

B Economic Cycle

Sources of tables and graphs: CNB, CZSO, EC, Eurostat, own calculations

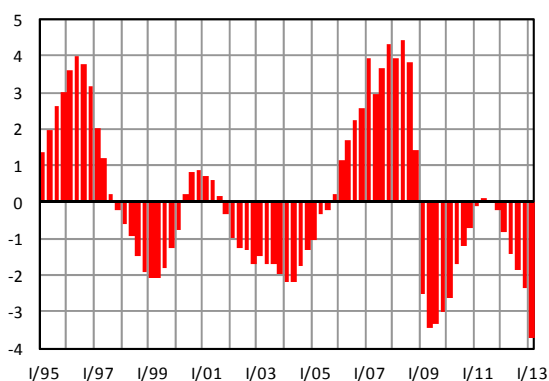
B.1 Position within the Economic Cycle

Potential product, specified on the basis of a calculation by means of the Cobb–Douglas production function, indicates the level of GDP to be achieved with average utilisation of production factors. Growth of the potential product expresses possibilities for long-term sustainable growth of the economy without giving rise to imbalances. It can be broken down into contributions of the labour force, capital stock, and total factor productivity. The output gap identifies the cyclical position of the economy and expresses the relationship between GDP and potential product. The concepts of potential product and output gap are used to analyse economic development and to calculate the structural balance of public budgets.

Under current conditions, when abrupt changes in the level of economic output have occurred, it is very difficult to distinguish the influence of deepening of the negative output gap from a slowdown in potential product growth. The results of these calculations display high instability and should be treated with caution.

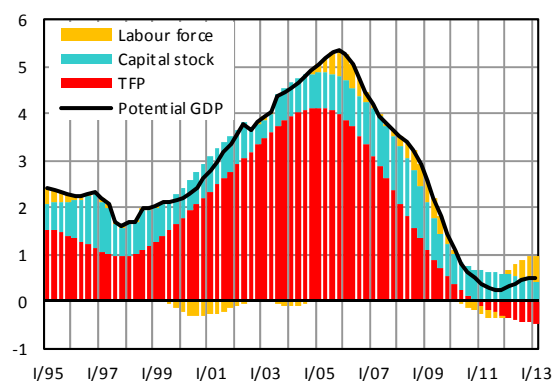
Graph B.1.1: Output Gap

in % of potential GDP



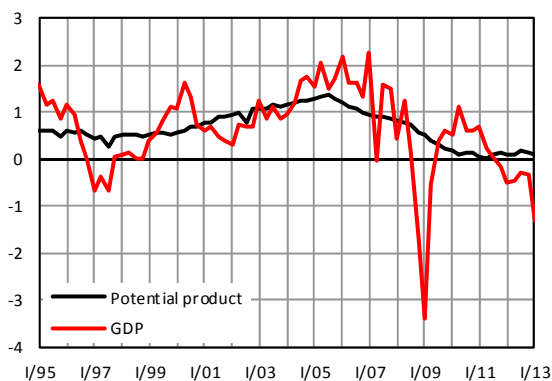
Graph B.1.2: Potential Product Growth

in %, contributions in percentage points



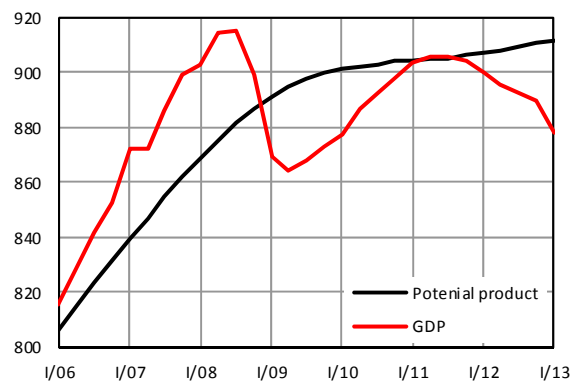
Graph B.1.3: Potential Product and GDP

QoQ growth in %



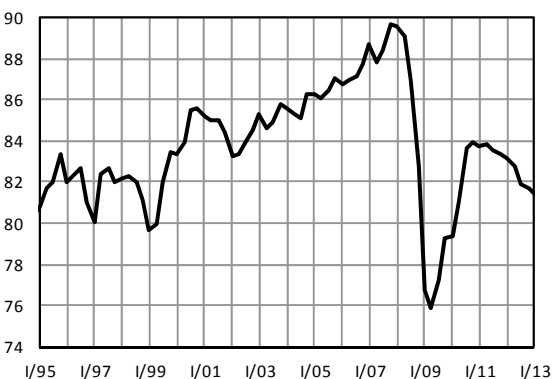
Graph B.1.4: Levels of Potential Product and GDP

in bill. CZK of 2005



Graph B.1.5: Capacity Utilisation in Industry

in %



Graph B.1.6: Total Factor Productivity

YoY growth in %

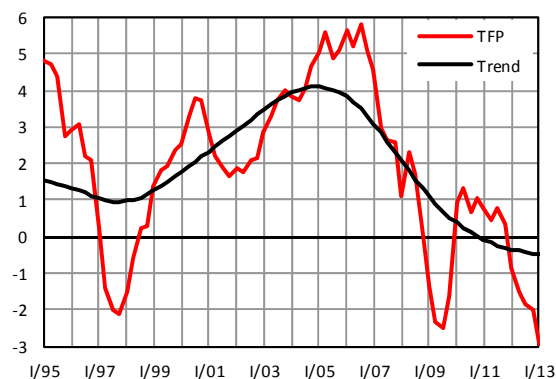


Table B.1: Output Gap and Potential Product

| | | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 Q1 |
|---------------------------|---------------------|------|------|------|------|------|------|------|------|------|------------|
| Output gap | <i>per cent</i> | -1.8 | -0.3 | 1.9 | 3.7 | 3.4 | -3.1 | -1.6 | -0.1 | -1.6 | -3.7 |
| Potential product | <i>growth in %</i> | 4.7 | 5.2 | 4.9 | 3.9 | 3.2 | 2.0 | 0.7 | 0.3 | 0.4 | 0.5 |
| Contributions: | | | | | | | | | | | |
| –Trend TFP | <i>perc. points</i> | 4.0 | 4.1 | 3.6 | 2.7 | 1.7 | 0.8 | 0.2 | -0.2 | -0.4 | -0.5 |
| –Fixed assets | <i>perc. points</i> | 0.7 | 0.8 | 0.9 | 1.1 | 1.2 | 0.8 | 0.6 | 0.6 | 0.5 | 0.4 |
| –Participation rate | <i>perc. points</i> | -0.2 | 0.2 | 0.2 | -0.2 | 0.0 | 0.3 | 0.2 | 0.3 | 0.8 | 1.1 |
| –Demography ¹⁾ | <i>perc. points</i> | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.1 | -0.2 | -0.4 | -0.5 | -0.5 |

¹⁾ Contribution of growth of working-age population (15–64 years)

The so-called great recession at the turn of 2008 and 2009 plunged the Czech economy into a large negative **output gap**. This gap was closed in Q2 2011 thanks to slight recovery after the end of the great recession. Nonetheless, the onset of another recession at the end of 2011 caused it to widen once again to –3.7% in Q1 2013. Due to the deep decline in GDP in Q1 2013, economic potential utilization is even lower than in Q2 2009 when the so-called great recession bottomed out.

Due to long periods of recessions or sluggish economic growth, YoY growth rate of the **potential product** has been around 0.5% since 2010, our calculations show. However, these estimates might in our opinion underestimate the “reality”.

The most seriously affected component of potential product is **total factor productivity** (TFP). In Q1 2013, TFP was 4.6% lower than at the peak of the cycle in Q3 2008, decreasing in QoQ terms since Q2 2011. Its trend component, derived from the Hodrick-Prescott filter, has been decreasing since mid-2010, which is reflected in the considerably negative contribution of TFP to potential product growth. The fact that labour, as a production factor, enters the calculation in the form of the number of employed persons (which has been growing in spite of the long-lasting recession) and not in the form of the number of hours worked (which has been falling dramatically – see Chapter C.3) may play a certain role here.

Lasting drop in investment activity has led to a decline in contribution of **capital stock** from 1.2 p.p. in 2008 to 0.4 p.p. in Q1 2013.

Labour supply is affected by declining working-age population, which results from the population ageing process and from zero migration balance. In Q1 2013, demographic development slowed potential product growth by 0.5 pp.

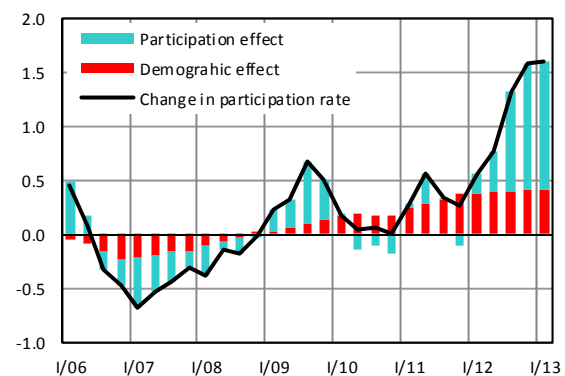
Nevertheless, not only is the size of the labour force nondecreasing, it is even growing at a dramatic pace; in Q1 2013 by 1.4% YoY. The negative impact of the decline in working-age population on labour supply is compensated by a sharp increase in **participation rate** (ratio of the labour force to the population aged 15–64 years).

Effects within the age structure of the labour force are reflected here, with structural shares of the age groups with high or growing participation increasing (the demographic effect in Graph B.1.7¹⁾). We also see the increased motivation to work under difficult economic conditions supported by postponement of the retirement age (the participation effect). With a contribution of 1.1 p.p., the participation rate remained the most important factor of potential product growth in Q1 2013.

Therefore, recommendations from some international organizations that the Czech Republic adopts measures for increasing participation, for example by increasing the retirement age at even higher pace, may not be justified.

Graph B.1.7: Participation rate

The ratio of the labour force to population aged 15–64, YoY change and participation and contributions in p.p.

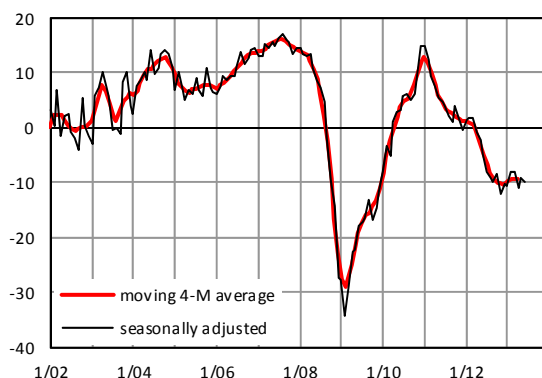


¹⁾ Decomposition methodology is described in the Macroeconomic Forecast – January 2013, Box C.3)

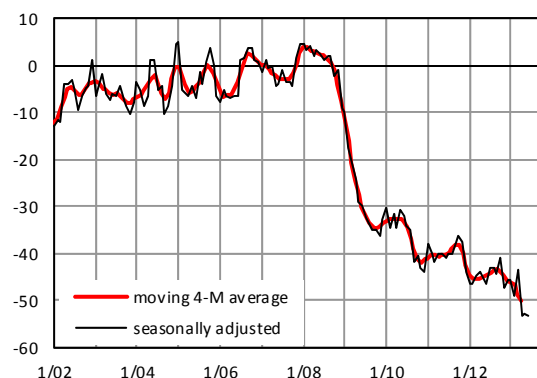
B.2 Business Cycle Indicators

Business cycle indicators express respondents' views as to the current situation and short-term outlook and serve to identify in advance possible turning points in the economic cycle. Their main advantage lies in the quick availability of results reflecting a wide range of influences shaping the expectations of economic entities.²

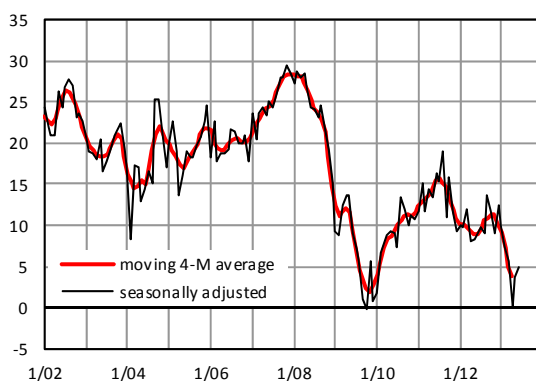
Graph B.2.1: Industrial Confidence Indicator



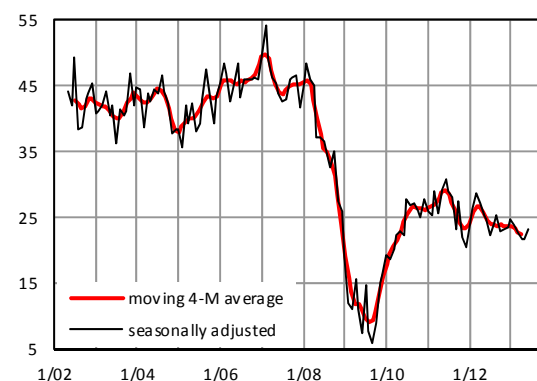
Graph B.2.2: Construction Confidence Indicator



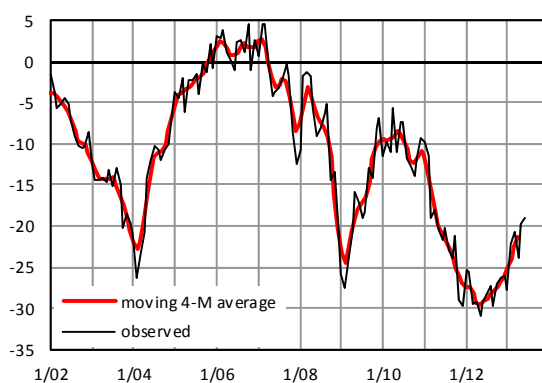
Graph B.2.3: Retail Trade Confidence Indicator



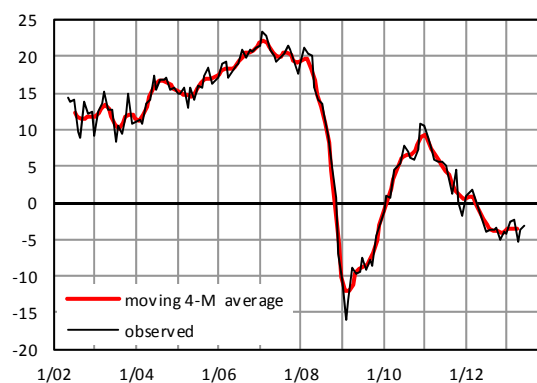
Graph B.2.4: Selected Services Confidence Indicator



Graph B.2.5: Consumer Confidence Indicator



Graph B.2.6: Aggregate Confidence Indicator



² For the business cycle research methodology, see CZSO: http://www.czso.cz/eng/redakce.nsf/i/business_cycle_surveys.

On average, indicators in industry, construction, trade and selected sectors of services saw a slight deterioration in H1 2013, compared with Q4 2012.

In **industry**, overall negative assessment persists. On a QoQ basis, the indicator improved slightly in Q1 2013, while in the following quarter it decreased. Assessment of foreign demand has deteriorated in connection with generally worse than expected situation in the EU27. On the other hand, assessment of the economic situation and outlook for total demand and for the number of employees within the 3-month horizon has been slightly improving.

The indicator for **construction** continued to decline, with respondents' assessments being predominantly pessimistic. However, the 3-month outlook for total demand, which in the case of this sector enters the construction of the leading indicator, saw a QoQ improvement in both Q1 2013 and Q2 2013.

In the case of the indicator for **trade**, reactions of the respondents were in the majority positive, though the indicator witnessed a QoQ decline in both Q1 2013 and Q2 2013. The QoQ deterioration in the 3-month outlook for employment in Q1 2013 was more or less compensated by its resuming growth in the following quarter, but the assessment of the economic situation deteriorated in both quarters.

Compared to Q4 2012, the indicator for selected sectors of **services** decreased very slightly in H1 2013, even though positive responses were still predominant among the respondents. The 3-month outlook for employment improved negligibly in both Q1 2013 and Q2 2013.

Consumer confidence was still very low, although in H1 2013 the indicator's value has been consistently improving.

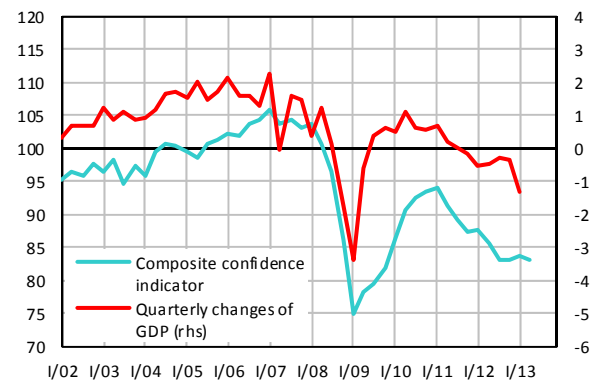
The **composite confidence indicator** witnessed a slight QoQ increase in Q1 2013. In Q2 2013, however, it returned back to its Q4 2012 level (Graph B.2.6).

Although the relationship between the values of the composite confidence indicator and the QoQ changes in real gross domestic product is not very close (without any lag the correlation between these two time series is approximately 60%), it does enable us to utilize at least the fact that the composite indicator is published in advance of quarterly national accounts. In

Graph B.2.7 we present only a qualitative graphic appraisal. It is clear that for Q2 2013 the composite confidence indicator signalled a QoQ drop in GDP.

Graph B.2.7: Composite confidence indicator and QoQ GDP growth

2005=100 (lhs), QoQ GDP growth in % (rhs)

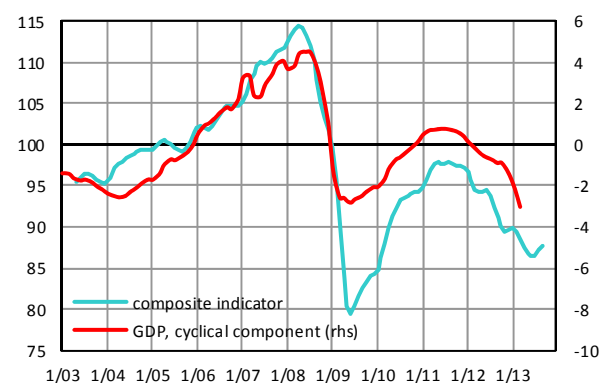


For Q1 2013, the **composite leading indicator** correctly signalled a decrease in the relative cyclical component of GDP, although the published QoQ decline in GDP in Q1 2013 now appears quantitatively to be too strong. For Q2 2013, the indicator further signalled a drop in the relative cyclical component of GDP. Considering the fact that in the short term trend dynamics can be regarded as constant, the conclusion for the QoQ dynamics of GDP in Q2 2013 is approximately in line with observations resulting from comparing QoQ changes in GDP to the composite confidence indicator, i.e. a QoQ drop in GDP. However, in Q3 2013 the relative cyclical component of GDP should grow slightly, which, considering the nearly zero growth rate of trend GDP, can be interpreted as a sign of slight QoQ growth of GDP.

Graph B.2.8: Composite Leading Indicator

average 2005=100 (lhs), in % of GDP (rhs)

synchronized with cyclical component of GDP based on statistical methods (Hodrick-Prescott filter)



B.3 Business Cycle Indicators in the EU

In Q2 2013, the composite confidence indicator for the EU27, published by the EC, recorded a slight decrease. Strongly negative sentiment is prevalent in all components of the indicator. Compared to Q1 2013, the assessment in industry, services, trade and construction deteriorated slightly; on the other hand, consumer confidence improved. When estimating GDP, the determining factor is not the actual ESI level itself, it is rather the tendency which the composite indicator shows. For Q2 2013, the composite indicator signals QoQ stagnation in GDP in the EU27, which is in line with our forecast.

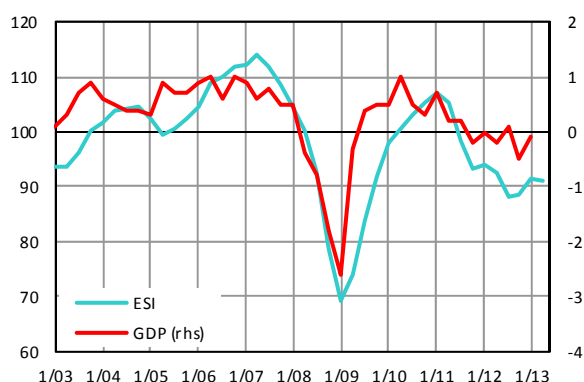
In Q2 2013, the composite confidence indicator declined after its previous growth in Germany, France and Slovakia, thus considerably reducing overall

optimism. In Italy, the indicator continued its growth trend, although the growth rate was gradually slowing down. In June, ESI increased slightly in Germany, but the manufacturing PMI (Purchasing Managers Index) dashed hopes for any breakthrough, as it fell from 49.4 in May to 48.6.

For Q3 2013, the composite leading indicator signals stabilization of the negative relative cyclical component of GDP both in the EU as a whole and in Germany. Considering the stable short-run dynamics of potential product, supported by the European Commission's estimate of the output gap for 2013, the halt in closing the negative output gap can be explained by a very slow return to economic growth in mid-2013.

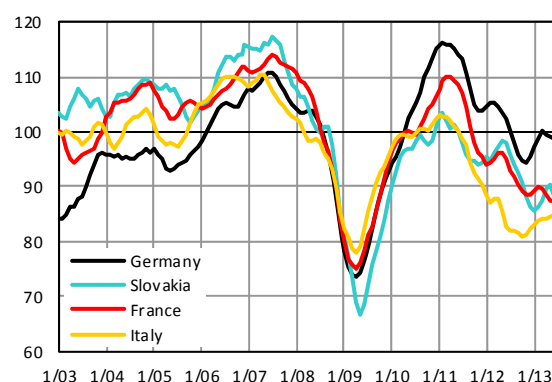
Graph B.3.1: Composite confidence indicator and GDP growth in EU27

indicator – quarterly averages, QoQ growth in %, sa data



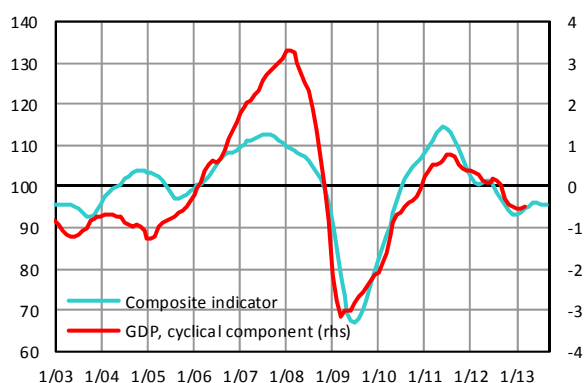
Graph B.3.2: Composite confidence indicator, selected trading partner countries

3-month moving averages



Graph B.3.3: EU – composite leading indicator

monthly data, 2005=100, cyclical component in % of trend GDP



Graph B.3.4: Germany – composite leading indicator

monthly data, 2005=100, cyclical component in % of trend GDP

