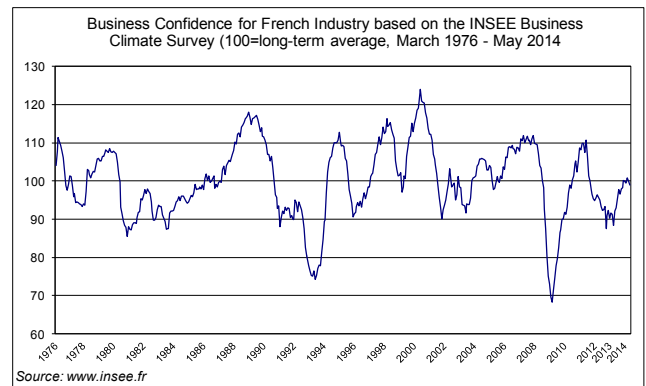
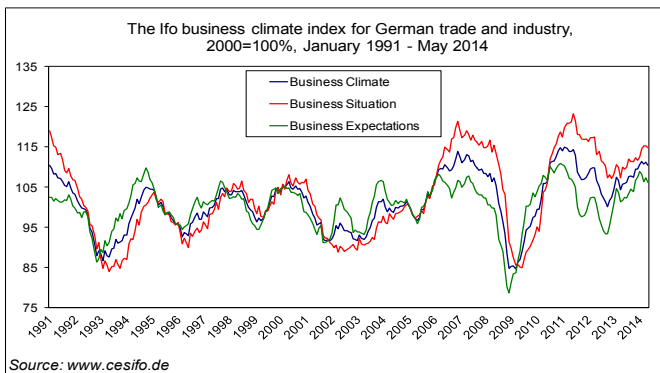


Source: Eurostat and Ifo-INSEE-ISAE-ISTAT forecasts

## International trends

The Ifo Business Climate Index for industry and trade in Germany fell to 110.4 points in May from 111.2 points last month. Assessments of the current business situation were no longer as favourable as in April. Companies are also less optimistic about future business developments. The gap between the current business situation and the expected developments, as calculated by the IEER Index of Asynchrony, decreased in May, so the business confidence index showed lower uncertainty than in the previous month. According to Ifo analysts, a lull was seen in the German economy in May. (Source: Ifo, <http://www.cesifo-group.de>)

According to the business managers surveyed by INSEE in May 2014, the business climate in French industry has slightly decreased compared to the previous month. The composite indicator has decreased by one point and stands at its long-term average. The turning-point indicator is nearly stable compared to April and is in the zone indicating a favorable outlook. The balance of opinion on past change in production has clearly rebounded and is now above its long-term average. On the contrary, the balance of opinion on personal production expectations has markedly decreased: it is now very close to its long-term average. The balance on general production expectations, which represents business managers' opinion on French industry as a whole, is nearly stable, at a level which is below its long-term average. (Source: INSEE, <http://www.insee.fr>)



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