INDICATOR OF ECONOMIC ACTIVITY IN BULGARIA

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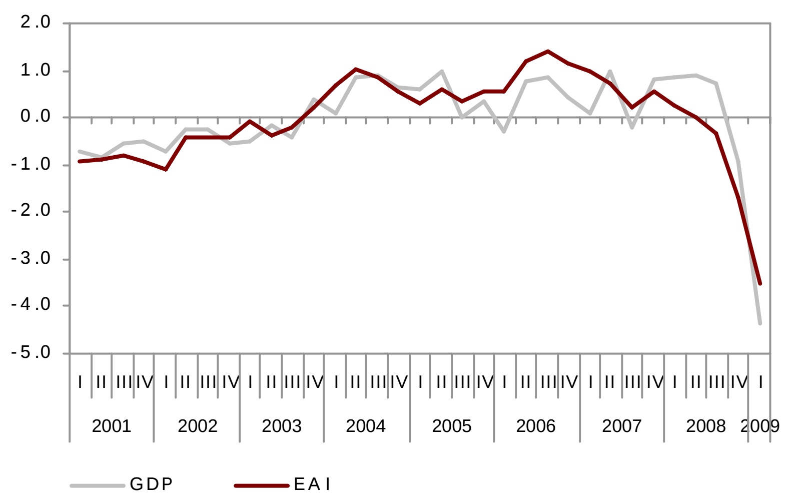
The Economic Activity Indicator (EAI)[1] is aimed at giving an overall picture of the current state of affairs in the Bulgarian economy as well as an account of its long-term and cyclical components. It has been constructed based on a dynamic factor model and consists of eight variables, measuring change in both the internal and external environment[2]. As GDP is another aggregate indicator of business activity, both EAI and GDP have reported more or less the same pattern of dynamics in most periods of survey. This, however, does not imply that change in both indicators was identical[3] because in given periods it may have differed not only in magnitude but direction as well.

Fig. 1: Economic Activity Indicator (EAI) and real GDP growth (normalised)



Source: AEAF estimates, NSI, Eurostat, BNB, World Bank

EIA carried on declining for another quarter in a row, hitting a record low since 2001. All indicators, making up the composite indicator, had again an adverse

[1] For more information on the methodology of EAI construction, see appendix "Rationale and advantages of the Economic Activity Indicator. Some methodological notes".

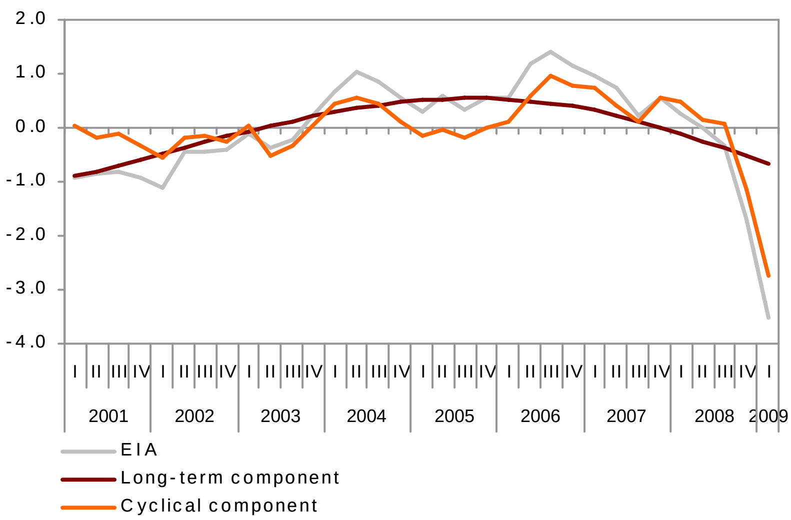
[2] The variables, making up EAI, are as follows: GDP, value added in construction, employed numbers, EU-25 GDP, industrial sales, business climate in retailing, long-term loan interest rates in BGN and the metal and mineral raw material price index.

[3] To achieve better compatability, real GDP growth data have been normalised, i.e. real GDP was substracted by the average value obtained and divided by the standard deviation.

effect on its performance, with the variables taking account of the impact of the external environment (EU 25 GDP and global metal and raw material prices) as well as of the business activity decrease in the construction and manufacturing sectors posting the strongest negative contribution. Q1 EIA dynamics matched fully GDP volume figures, which reported a 3.5% year-on-year drop. As in the preceding quarter, the slump in the manufacturing sector made the heaviest contribution to the above development. The adverse external environment having to do with the ever-decreasing foreign demand for basic Bulgarian exports continued to exert a strong downward pressure on the sector. This, together with the early-2009 gas crisis, led to a significant real-term value added decrease of 12.4% on a year earlier. The decrease was most pronounced in the excavation and mining industry (23.5%) followed by the processing industries (17.8%). The construction sector, which until the end of 2008 had been posting only a positive growth rate, now stepped down by 6.1% in real terms.

At the same time, services carried on having a positive effect on the country's GDP dynamics. Despite the slowdown value added in the sector reported real growth of 2.5% on an annual basis. Financial intermediation performed in a robust manner, favoured by the stability of the financial system. As a result, valued added stepped up by 22.2% in real terms on a year earlier, as did the indicator in real estate transactions and transport. Hardest hit, retailing reported an 8.5% decline in real terms due to the decreasing revenues from car and motorbike and equipment sales and repair services.

Fig. 2: Economic Activity Indicator (EAI) by component



Source: AEAF estimates

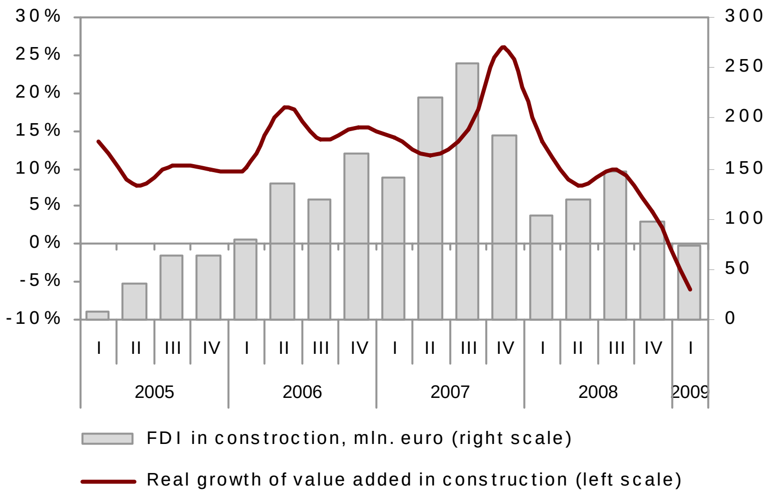
A breakdown of EAI indicated that the cyclical component reported the largest contribution to the above development. The long-term component stepped down too. As a result of the negative values of the indicator reported, there were some revisions in the long-term component estimates in relation to its 2007 and 2008 levels, bringing about a turnabout in its performance.

Factors influencingEAI performance in the first quarter of 2009

Value added in construction

As the dynamics of value added in construction had a significant effect on EAI performance in the first quarter of 2009, the indicator declined by 6.1% in real terms on a year earlier. The factors behind the decline had to do, among other things, with the limited access to loan financing and decreased foreign investment inflows. FDI over the same period amounted to MEUR 78.3, running some 28% down on a year earlier. Twelve-month growth in claims on household housing loans[4] slowed down to 32.9% on average in the first quarter vs. 43.1% at the end of 2008 and 60.2% on a year earlier. At the same time, the output index in the sector reported a lower decrease on a quarter earlier due mainly to the fact that the increase in civil construction[5] made for part of the decline in residential construction (the former posting a real increase of 1.4% on an annual basis for the first time in the past few quarters).

Fig. 3: Value added and FDI in construction



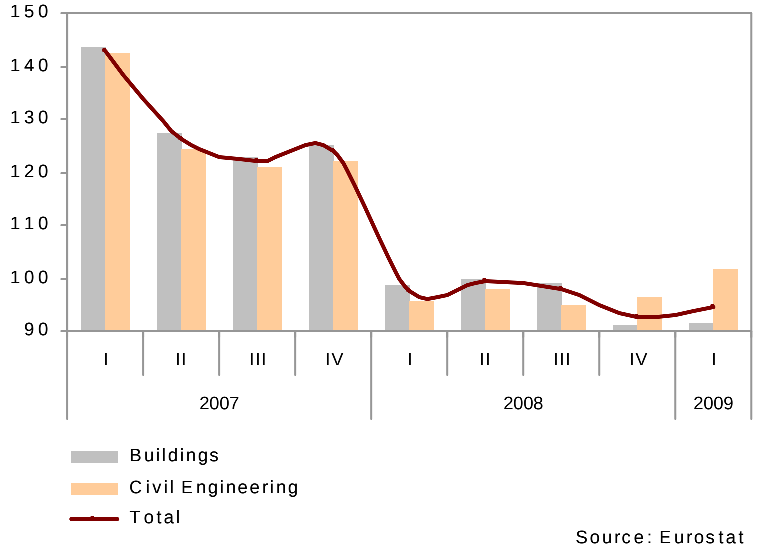
Source: NSI, BNB

Furthermore, together with the decline in a number business activity indicators, the number of planning permits over the same period went on the decrease by about 28% on an annual basis and some 38% on a quarter earlier.

[4] BNB monetary statistics.

[5] Transport, communication, energy infrastructure facilities, etc. included.

Fig. 4: Production index in construction, on an annual basis



Manufacturing sector

The manufacturing sector reported a 17.7% slump in the first quarter due mostly to the shrinking foreign demand, which also brought about a drop in the raw material prices worldwide. The decrease in cast iron, iron, steel, cooper and aluminum prices led to an 18.4% year-on-year decline in some basic metal manufactures. Metal products, non-metal mineral raw materials and clothing went on the decrease too by 40.3, 37 and 29.4% respectively. In addition, the sector was most adversely affected by the January gas crisis and continuous decline in construction. The ceased supplies and ever-rising gas price had a detrimental effect on the chemical industry, which posted the strongest negative contribution. All this affected the selling strategies of the local manufacturers who downscaled their production and started selling the inventory they kept until the next price drop in April. As a result, the chemical industry reported a decrease of 30.2% in January and 28.4% on average in the period surveyed. The slump in the construction sector led to a weaker demand for metal and non-metal mineral raw material products, the latter being industries posting the strongest negative contribution to growth. The lower sales in the clothing industry were due to the foreign demand shrinkage and stiff competition of foreign manufacturers. What followed was a significant decrease in the capacity utilization rate to 70.6% on average. Orders went on the decrease, too, with some 38.4% of the manufacturers reporting a quarter-on-quarter fall. Against the backdrop of a general slump, it was 16% of all industries alone that posted some growth on average.

The quarter sustained the export sales drop in the textile and clothing industries of late 2007. The indicator's dynamics was by and large shaped by the contracting foreign demand as well as the strong competition on the part of the Asian markets. As a result, the employed numbers stepped down on an annual basis.

Almost all processing industries reported lower sales revenues in the last quarter of 2008. However, vehicles, food and beverages and rubber and plastics made a positive contribution, with the year-on-year increase in the industrial sales index amounting to 6.8%, 6.4% and 5.3% respectively.

Global metal and raw material prices

Metal and mineral prices carried on decreasing in the first quarter, at a slower pace though. On a quarter earlier, they declined by 8.5% on average, but recovered slightly in March when the price index stepped up by 4.1 points, compared to the beginning of the year. The economic stimulus package of the Chinese government, which involved sizable investment amounts in infrastructure, propped up metal prices, the price of copper and zinc in particular. However, metal consumption remained rather low.

The price of copper went down by 12.2% in the first three months of 2009, with the decrease being considerably slower compared to the preceding two quarters. At the same time, the index posted a 13.1% month-on-month increase, as March witnessed some recovery in prices due to the strong demand on the part of China and reduced scrap supplies to some industrial countries.

The price of lead dropped by 7% on average, going on the increase in March and reporting a 12.6% rise as of the quarter's end due to the higher demand for car batteries and shrinkage in inventories worldwide.

Although at a slower pace, the prices of some basic metal exports continued to decline as followed: aluminum - 25.3% down as a result of the growing inventories despite the production downscaling (most of it in China); the price of zinc went down by 1.1% due to poor demand, whereas the steel price index declined by 11.5 points.

The unfavorable metal price dynamics led to a significant contraction in sales revenues in metallurgy. The precious and non-ferrous metal industries reported a year-on-year drop in turnover of 44.6%. The decrease in the cast iron, steel and ferrous alloy industries stood at 46.3%, largely triggered by the bottlenecks experienced by Kremikovtsi Steel Works. The exportation of non-ferrous metals stepped down by 48.6% on a year earlier, whereas ferrous metal exports shrank by 44.6%.

Fig. 5: Real GDP growth and the metal and mineral raw material price index

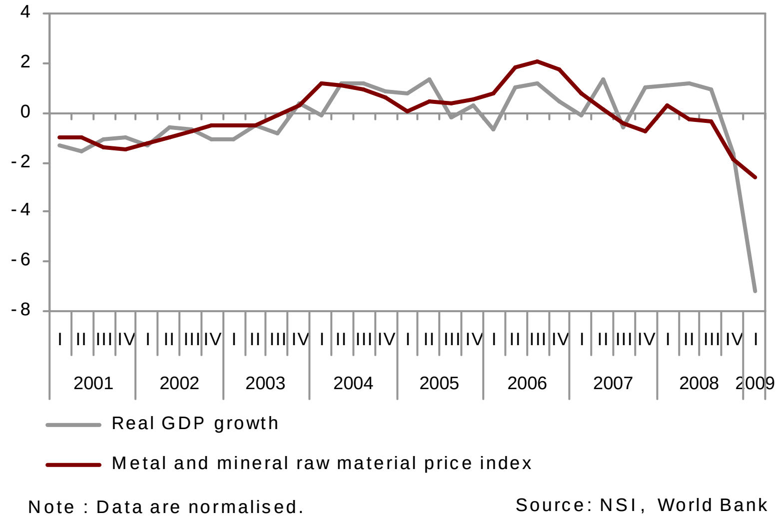
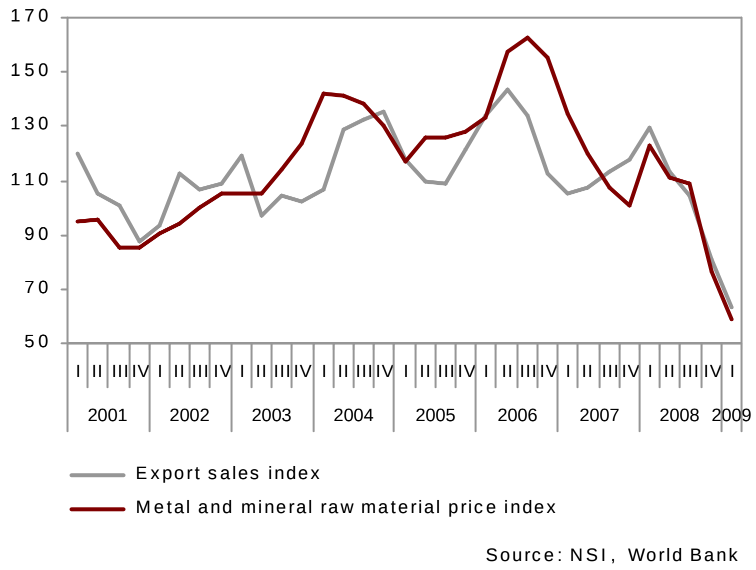


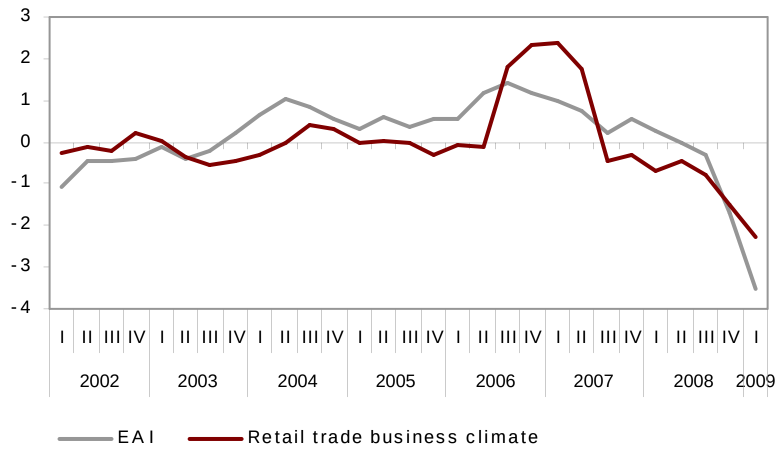
Fig. 6: Global metal and mineral raw material prices and export sales



Business climate in retailing

The business situation in retailing carried on worsening on an annual basis producing an adverse effect on EAI performance. The composite business climate indicator posted a strong year-on-year decrease of 30.1 percentage points due mostly to the downbeat business expectations of the following half-year period and pessimistic assessments of the current business situation.

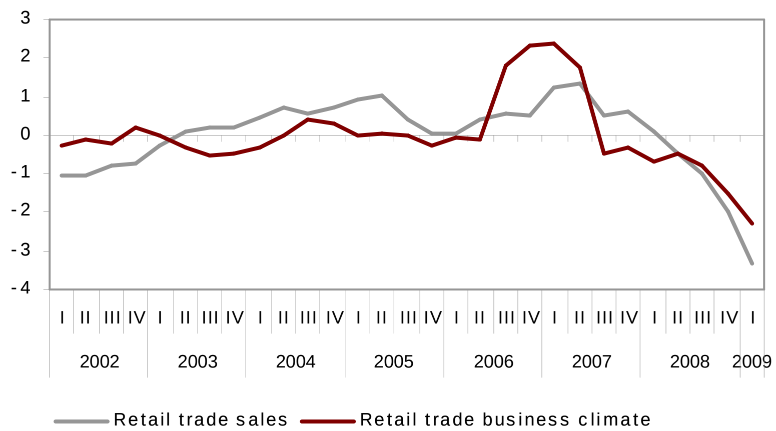
Fig. 7: Retail trade business climate and EAI



Note: Data are normalised.

Source: AEAF, NSI

Fig. 8: Retail trade business climate and sales index



Note: Data are normalised.

Source: AEAF, NSI

The downward trend in demand that started in the second half of 2008 became all the more pronounced in the first quarter of 2009, bringing about not only a further contraction in sales volumes but a retail price drop as well. The share of businesses pointing to deterioration in their financial condition rose sixfold on a year earlier to 32.7% of all respondents. Their downbeat expectations of the following half-year period were by and large shaped the decrease in both orders, local and foreign, and sales. Furthermore, the ever-declining demand in the sector was to be coupled with falling prices, with the balance on price expectations turning negative and worsening by 35.3 points on a 12-month basis. The anticipations of a weaker business activity made entrepreneurs look for alternative ways to optimize the workforce employed, with the share of employers expecting a decrease in employment going on the increase. Insufficient demand sustained its significance as a factor hampering retailers, but economic uncertainty and financial problems remained the main impediments faced by the sector in the first quarter of 2009.

Employment

Q1 employed numbers reported a year-on-year decrease. According to labour force survey data, the indicator stepped down by 0.8% or 27.1 thousand due mostly to the lower employed numbers in the agricultural and manufacturing sectors. At the same time, service employment remained steady at its levels of the first quarter of 2008. A major contribution to the employment decrease in the manufacturing sector was made by the processing industries, which posted an overall decline of 3.4% or 25.7 thousand on an annual basis.

Fig. 9: Employment and production index dynamics in manufacturing

Note: Data are normalised.

Sourse: AEAF, NSI

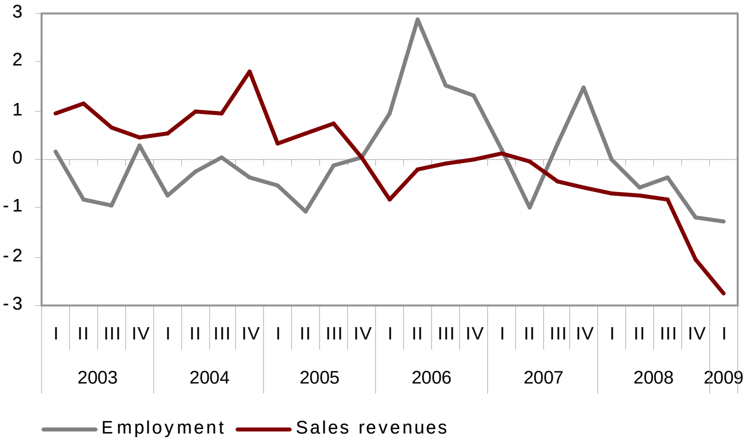
At preliminary employee and employee compensations estimate, the strongest decrease in employment was discerned as followed: textiles, clothing and footwear, machinery and equipment, chemicals, manufactures, not classified elsewhere, rubber, plastics and other non-metal mineral raw materials, etc. At the same time, despite the year-on-year deterioration, the weaker Q1 business activity in construction failed to affect employment adversely and the employed numbers went up by 7.6%[6].

Job creation picked up at a healthy pace in most service industries, with the strongest increase being reported by financial and insurance services, hotels and

[6] Labour force survey data.

restaurants, transportation, storing and post services. At the same time, Q1 employment in retailing stepped down by 0.6%[7] on a year earlier, fully matching data on the declining sales revenues in the sector.

Fig. 10: Employment and sales revenues in trade dynamics



Note: Data are normalised.

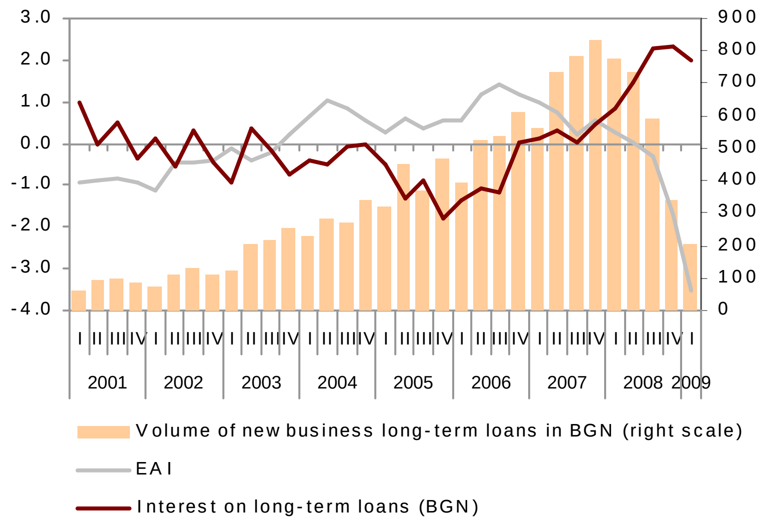
Source: AEAF, NSI

Long-term loan interest in BGN

The long-term loan interest dynamics in the first quarter had a negative effect on EAI performance. Throughout January to May they were steadily advancing to reach 11.45% on average in the period. Consumer loan interest carried on stepping up at a faster pace 12.35%, whereas housing loan interest rates were increasing at slower rate (10.03%). Long-term loans in BGN, too, reported a weaker growth rate of 10.66% on a quarter earlier. According to interest rate statistics, the volume of new credit extensions, in particular to the household sector and corporate credit in a lesser degree, declined drastically.

[7] Labour force survey data.

Fig. 11: EAI dynamics, interest and volume on long-term loans in BGN



Note: Data are normalised. Source: AEAF estimates

The higher cost of loan resources and cautious approach of all market players, together with the downbeat short- and long-term business expectations had a curbing effect on both credit supply and demand. Private-sector credit growth started to slow down since mid-2008 now running at 25% on an annual basis as of the end of March. At the same time, it should be noted that the vigorous 12-month growth in private-sector loans was by and large due to the base effect of the robust loan rise of late 2007 and early 2008. If, however, the low month-on-month credit growth pace that has been reported since the last quarter of 2008 is sustained throughout 2009, annual credit growth will run at a one-digit rate.

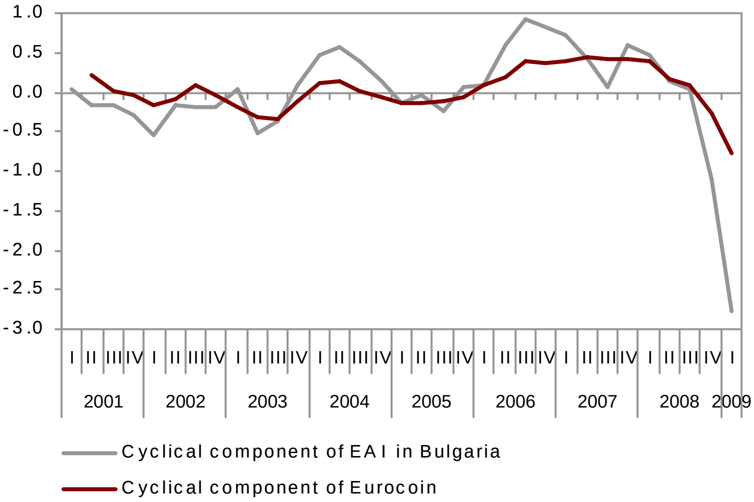
Bank credit portfolio remained relatively stable, despite the unfavourable business situation and slower pace of loan growth. As of the end of March, the share of loans classified as losses amounted to 2%, and the provision coverage ratio to 145%, or one of the highest levels in EU. At the same time, the profit made by banks in the same period ran at BGN 271 million, ensuring a return on assets of 1.6%. Bank assets, in turn, reached BGN 69.2 billion, as of the quarter's end, posting a 16.4% year-on-year rise. The capital adequacy of the banking system improved, too, to 16.49% from 14.86% at the end of 2008 and 14.54% a year earlier. The indicator is expected to further step up as a result of the capitalization of last year's profit.

Degree of overlapping of the local business cycle with the cycle in the Euro area

Estimates of the correlation between the cyclical fluctuations in the Euro area and the local economy show that the effect of changes in the business situation in the Euro area on Bulgarian economy takes place with a time lag of one period. Moreover, the local busines cycle demonstrates stronger deviations from the long-term average, compared to the business cycle in the Euro area, which makes Bulgarian exports all the more dependent on the global market situation.

Fig. 12: Estimated cyclical fluctuations in the Euro area and Bulgaria

Note: For more detailed data and methodological notes on the Euro area cyclical indicator EuroCoin, visit http://eurocoin.cepr.org/. As this is a monthly indicator, data have been averaged to make comparison with the quarterly EAI possible. In addition, since EuroCoin excludes only short-term (seasonal) fluctuations in Euro area business activity, it was also necessary to eliminate the long-term trend in the time series, using the Hordrick-Prescott filter.



Source: AEAF estimates, CERP, NSI, BNB, World Bank

Impact of the EU economy on the local economy

On a year earlier, Q1 GDP of EU -25 declined by 4.8% in real terms. The indicator continued to deteriorate at a faster pace due to the persistent shrinkage in both domestic and global demand. Having stepped down by 15.6% in real terms on a 12-month basis, investment dynamics had again a major contribution to the above development. Final consumer spending went down for another quarter in a row by 0.7%. Together with the ever-worsening demand, net exports produced a rather unhealthy effect on the business activity in EU-25. Both exports and imports continued to contract at a faster pace of 14.8 and 13% respectively in real terms.

The slowdown in EU-25 business activity for a second quarter in a row reinforced the negative effect on the Bulgarian economy. On a year earlier, exports hit a record low, stepping down by 17.4% in real terms on a quarter's average. According to balance of payments statistics, the exportation of goods to major trading partners carried on shrinking, with the nominal-term decrease being most significant to the Euro area and the Balkan and Asian countries (25.8, 48.7 and 51.5% respectively). A breakdown of exports by commodity group pointed to a strong negative contribution of refined oil products, iron and steel, and other metal items. The latter were most adversely affected by the continuous drop in global oil and metal prices and posted a drastic nominal-term decline of 61.4, 44.6 and 48.6% respectively.

The ever-worsening foreign demand in the first quarter of 2009 was coupled with a significant decrease in both investments (19.8% in real terms on an annual basis) and consumption (5.4%), which led to a slowdown in the country's business activity for the first time in the past ten years.

Rationale and advantages of the Economic Activity Indicator. Some methodological notes

The Economic Activity Indicator (EAI), constructed at AEAF, is aimed at assessing the current state of affairs in the Bulgarian economy. Being a composite indicator, it enjoys a number of advantages:

If the data on the variables, making up EAI are revised, the composite indicator's change will run significantly lower than the revisions made to GDP data.

GDP dynamics is sometimes susceptible to sector-specific factors that are often discrete or temporary by nature, and should therefore not be treated as factors affecting the overall economic situation. The breakdown of every time series into a common and specific component allows for the elimination of the impact of temporary and specific factors as well as for adjustments for likely errors in gauging a variable.

EAI has been calculated based on a dynamic factor model applied to quarterly data sets of 63 macroeconomic time series for both Bulgaria and the world business situation. Subsequently, the number of variables making up the indicator has been reduced to eight, with each variable being exploited with its real change in a given quarter on a year earlier. The variables, making up EAI are as follows: GDP, value added in construction, employed numbers, EU-25 GDP, industrial sales, business climate in retailing, long-term loan interest in BGN, and the metal and mineral raw material price index of the World Bank

Estimates of the cyclical component of EAI have been made by evaluating: (1) the long-term component using the Hordrick-Prescott filter with a multiplier $\lambda = 1600$*. Although the HP filter has been in the limelight of much controversy, it remains the most widely used technique of detrending economic series; (2) the short-term component, accounting for fluctuations within a year that have been estimated using a moving average with 4 lags.*