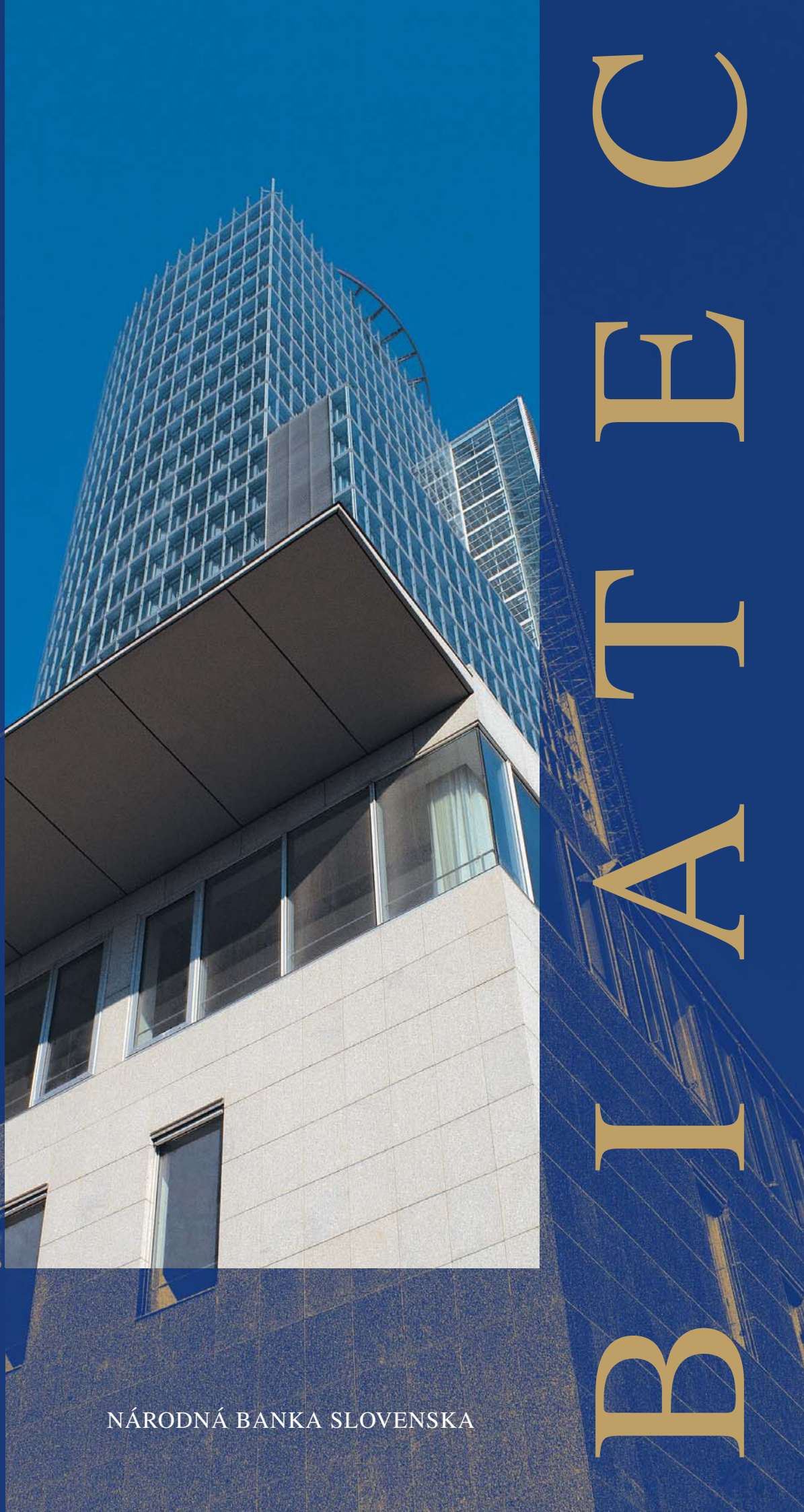


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NÁRODNÁ BANKA SLOVENSKA



# Night events in the Museum of Coins and Medals

*In addition to creating collections and to professional care of museum objects, the main tasks of museums include making collections accessible and presenting them to the public. That is why this year again the NBS – Museum of Coins and Medals at Kremnica has prepared a series of cultural events for the public, by means of which it tries to acquaint the visitors with the riches hidden in its collections in the attractive form of night tours.*

## **NIGHT OF MUSEUMS**

It is already the fourth time that the museum has participated in the international project „Night of Museums“. This Europe-wide event takes place on the occasion of the International Museums Day on the initiative of the French Ministry of Culture and Communication, under the auspices of the Council of Europe. The first year of the event was 2005. Since then the number of museums joining the project has been increasing every year, both in Europe and in some non-European countries. The event's main idea is to present museums to the public in a non-traditional way – by means of an evening visit or night visit and special activities, which are supposed to provide extraordinary experience from a visit to the museum. The entry is usually free during the event, which primarily caters for young visitors and families with children.

The NBS – Museum of Coins and Medals at Kremnica has participated in this event since 2006, when expositions of the Town Castle were made accessible to the public. In 2007 and 2008, the event was moved to the rooms of the numismatic and historical exposition *Obverse and Reverse of Money* and the long-term artistic and historical exposition *The Roads of Collecting in the Art of the 15th to 18th Century* (in 2008). This year, the event took place in the rooms of the Town Castle exposition again.

The gates of the Town Castle of Kremnica opened on Saturday, 16 May 2009, to welcome the visitors to the event. The start of the unusual museum night was announced by sounding a trumpet from the tower of the St. Catherine Church. A varied program awaited the visitors, starting with tours of expositions of the Town Castle. In the St. Catherine



Church, they could listen to organ music and take a look at the most beautiful objects from the treasury of the church. In the Clock Tower, they could listen to the sound of a collection of Kremnica bells and of a rattle. The Northern Tower with the exhibitions *On Archaeological Prospecting at the Castle and Town Defense* was also open; the visitors could admire interesting exhibits and the art of producing bobbin laces. Music presented by the pupils of the J. L. Bella Elementary School of Arts of Kremnica resounded from the ossuary, making the night even more enjoyable. Children enjoyed most the performance of the mime Miro Kasprzyk, but also creative workshops and the opportunity





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# Banking in CEE – Past success stories. Current black clouds. Future silver linings?

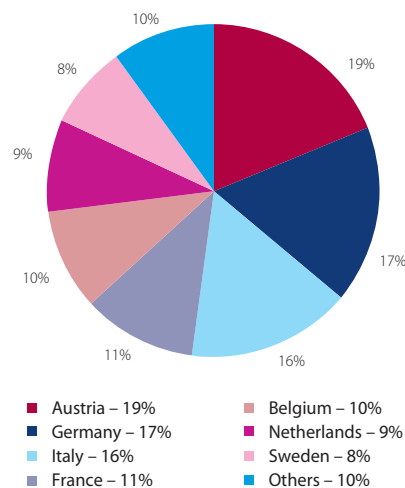
Doris Ritzberger-Gruenwald  
Oesterreichische Nationalbank

*Transition processes crucially hinge on the provision of funding to pay for all the necessary investments. This holds also true for CEE: Catching up activities attracted banks mainly from old EU countries, and these banks managed to attract further investment. Actually, this is one of the many examples for the “hen and egg problem”, but whatever the causality – the result was a banking system which is mainly foreign owned (Graph 1); which used to be highly profitable (Graph 2); and which served both firms and households well by offering them up-to-date products as long as financial markets deepened.*

## THE CHANGE IN MARKET SENTIMENT

When the financial market crisis started to emerge, countries in CEE had some hope that they might manage to decouple from the downward trend. But after a while, the mechanism and the dimension of the financial market crisis became more obvious. It became clear that the crisis would even affect banks or markets which had no direct links to subprime products. The spreading distrust led to a shortage of liquidity as money markets stopped functioning. Against this backdrop, the sentiment turned very quickly, and markets stopped treating CEE as a promising region. All of a sudden, emerging Europe was mainly associated with risks: high current account deficits, high shares of FX loans, unsustainable high growth rates of prices and wages.

**Graph 1 EU-15 Banks' Shares in total Exposure to Eastern Europe € 985 bn (2008 Q3)**



Source: OeNB.

To be sure, some countries in the region had certainly grown too quickly in the past. They had indeed run up very high current account deficits which were not at all covered by FDI inflows (e.g. deficits above 20% of GDP in Latvia and Bulgaria). In addition domestic private saving rates were low and credit growth rates were huge, as were price increases, especially in the real estate sector. For some countries, mainly in the Baltics, it was pretty clear that they had left a sustainable catching-up growth path and that developments would lead to a bubble which was going to burst. Yet this bursting of the bubble had nothing to do with the financial market crisis, as it happened several months before Lehman. Other countries have been worrisome because of their fiscal situation, for instance Hungary, a country which has run up a huge fiscal deficit, peaking at 9.2% of GDP in 2006. Although Hungary has since reduced its deficit to almost a third, the country stayed vulnerable to shocks.

In other countries, governments and central banks were much more cautious and tried to flatten the growth path. They restricted credit growth (Romania) and moved to contain FX loans by raising risk weights (Croatia); some countries even managed to accumulate a budget surplus (Bulgaria). Flattening the growth path was not an easy task, though, as markets found ways to circumvent these measures. Credit allowances were set directly by parent banks, or leasing companies stepped in. On the fiscal side policymakers also found themselves quite limited, as it is difficult to raise already significant budget surpluses even further – even more so in countries where infrastructures are still inadequate and where social security systems are still in their infancy.

However, the trust of markets vanished regardless of the fact that most of the countries in the area had since become EU members. Markets did



not take institutional and market reform, which is a precondition for EU membership, as an asset. Markets also hardly took into account the huge differences that exist across countries in terms of income levels, policies and prospects. Whereas some countries have managed quite well and still have relatively positive growth prospects – like for instance Poland or the Czech Republic –, markets essentially treated the region as such: as a region, rather than differentiating among individual economies. Some market participants evidently had too little information, others saw a risk of contagion, and still others argued with historical experiences in Latin America or Asia.

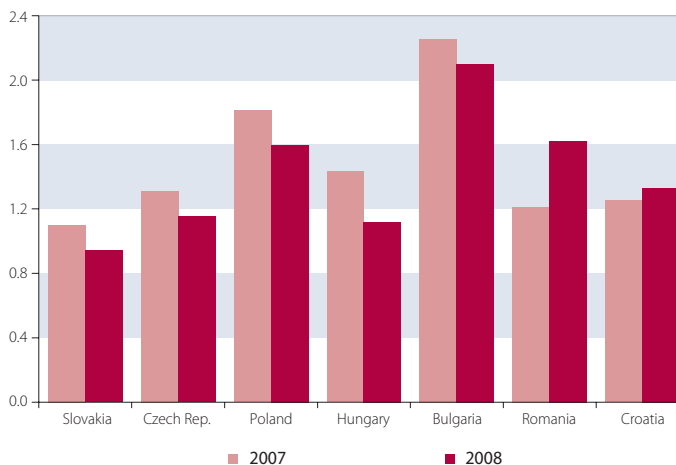
As it turned out, the financial market crisis did indeed synchronize developments in CEE economies. Whereas the boom period between 2004/2005 and 2009 has not been a uniform one, the downturn started in autumn 2008 more or less in synch in all countries and brought their growth rates to negative territory within a matter of months. As a result of the new, much more pessimistic scenarios, rating agencies downgraded several CEE countries, CDS increased (Graph 3), and currencies started to depreciate (Graph 4).

### FX CREDITS – HOW A MICRO-FINANCIAL RISK BECAME A MACRO-FINANCIAL RISK

The massive depreciations revealed the risk embedded in a high share of FX loans (Graph 5). At the micro-level, borrowers had anticipated the catching-up process to go along with an appreciation of the currency, so they hoped to benefit not only from the more favourable interest rate on FX loans but also from exchange rate developments. But even in good times, this is more a bet on currency developments than a sustainable strategy. In bad times, this kind of risky behaviour becomes even worse as any depreciation makes the repayment of the loan even more expensive for the debtor and even more unlikely for the bank.

At the macro-level, countries which kept their exchange rates flexible, where agents were basically used to highly volatile exchange rates and never built up such high amounts of FX loans, are more or less on the safe side. Whereas those countries which had established currency boards a long time ago in order to gain from stable expectations, or which had entered ERM II in preparing for euro adoption, at the same time created a huge incentive to reap the benefits of FX credits in good times. Now they are struggling with the negative consequences. From an economic point of view in a purely flexible market without any constraints, the right answer would be to devalue. But given the relatively small export sector, institutional needs in the run-up to the euro area and possible contagion effects, they are well-advised to retain their fixed exchange rate regimes for the time being, as the overall cost of devaluation would be high in the short run.

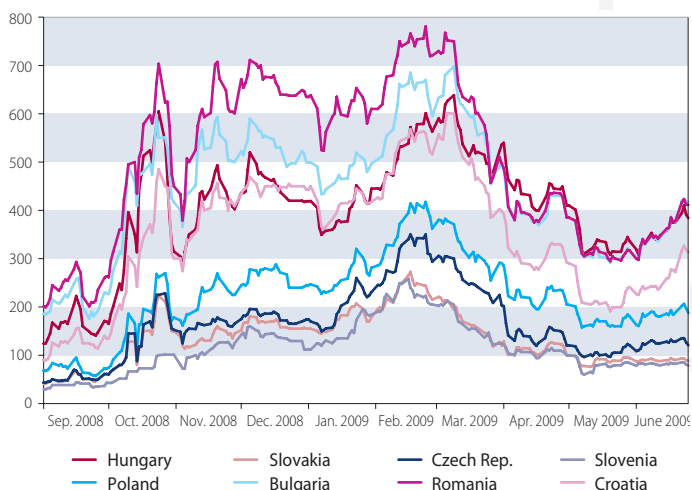
Graph 2 Banking sector's profitability in terms of RoA (return on assets): 2007 and 2008 (in %)



Source: IMF, National central banks, OeNB.

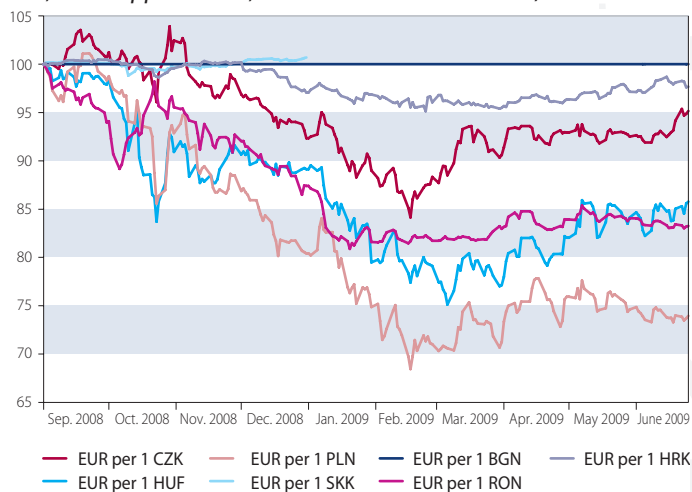
Note: Based on profits after tax. Data are not comparable across countries.

Graph 3 Credit default swap premiums (5Y, in basis points, last observation: 25.6.2009)



Source: Thomson Reuters.

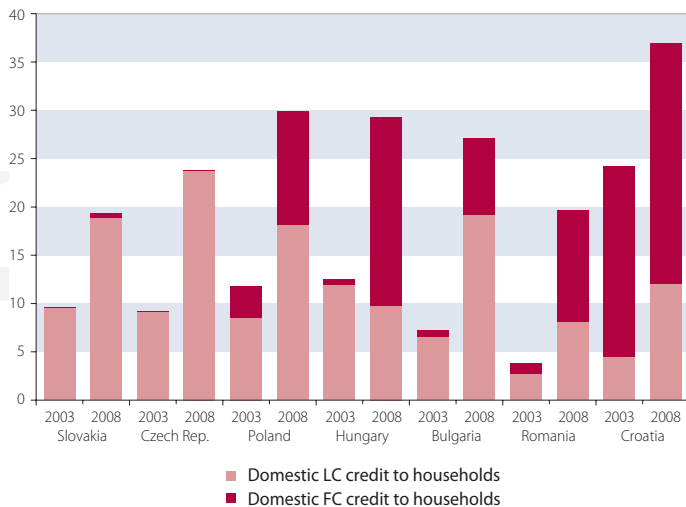
Graph 4 Exchange rate developments versus the euro (1.9.2008 = 100, rise is appreciation, last observation: 25.6.2009)



Source: Thomson Reuters.

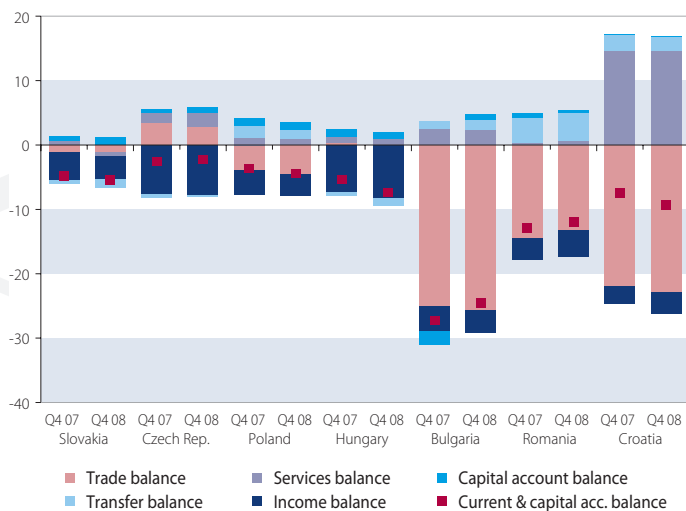


**Graph 5 Outstanding total credit to households (end-of-period stock as percentage of GDP)**



Source: ECB, Eurostat, National central banks, National statistical offices, OeNB.  
 Note: Foreign currency credit includes both foreign currency-denominated and foreign currency-linked credit.

**Graph 6 Current and capital account balance and its components (four quarter rolling sum in % of 4Q rolling sum of GDP; points for total current and capital account balance (i.e. sum of sub-balances))**



Source: Eurostat, National central banks, OeNB.

### SUPPORT IS ON ITS WAY

In fact, support is on its way. International institutions as well as EU governments have decided to take action and to activate already existing measures or to create new ones in bringing the crisis to a hold. IMF packages, EIB loans, EBRD guarantees, and EU balance of payment support have re-established market confidence.

Either as precondition for receiving such support, or independently, CEE countries implemented national austerity packages – which are, however, difficult to run. In fact these measures are quite the opposite of the policy measures which have been implemented in most industrialized countries so far. This situation becomes especially difficult when financial support by the

EBRD or the EIB has to go along with a domestic financial component. However, one has to take into account that most of CEECs experienced a boom until very recently, as reflected in still quite high inflation rates.

Equally important to all these measures is the firm commitment of the foreign banks to stay in the region and not to withdraw their money. On the one hand this commitment is based on the very reasonable argument that they want to retain their market share for future more prosperous times. On the other hand this was a precondition for some of the financial support granted by international and national bodies.

### THE GROWTH DIFFERENTIAL MELTED, BUT WILL RECOVER IN THE MEDIUM-TERM

The deterioration of financial markets led to a global downturn of several other markets, e.g. commodity and housing markets. At the end of 2008 it became pretty clear that the financial crisis would also spread to the real sector. As a result, similar to forecasts for western industrialized countries, CEE forecasts were constantly revised downwards. The growth differential of emerging Europe to the euro area, which traditionally amounted to between 3 and 4% in recent years, will decrease significantly to less than 1% in 2010 (Graph 7). This is bad news for all parties involved, as the catching-up process always functioned as a driving force for the euro area. When this engine is missing, the recovery of the euro area will last longer, which in return will delay the recovery of CEE, as demand for exports will be restored only slowly.

Although CEE growth rates are in negative territory at present, growth rates will rebound in the medium term, so catching-up will continue (Graph 8). The reasoning for good catching-up prospects lies in the still relatively low income levels and a still relatively shallow financial market. It may certainly be the case that investors may be more cautious for a certain period. Yet investors are bound to start looking again for good opportunities and high rents.

### INSTITUTIONAL LESSONS TO BE LEARNT

Has the new institutional set-up of CEE countries in terms of EU or even euro area membership improved their resilience to crisis? This is an interesting question to ask, as new territory has been charted in this respect. Obviously EU membership has helped, but only to a certain amount. However, countries which are not EU members yet have not received any bonus for not being an EU member, quite to the contrary. The same is true for euro area membership. To be a member of the euro area, like Slovenia and Slovakia, has helped, but only to a certain amount. However, countries which have not introduced the euro yet have not received any bonus for having retained their national currency. Some of those countries, admittedly, used their exchange rate instrument to regain competitiveness through depreciation.



Yet it may be doubted whether having retained this possibility outweighs the FX risks they have collected in the process.

**HAS THE BOTTOM BEEN REACHED, AND WHEN IS THE REVIVAL LIKELY TO COME?**

The question if these countries have reached the bottom is very difficult to answer. It is a fact that major corrections of imbalances have occurred, and that some countries such as Latvia have seen their current account deficit turn into a current account surplus. Net exports are positive and not negative anymore, as imports have been reduced more than exports. Imports were actually cut twofold, as both private consumers and investors put their breaks on. The depreciation of some currencies (Polish zloty; Czech crown; Hungarian forint) has been quite significant and should have increased competitiveness.

However, there will be several sources of growth after the crisis: Before the crisis, the region relied heavily on capital inflows. The leverage of banks will certainly be lower in the future, but the hypothetical possibilities, and also the actual need, for FDI is still huge. Infrastructure is still relatively poor (see EBRD indicators), for which a leaner and more reliable public sector seems to be an important precondition.

Another possible source of growth lies in the strengthening of the domestic economy. Firstly, exports will increase, which has been facilitated to some extent by several episodes of depreciation. Note that countries with a fixed exchange rate regime will actually have a harder time in this respect, as they are surrounded by countries which depreciated. Secondly, productivity will increase, as there have been several quite deep wage cuts. And finally domestic savings, which were at a very low level before the crisis, have started to play a more important role. This credit-financed consumption is something which the CEE countries have in common with the U.S.A. Interestingly this phenomenon shows up in very mature economies but also in countries in transition.

Although these developments are quite important preconditions for an upturn, they are only preconditions. They do indeed help restore trust in the region, but as long as demand from other countries, mainly the euro area, does not revive

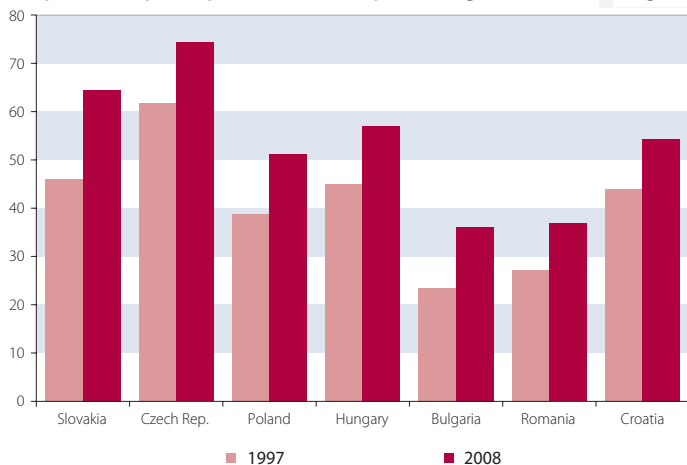
Graph 7 Growth differential of CEE-EU Member States to EA-16 (in %)



Source: OeNB, IWF.

Note: Based on WEO Spring 2009. Slovakia and Slovenia are included in the CEE-EU MS aggregate.

Graph 8 GDP per capita (at PPP) (as percentage of EU-15 average)



Source: IMF, OeNB.

or remains soft, no sustainable upturn will be in the offing. In this respect those countries which are less open or, in other words, rely mainly on domestic demand rather than exports (as for instance Poland) have much better prospects in the short term. So what was true for entering the crisis will hold for leaving the crisis: CEECs cannot decouple from their neighbours.

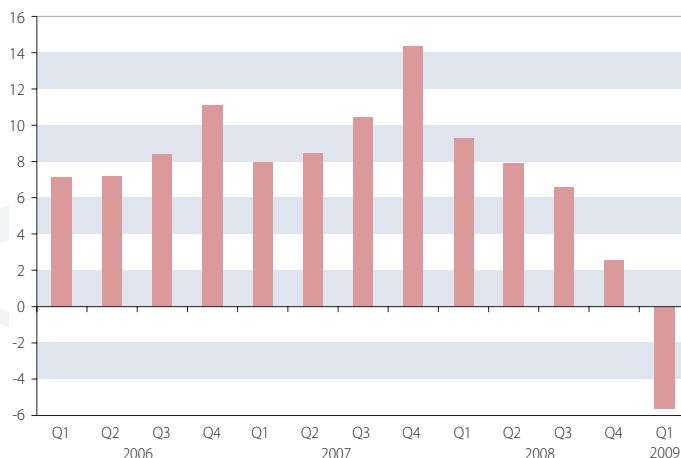


# Development of the real economy in the first quarter of 2009

Viera Kollárová, Helena Solčánska  
Národná banka Slovenska

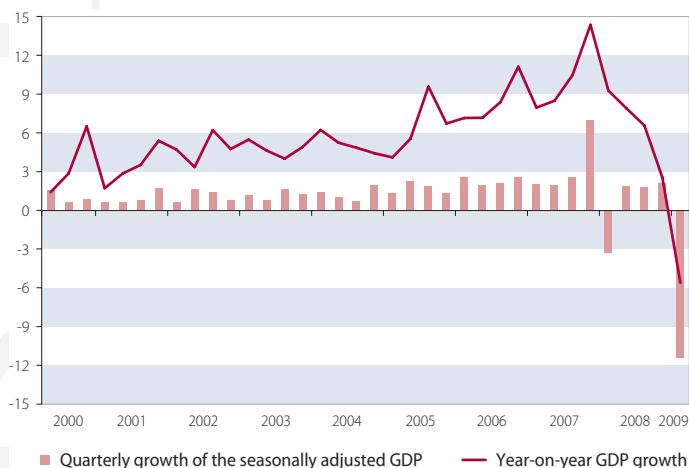
The indicators of Slovakia's macroeconomic development deteriorated in the first quarter of 2009 considerably. The GDP development was influenced by a decreasing global demand, which resulted in a decrease of foreign demand and subsequently also domestic demand. This effect was also reflected in labor market indicators, which exhibited a slowdown of the wage growth and a moderate decrease in the employment rate. In the following period, nominal compensations per employee should record a considerable slowdown accompanied by a decrease in employment. In terms of GDP components, we expect a more moderate slowdown of household final consumption in connection with the introduction of the car scrapping incentive for the sale of cars, a decrease in investment activity and a continuation of the decrease in foreign demand.

Chart 1 Development of real GDP by quarters (year-on-year growth in %)



Source: Statistical Office of the Slovak Republic.

Chart 2 Development of quarter-on-quarter and year-on-year GDP growth rates (in %)



Source: Statistical Office of the Slovak Republic.

## GROSS DOMESTIC PRODUCT

The year-on-year decrease in the gross domestic product (GDP) at constant prices was 5.6% in the first quarter of 2009, compared to a growth of 2.5% in the fourth quarter of 2008.

In terms of production, the GDP development in the first quarter of 2009 was associated with a decrease in value added, especially in the industrial, trade, construction and agricultural sector, and the impact of the slump of world economy, as well as negative expectations of consumers, were fully reflected in the development of the real economy, despite a growth of real wages and a slight decrease in employment.

The nominal volume of generated GDP in the first quarter 2009 was €14.6 bln., i.e. 6.1% less than a year ago.

Within its publication of quarterly data, the Statistical Office of the Slovak Republic also publishes seasonally adjusted data for most macroeconomic indicators. Based on those data, it is possible to calculate quarter-on-quarter changes that reflect the heading of the economy in the individual quarters more fittingly (because they contain no base effects as compared to the year-on-year changes in unadjusted data), and they manage to identify exactly – for example in the current year – when the economy has reached its bottom. However, the quality of seasonal adjustment, which depends on the method of adjustment and the parameters of the selected model, poses a risk.

The seasonally adjusted data imply that the GDP decreased by 11.4% in the first quarter of 2009 against the fourth quarter of 2008. A reduction in both domestic demand (-2.8%) and foreign demand (-16.1%) contributed to this decrease.

We do not expect any further GDP contraction in the following quarters; on the contrary, the economy should gradually grow slightly and we



expect a favorable quarter-on-quarter development in the second quarter of 2009 as a result of one-time effects (catching up on the production lost due to the gas crisis in the first quarter, introduction of the car scrapping incentive, restoration of consumer confidence, beginning of the implementation of PPP projects). As a result of the considerable slump of the economy at the beginning of the year and only a slight growth in the following quarters, we expect the GDP to decrease by 4.2% this year. There can be an even more considerable contraction of the economy in 2009, due to uncertainties in the development of foreign demand, as well as the risks that confidence will not be restored after the decrease in the first quarter, the effect of the car scrapping incentive will pass away and the PPP project will not be carried out to the expected extent.

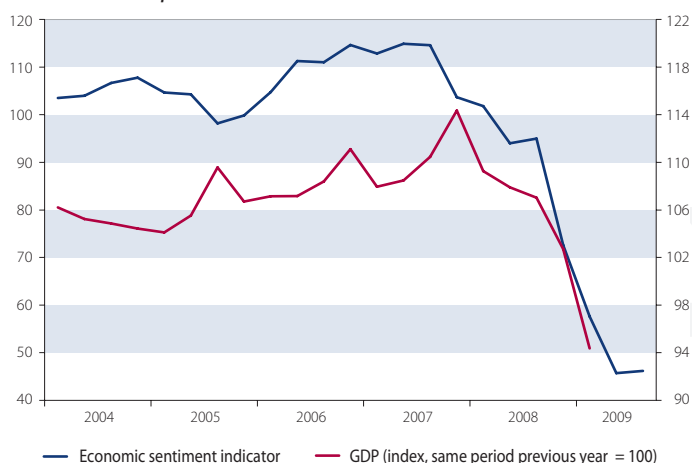
### DEMAND

In terms of consumption, the structure of economic growth in the first quarter of 2009 was influenced by a decrease in domestic demand<sup>1</sup>, as well as a decrease in foreign demand. Out of the individual domestic demand components, only final consumption of the general government had a pro-growth effect.

Domestic demand decreased by 4.6% at constant prices in the first quarter of 2009. The consumption component of domestic demand decreased by 0.7% year-on-year, which represented a reduction in the growth rate by 4.7 percentage points against the fourth quarter of 2008. This development was influenced by a decrease in household consumption spending. Final consumption of the general government recorded a growth slowdown.

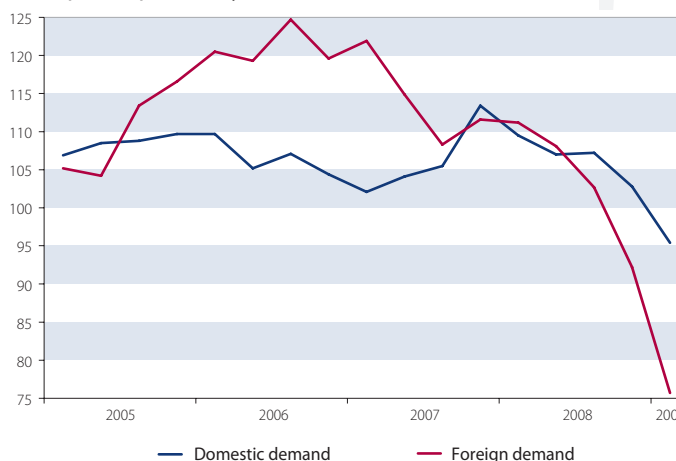
In addition to the consumption component, the GDP was also influenced by a decrease in investment in almost all production categories in the first quarter of 2009, which is a logical consequence of the contraction in demand and production. A year-on-year growth occurred only with investment in residential buildings, whose

Chart 3 Development of the economic sentiment indicator and GDP



Source: Statistical Office of the Slovak Republic, European Commission.

Chart 4 Development of domestic and foreign demand (index, same period previous year = 100)



Source: Statistical Office of the Slovak Republic and NBS calculations.

volume increased by 5.3%. As for the individual sectors, non-financial corporations, general government and non-profit institutions serving households were the main sectors to contribute

Table 1 Development of the gross domestic product by consumption (index, same period previous year = 100, constant prices)

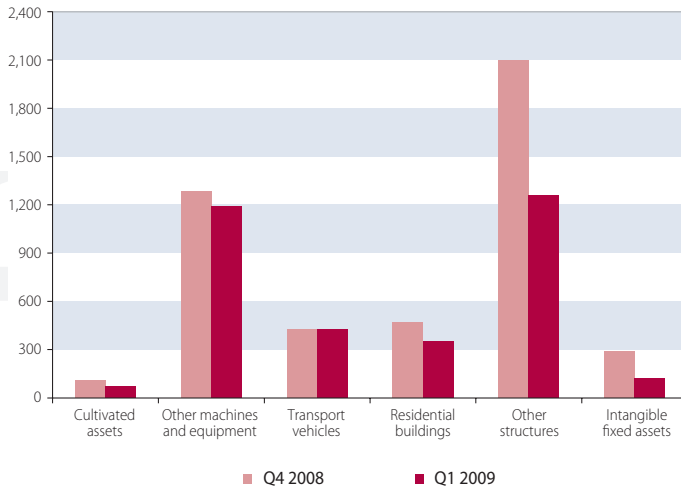
Indicator	2008					2009
	Q1	Q2	3Q	Q4	Year	Q1
Gross domestic product	109.3	107.9	106.6	102.5	106.4	94.4
Domestic demand	109.4	106.9	107.0	102.9	106.4	95.4
Final consumption	106.6	106.5	105.8	104.0	105.7	99.3
Households	108.4	105.7	106.0	104.7	106.1	98.8
General government	100.7	109.6	105.3	102.3	104.3	101.2
Non-profit institutions serving households	101.9	101.0	100.4	102.2	101.4	99.8
Gross fixed capital formation	107.5	111.8	107.3	101.4	106.8	95.9
Exports fo goods and services	111.2	108.1	102.7	92.2	103.2	75.7
Imports of goods and services	110.6	107.7	103.6	93.3	103.3	77.4

Source: Statistical Office of the Slovak Republic.

<sup>1</sup> The sum of household final consumption, final general government consumption, final consumption of non-profit institutions serving households and gross capital formation.

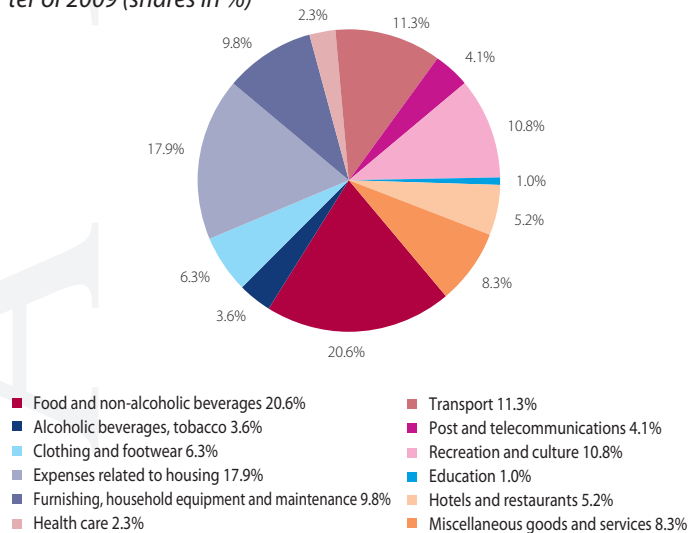


**Chart 5 Breakdown of gross fixed capital formation by production (EUR mil.)**



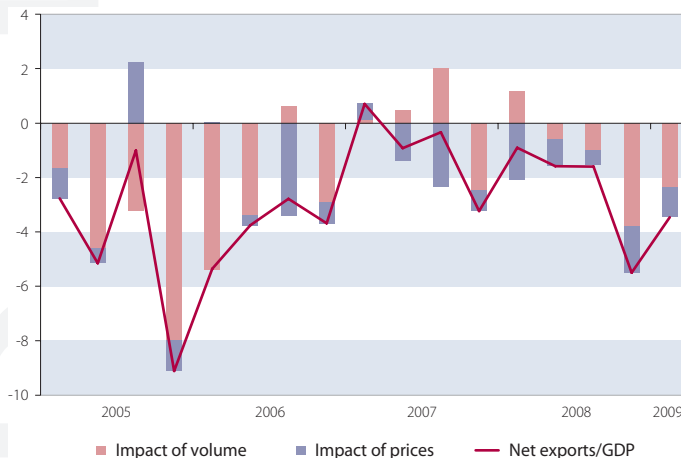
Source: Statistical Office of the Slovak Republic.

**Chart 6 Structure of household final consumption in the first quarter of 2009 (shares in %)**



Source: Statistical Office of the Slovak Republic.  
Note: The individual final consumption items do not add up.

**Chart 8 Contributions of net exports to GDP at current prices (in %)**



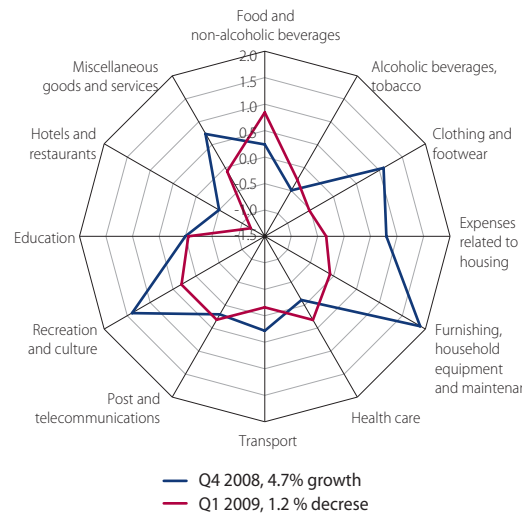
Source: NBS calculations based on data of the Statistical Office of the Slovak Republic.

to the decrease in investment. Investment in the financial corporations and households sector had a pro-growth effect.

The GDP reduction at the beginning of the year was also fostered by a decrease in inventories as a result of a reduction of production in businesses, which was related to the sale of products from stores and to the consumption of existing material inventories.

Households final consumption spending for the first quarter of 2009 decreased by 1.2% at constant prices year-on-year (there was an increase by 4.7% in the previous quarter). The slow-down in the wage growth and the moderate decline in employment had only a low impact on the development of consumption. The main reason for the decrease in final consumption was a fall in the confidence of the population during the economic crisis, which was reflected in an in-

**Chart 7 Contributions of the individual consumer expenditure groups to the growth of household final consumption**



Source: NBS calculations based on data of the Statistical Office of the Slovak Republic.  
Note: The individual final consumption items do not add up.

crease in saving at the expense of consumption. The decrease in private consumption was also associated with a decrease in consumer and other loans to households in the first months of the year. A moderate growth was recorded in the case of loans for house purchase, which led to a light increase in the indebtedness of the households (as measured by the ratio of loans to households to their final consumption) in the first quarter.

The only component to increase was government consumption (1.2% at constant prices) – not only within the consumption part, but also within the total development of the GDP on the demand side. This was particularly due to a growth in the compensation of employees.

Within household final consumption, in terms of the individual groups of consumption spend-


**Table 2 Impact of price and volume on the development of exports and imports (percentage points)**

Indicator	Q1 08	Q2 08	Q3 08	Q4 08	2008	Q1 09
	Q1 07	Q2 07	Q3 07	Q4 07	2007	Q1 08
<b>Exports of goods and services</b> (year-on-year growth in %, current prices)	14.6	11.4	4.5	-10.1	4.6	-28.3
Impact of volume	11.2	8.1	2.7	-7.8	3.2	-24.3
Impact of price	3.3	3.2	1.8	-2.3	1.4	-4.0
<b>Imports of goods and services</b> (year-on-year growth in %, current prices)	16.6	12.2	6.2	-6.9	6.4	-25.4
Impact of volume	10.6	7.7	3.6	-6.7	3.3	-22.6
Impact of price	6.0	4.5	2.6	-0.2	3.1	-2.8
<b>Net exports as a share of GDP</b> (share in %, current prices)	-0.9	-1.6	-1.6	-5.5	-2.4	-3.5
Impact of volume	1.2	-0.6	-1.0	-3.8	-1.1	-2.4
Impact of price	-2.1	-1.0	-0.5	-1.7	-1.3	-1.1
Terms of trade (index)	97.7	98.9	99.3	97.7	98.4	98.3

Source: NBS calculations based on data of the Statistical Office of the Slovak Republic.

Notes: Calculated from GDP figures in millions of EUR, the contribution of imports of goods and services reduces net exports and the GDP, deviations in intermediary totals are the result of rounding. The terms of trade are computed from year-on-year changes of goods and services import and export deflators.

ing at constant prices, expenditures on restaurants and hotels and clothing and footwear were the main factors contributing to the decrease of the overall consumption of households in the first quarter of 2009. Household spending on food and non-alcoholic beverages continued to have a pro-growth effect. In terms of percentages, expenditure on food and non-alcoholic beverages (20.6%) and expenditure related to housing (17.9%) made up the largest part of consumption.

Exports and imports of goods and services at current prices recorded a year-on-year decrease by 28.3% or by 25.4%. Nominal net exports improved by approximately €450 mil. compared to the fourth quarter of 2008 and reached a deficit of €507 mil. The main reason for the reduction of exports was a decrease in world demand as a result of the global economic crisis. Due to the import intensity of the exports, this reduction also translated to the imports of goods and services, which were also influenced by lower exports of material in connection with the consumption of already existing inventories in stores, suspension of production at the beginning of the year and lower investment imports.

**Chart 9 Development of export performance and import intensity (in %)**


Source: Statistical Office of the Slovak Republic.

Net exports at constant prices, taking into account the development of prices on foreign markets, reached a surplus of €194 m. in the first quarter of 2009 (a deficit of €202 m. in the previous quarter).

**Table 3 Creation of GDP by Component (index, same period previous year = 100, constant prices)**

	2008					2009
	Q1	Q2	3Q	Q4	Year	Q1
Gross output	108.3	109.9	105.2	101.4	106.0	85.8
Intermediate consumption	107.3	110.8	103.9	100.1	105.3	81.8
Value added	110.2	108.6	106.9	103.6	107.2	92.5
Net taxes on products <sup>1)</sup>	99.9	101.7	103.7	93.7	99.4	114.9

Source: Statistical Office of the Slovak Republic

1) Value added tax, excise duties, import tax, minus subsidies.



Table 4 Development of gross domestic product by branche (index SPPY=100, constant prices)

Branch of economic activity	Q1 08	Q2 08	Q3 08	Q4 08	2008	Q1 09
	Q1 07	Q2 07	Q3 07	Q4 07	2007	Q1 08
GDP	109.3	107.9	106.6	102.5	106.4	94.4
of which						
Agriculture	106.4	97.1	106.0	113.9	106.6	77.3
Industry	111.4	106.9	90.7	79.8	96.3	84.9
Construction	107.3	106.6	108.7	129.3	114.0	88.2
Trade, hotels and restaurants and transportation	116.2	113.6	119.4	118.8	117.0	86.2
Financial mediation and real estates	105.5	107.2	116.8	111.6	110.5	106.5
Public administration, education, health care and other community, social and personal services	106.3	108	107.8	104.8	106.7	108.3
Net taxes from products <sup>1)</sup>	99.9	101.7	103.7	93.7	99.4	114.9

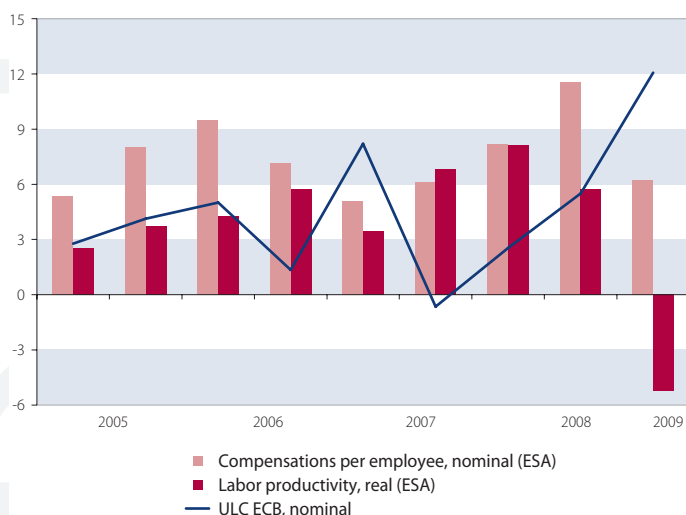
Source: Statistical Office of the Slovak Republic.  
 1) Value added tax, excise duty, import tax, minus subsidies.

Chart 10 Development of real wages and real labor productivity (in %)



Source: Statistical Office of the Slovak Republic, NBS calculations.

Chart 11 Unit labor cost and their components in the ECB methodology (in %)



Source: Statistical Office of the Slovak Republic, NBS calculations.

The development of import prices in foreign trade, as measured by goods and services import deflators, was primarily associated with the development of the prices of energy raw materials. The year-on-year decrease in import prices was 3.7% and 5.3% in export prices. The terms of trade thus deteriorated in the first quarter of 2009.

The export performance of the Slovak economy decreased by 5.9 percentage points in the first quarter of 2009 as compared to the previous quarter, as the ratio of goods and services to GDP at current prices reached 69.4%. At the same time, there was a decrease in import intensity by 7.9 percentage points to a level of 72.9%. The openness of the Slovak economy, measured as the ratio of exports and imports of goods and services to nominal GDP, decreased by 13.8 percentage points as compared to the previous period and reached the level of 146.3%.

### SUPPLY

GDP creation in the first quarter of 2009 was related to the development of value added, which recorded a year-on-year decrease by 7.5% at constant prices (against an increase by 3.6% in the fourth quarter of 2009). Net taxes, which include the value added tax, the excise duties and the import tax adjusted for subsidies, increased by 14.9% (compared to a decrease by 6.3% one quarter earlier). This increase was associated with an increase in the excise duty on tobacco and tobacco products as a result of pre-stocking with these products before the increased tax rate became effective.

The considerable decrease in gross production (-14.2%) in the first quarter corresponded to the development of the industrial production index, which decreased most over the whole period under review. In terms of GDP creation, this decrease was compensated by an even more considerable decrease in intermediate consumption (-18.2%),



which reflected the effective cost reduction of businesses during the crisis.

Almost all sectors except financial intermediation and public services contributed to the decrease in value added. The highest decrease was recorded in agriculture (-22.7%), industry (-15.1%), trade, hotels and restaurants and transport (-13.8%) and construction (-11.8%).

### WAGES, LABOR PRODUCTIVITY

The average monthly nominal wage per employee in the Slovak economy in the first quarter of 2009 increased year-on-year by 4.7% to €710.5; it recorded a moderate increase by 0.1 percentage points against the previous quarter. The growth rate of the real wage increased by 1.6% in the first quarter of 2009.

**Table 5 Development of average monthly wages and labor productivity in the Slovak economy (index, same period previous year = 100)**

	2008					2009
	Q1	Q2	3Q	Q4	Year	Q1
Nominal wage (index)	110.0	109.5	108.8	104.6	108.1	104.7
Real wage	105.8	104.8	103.5	99.8	103.3	101.6
Labor productivity, current prices	109.9	108.4	106.3	102.9	106.7	96.5
Labor productivity, constant prices	106.4	105.1	103.2	100.8	103.7	97.0
Real labor productivity less real wage (p.p.)	0.6	0.3	-0.3	1.0	0.4	-4.6
CPI (average for the period)	104.0	104.5	105.1	104.8	104.6	103.1

Source: Statistical Office of the Slovak Republic, NBS calculations.

Note: Labor productivity calculations are based on GDP and employment data from quarterly statistics.

**Table 6 Development of average compensation per employee and labor productivity in the Slovak economy (ESA 95 methodology) (index, same period previous year = 100)**

	2008					2009
	Q1	Q2	3Q	Q4	Year	Q1
Compensation per employee, nominal	110.9	110.4	109.2	106.2	109.0	106.2
Compensation per employee, real	106.5	105.2	104.3	102.4	104.4	102.7
Labor productivity, current prices	109.8	108.1	106.3	102.6	106.5	94.2
Labor productivity, constant prices	106.3	104.8	103.2	100.4	103.5	94.7
Real labor productivity less real compensation per employee (p.p.)	-0.2	-0.4	-1.1	-2.0	-0.9	-8.0
ULC nominal	104.4	105.3	105.8	105.8	105.2	112.1
Deflator of household final consumption	104.2	104.9	104.7	103.7	104.4	103.4

Source: Statistical Office of the Slovak Republic, NBS calculations.

Note: Labor productivity calculations based on GDP and employment data according to ESA methodology.

**Table 7 Development of labor productivity and compensation per employee in the first quarter of 2009 (index, same period previous year = 100)**

	Real labor productivity	Real compensation per employee
Economy in total:	94.7	102.7
Agriculture and fishing	90.8	100.7
Industry	92.3	100.9
Construction	82.0	109.3
Trade, hotels and restaurants, transport	84.0	100.7
Financial intermediation, real estates	101.2	104.0
General government, education, health and other community, social and personal service activities	106.3	103.7

Source: Statistical Office of the Slovak Republic, NBS calculations.



A higher growth of nominal wages in the first quarter of 2009 was recorded by the general government, defense and mandatory social security (11.0%), professional scientific and technical activities (9.1%), arts, entertainment and recreation (8.0%), administrative and support service activities (7.9%), education (7.8%) and other service activities (7.4%). On the other hand, the level of the average nominal wage from the same period previous year was not reached by accommodation and food service activities, real estate activities, financial and insurance activities and agriculture.

Labor productivity decreased in nominal and real terms in the first quarter of 2009. This decrease was associated with the considerable GDP reduction in the first quarter of 2009. The growth rate of labor productivity lagged behind the growth rate of the real wage by 4.6 percentage points.

Nominal compensations per employee (ESA 95 methodology) increased by 6.2% year-on-year in the first quarter of 2009 and their growth rate did not change as compared to the previous quarter.

Labor productivity, as measured under ESA 95 methodology, recorded a year-on-year decrease by 5.8% in nominal terms and 5.3% in real terms. Real labor productivity in sector breakdown, as computed from ESA 95 data, showed a decrease in all sectors – except financial intermediation and the public sector – in the first quarter of 2009. Wages, besides public sector, did not develop in line with labor productivity, so that there is room for their further slowdown, which should reduce the growth of unit labor cost.

The unit labor cost, calculated as the ratio of the growth of nominal compensation per employee to the growth of real labor productivity (GDP per total employment) from ESA 95 data in ECB methodology ( $ULC_{ECB}$ ), increased considerably – by 12.1% – year-on-year in the first quarter of 2009 and the growth rate increased by 6.3 percentage points as compared to the fourth quarter of 2008; the same trend can be observed in the euro area. The reason for such a development is a considerable decrease in real labor productivity in the first quarter 2009 (in the same period of the last year, real labor productivity growth was 6.3%) without any effect on the wage development.

Due to a considerable decrease in the number of hours worked in the first quarter of 2009, there was a year-on-year increase in nominal compensation per hours worked by 11.6% at a real labor productivity growth by 1.2%.

### INCOME AND EXPENDITURE OF HOUSEHOLDS

According to data of the Statistical Office of the Slovak Republic, current income of the households was €12.8 bn. in the first quarter of 2009, with the year-on-year nominal growth amounting to 3.7%. The current income growth rate slowed down by 8.2 percentage points against the fourth quarter of 2008. Within the current income, the highest growth rate was recorded in social benefits (11.0%) and other current transfers (6.0%). Property income decreased by 7.3% year-on-year.

Table 8 Generation and uses of income in the household sector (current prices)

Item	EUR bn.		Index <sup>1)</sup>		% share	
	Q1 2008	Q1 2009	Q1 08 Q1 07	Q1 08 Q1 07	Q1 2008	Q1 2009
Compensation of employees (all sectors)	6.1	6.2	12.1	2.9	49.1	48.7
of which: gross wages and salaries	4.9	5.0	12.6	2.5	39.7	39.2
Gross mixed income	3.6	3.7	10.8	2.1	29.4	28.9
Property income – received	0.3	0.3	-2.3	-7.3	2.7	2.4
Social benefits	1.9	2.1	7.5	11.0	15.4	16.5
Other current transfers – received	0.4	0.4	7.4	6.0	3.3	3.4
Current income in total	12.3	12.8	10.4	3.7	100.0	100.0
Property income – paid	0.2	0.1	2.3	-39.2	6.8	3.9
Current taxes on income, wealth, etc.	0.4	0.5	13.9	11.1	13.7	14.5
Social contributions	2.0	2.2	13.5	8.0	65.4	67.3
Other current transfers – paid	0.4	0.5	1.0	5.9	14.1	14.2
Current expenditure in total	3.1	3.2	10.8	4.9	100.0	100.0
Gross disposable income	9.3	9.6	10.3	3.3	x	x
Adjustment for changes in net equity of households in pension funds	0.3	0.2	16.9	-4.9	x	x
Household final consumption	9.1	9.3	12.9	2.2	x	x
Gross household savings	0.4	0.5	-23.8	21.6	x	x

Source: Statistical Office of the Slovak Republic.

Note: Data for income on assets in the first quarter of 2009 is incomparable due to a methodological change.

1) The indexes are calculated from values expressed in bln. EUR.



Table 9 Development of gross disposable income (index, same period previous year = 100, current prices)

	2008					2009
	Q1	Q2	3Q	Q4	Year	Q1
Gross disposable income	110.3	112.7	112.3	112.1	111.9	103.3
Household final consumption	112.9	110.9	111.1	108.5	110.8	102.2
Gross household savings	76.2	126.9	133.5	136.9	122.3	121.6
Gross savings as a share of gross disposable income (%)	4.7	9.6	6.2	15.1	9.2	5.6

Source: Statistical Office of the Slovak Republic, NBS calculation.

The current expenditure of households (expenses paid by the population to other sectors and not consumed directly by it) recorded a year-on-year growth of 4.9% and reached €3.2 bn. Their growth rate slowed down by 6.5 percentage points compared to the previous quarter. The year-on-year growth of current expenditure was caused by a growth in current taxes on income and wealth and in social contributions. Property income decreased by 39.2% year-on-year.

After deducting current expenditure from current income, a gross disposable income of households amounted for €9.6 bln., which showed a year-on-year increase by 3.3%. Households used 97.0% of their disposable income for final consumption, the rest went to gross saving, which increased by 21.6% year-on-year.

**EMPLOYMENT, UNEMPLOYMENT**

Employment declined in the first quarter of 2009 according to all three methodologies. Employment fell by 2.7% year-on-year according to a statistical survey, by 0.4% according to ESA 95 methodology and by 0.1% according to the labor force sample survey (LFS). Employment according to statistical records also includes part-time jobs; therefore a more considerable decrease in employment in the first quarter of 2009 within this indicator can indicate layoffs of mainly these employees. In terms of employee structure, the development of total employment (LFS) in the first quarter of 2009 was influenced by a decrease in the number of employees by 1.9%, the number of entrepreneurs having shown a year-on-year increase by 13.3%. In connection with the considerable GDP decrease, this is a moderate decline in employment due to the attempt of employees to preserve jobs and rather restrict production and the related reduction of the number of hours worked.

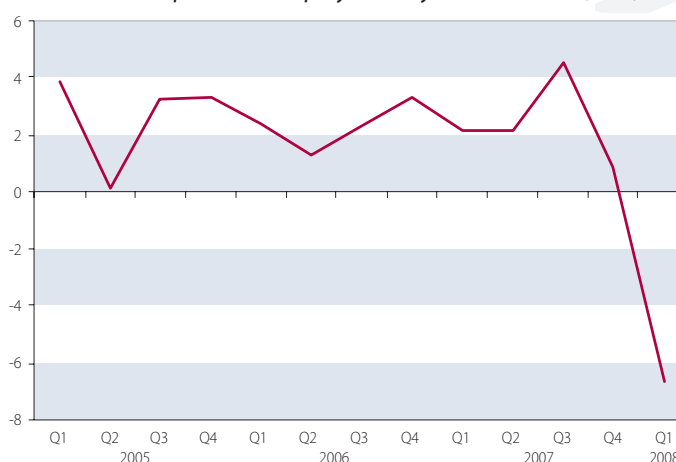
Broken down by sector (ESA 95 methodology), the decrease in employment in the first quarter of 2009 was primarily influenced by a decrease in industrial sector employment. However, the level from the time one year ago was not reached by agriculture and hotels and restaurants either. On the other hand, employment in construction, real estates and renting, transport, storage, post and telecommunications, trade and health recorded the highest year-on-year growth.

Chart 12 Household propensity to save and to consume (in %)



Source: Statistical Office of the Slovak Republic, NBS calculations.

Chart 13 Development of employment by hours worked (in %)



Source: Statistical Office of the Slovak Republic.

According to the labor force sample survey, the number of unemployed grew by 0.2% year-on-year in the first quarter of 2009. The growth of the number of unemployed translated to the unemployment rate, which reached 10.5% in the first quarter of 2009 and increased by 1.8 percentage points as compared to the fourth quarter of 2008. According to the records of the Centre for Labor, Social Affairs and Family, the average unemployment rate was 9.7% in the first quarter of 2008,

**Table 10 Development of employment and unemployment (average for the period)**

	2008					2009
	Q1	Q2	3Q	Q4	Year	Q1
Employment according to statistical records						
ths. of persons	2,260.9	2,274.4	2,294.1	2,290.6	2,280.0	2,198.9
index SPPY=100	102.7	102.7	103.2	101.7	102.6	97.3
Employment according to the labor force sample survey						
ths. of persons	2,391.3	2,404.8	2,472.9	2,466.0	2,433.8	2,388.2
index SPPY=100	102.8	102.9	104.5	102.8	103.2	99.9
Employment according to ESA 95						
ths. of persons	2,207.7	2,226.9	2,262.6	2,251.0	2,237.1	2,199.9
index SPPY=100	102.8	102.9	103.2	102.1	102.8	99.6
Unemployment according to the labor force sample survey in %						
ths. of persons	280.5	270.8	244.1	234.4	257.5	281.0
index SPPY=100	92.6	93.0	81.9	85.1	88.2	100.2
Unemployment rate according to the labor force sample survey in %	10.5	10.1	9.0	8.7	9.6	10.5
Rate of registered unemployment in % <sup>1)</sup>	7.8	7.4	7.5	7.9	7.7	9.7

Source: Statistical Office of the Slovak Republic.

1) NBS calculations based on monthly data of the Centre for Labor, Social Affairs and Family.

**Table 11 Developments in employment by sector (ESA 95 methodology) (index, same period previous year=100)**

	2008					2009
	Q1	Q2	3Q	Q4	Year	Q1
Economy in total	102.8	102.9	103.2	102.1	102.8	99.6
Agriculture, hunting	100.8	101.4	101.0	99.9	100.8	85.1
Industry	103.2	102.6	101.7	98.8	101.6	92.0
Mining and quarrying	102.0	99.6	95.7	94.2	97.8	89.5
Manufacturing	103.9	103.3	102.3	99.2	102.2	91.8
Electricity, gas and water supply	94.0	92.8	93.6	93.7	93.5	95.6
Construction	105.9	106.4	109.1	109.6	107.8	107.6
Trade	104.5	105.6	104.3	103.2	104.4	102.9
Hotels and restaurants	110.0	108.9	103.5	105.0	106.8	97.8
Transport, storage, post and telecommunications	106.8	107.5	105.1	106.2	106.4	103.8
Financial intermediation	104.1	103.6	103.9	104.3	104.0	102.3
Real estate, renting and business activities	103.0	102.8	109.0	104.9	104.9	105.8
Public administration and defense; compulsory social security	99.5	100.5	101.0	101.8	100.7	101.4
Education	97.7	98.1	100.5	99.7	99.0	101.8
Health and social care	96.4	97.1	99.1	99.6	98.1	102.7
Other community services	99.4	95.3	97.0	98.1	97.4	101.9

Source: Statistical Office of the Slovak Republic.

which was 2 percentage points more than in the previous quarter.

#### FINANCIAL RESULTS OF CORPORATIONS

According to preliminary data of the Statistical Office of the Slovak Republic, non-financial and

financial corporations achieved a profit of €1,423 mil. in the first quarter of 2009. The profit was lower by 48.4% against the same period of 2008. Non-financial corporations reported a profit of €1,333 mil. (a decrease by 47.2%) and financial corporations reached a profit of €90 mil. (a decrease by 61.3%).



Table 12 Financial results of corporations (EUR millions, current prices)

Pre-tax profit	2008	Q1 2008	Q1 2009	Index Q1 2009 Q1 2008
Non-financial and financial corporations in total	8,917	2,752	1,423	51.7
of which: Non-financial corporations	9,485	2,517	1,333	53.0
Financial corporations	-568	235	90	38.3
of which: NBS	-1,227	5	-2 <sup>1)</sup>	x
Financial corporations excl. the NBS	660	229	92	40.3

Source: Statistical Office of the Slovak Republic and NBS.

1) Unaudited profit.

The lower profits of non-financial corporations in the first quarter of 2009 compared to the same period of 2008 was primarily associated with a considerable decrease in profits in industrial production, wholesale and retail trade, transport and storage and a slight decrease in profit in electricity, gas, steam and air conditioning supply. In the information and communications sector, profit in the first quarter went up considerably against the same period of 2008.

Financial corporations reported a profit of €90 mil. in the first quarter of 2009 (their profit was €235 mil. in the same period of 2008). The lower

resulting profit was due to a lower profit of commercial financial institutions (€138 mil. in the first quarter of 2009 compared to €200 mil. in the first quarter of 2008). Insurance corporations suffered a loss of €25 mil., while they reported a profit of €38 mil. in the same period of 2008. Other financial intermediaries recorded an increase in their loss (amounting to €21 mil. in the first quarter of 2009 as compared to a loss of 8 mil. in the same period of 2008). The NBS participated in the resulting profit of financial corporations by a total loss of €2 mil. (while it showed a profit of €5 mil. in the first quarter of 2008).



# International economy in the first quarter of 2009

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*The economic development in the first quarter of 2009 was influenced by the turmoil repercussion and uncertainty stemming from the financial crisis at the beginning of the fourth quarter of 2008. After a marked contraction of the economy in the last quarter of 2008, this development continued also in the first quarter of 2009. Inflation pressures decreased as a result of the development of commodity prices, conditions on the labor market and the economic development itself.<sup>1</sup>*

<sup>1</sup> The article is based on data with cut-off date as of June 15, 2009.

## GLOBAL ECONOMY

The GDP development in OECD countries recorded a further decrease in the first quarter of 2009 – the largest decrease since 1960 –, by 2.1% as compared to the previous quarter. The GDP fell by 2.0% in the fourth quarter of 2008. The economy fell by 4.2% year-on-year as compared to a decrease by 1.7% in the fourth quarter of 2008. Confidence indicators decreased again in the first quarter of 2009, but the dynamics of the decrease slowed down and signs of stabilization appear on the horizon. These indicators even grew slightly in April and May. Nevertheless, confidence indicators continue to be below the 100 point limit, which is a sign of continuing negative expectations of the economic development.

The price development in the first quarter of 2009 was – just like in the previous 6 months of 2008 – considerably influenced by the development of commodity prices and reduced economic activity. In March, the rate of inflation slowed down again in OECD countries and reached 0.9% compared to 1.5% in December 2008. Energy prices decreased by 11.8% year-on-year in March (against 8.9% decrease in December 2008) and food prices increased by 4.5% year-on-year (against 6.0% year-on-year growth in December). Core inflation also decelerated slightly to 1.8%, compared to 2.0% in December.

The global economic development continues to be quite uncertain. The risk of a further worsening of the financial crisis continues; further worsening would mean a considerable slowdown for the world economy and an increase in risks to its further development. On the other hand, some signs emerge, which suggest the reaching of the bottom and a stabilization of the current economic situation. The decrease in commodity prices and anti-crisis measures carried out in some countries should also have a positive impact on the economic development.

## COMMODITIES

Following a considerable decrease in oil prices in the last quarter of 2008, the oil prices stabilized in

the first quarter of 2009 or started to grow slightly. Nevertheless, the average oil price fell to 45 USD/barrel in the first quarter compared to 55 USD/barrel in the fourth quarter 2008. At the beginning of June, the oil price reached 67.67 USD/barrel, which represented an increase by 57% since the beginning of 2009.

Following considerable oil price volatility in 2008, the prices stabilized and the volatility decreased on the markets in 2009. The oil prices depend on the expected economic development and due to its slowdown a lower demand for oil is expected for 2009 compared to 2008. Despite some stabilization of the oil market prices and some positive prospects for a recovery of the economic activity at the end of May, the market continues to show negative sentiment as regards the development of oil demand in 2009.

Just like the oil prices, the prices of other world commodities recorded stabilization in the first quarter of 2008 after a marked fall in the second half of 2008. At the end of the first quarter, there has been a moderate growth of the prices of metal commodities as a result of increased demand from China. The prices of metal and non-metal commodities considerably depend on the global economy development and on the stance of the global economic activity. The prices of agricultural commodities also showed stabilization in the first quarter, but their further development depends not only on demand, but also on the development of weather related factors.

## UNITED STATES

The US economy recorded a considerable decrease in economic activity in the first quarter of 2009. The GDP contracted by 5.7% in annualized terms in the first quarter compared to 6.3% in the previous quarter. The economy recorded a year-on-year contraction by 2.5% in the first quarter 2009, while there had been a negative growth of 0.8% in the previous quarter.

Decreased investment spending and inventories affected the GDP development very negatively. A decrease in investment spending was



recorded mainly in the business sectors. Exports fell again as a result of the global economy development. However, due to the decline in commodity prices and the recession in the USA, imports fell more than exports and net exports have a growth effect on the economy. Despite deteriorating labor market conditions and negative wealth effects stemming from house and equity price, household consumption has a positive contribution to GDP growth. Consumption of durable goods recorded stronger increase. Federal and local government expenditure also recorded a decline.

The price development slowed down gradually in the first quarter of 2009, as consumer prices decreased by 0.4% year-on-year in March. The decrease continued in April, when it reached a year-on-year level of 0.7%. The slowdown of inflation was influenced by the contraction of global economy and the base effect resulting from a decrease in commodity prices. The development of core inflation was relatively stable in the first quarter of 2009. Core inflation reached a year-on-year level of 1.8% in March, remaining unchanged compared to December, and it grew moderately to 1.9% in April.

At its meetings in the first quarter, the Federal Open Market Committee (FOMC) kept the target federal funds rate unchanged, so that the rate continues to be close to zero. The Federal Committee continues to signal preparedness to use unconventional instruments to ensure proper functioning of the financial market and to support the economy. It decided to carry out a purchase of government securities and securitized mortgages. At its meeting of April 2009, the FOMC also kept the target rate unchanged.

### EURO AREA

The contraction of the euro area economy deepened again in the first quarter of 2009. The gross domestic product decreased by 2.5% compared to the last quarter of 2008 (while it fell by 1.8% in the fourth quarter of 2008). The economic decline also intensified on a year-on-year basis and reached 4.8% (as compared to 1.7% in the fourth quarter of 2008).

The most significant factors contributing to the economic contraction was a decrease in inventories and a continuing slump in investment demand, which has been decreasing for 4 consecutive quarters. Net exports continued to have a dampening effect on the economy, as a considerable decrease in exports (8%) continued to exceed a decrease in imports (7.1%). For the second consecutive quarter the decline of private consumption also contributed to slowdown of the economy, while general government consumption was the only GDP component to have a slight pro-growth effect.

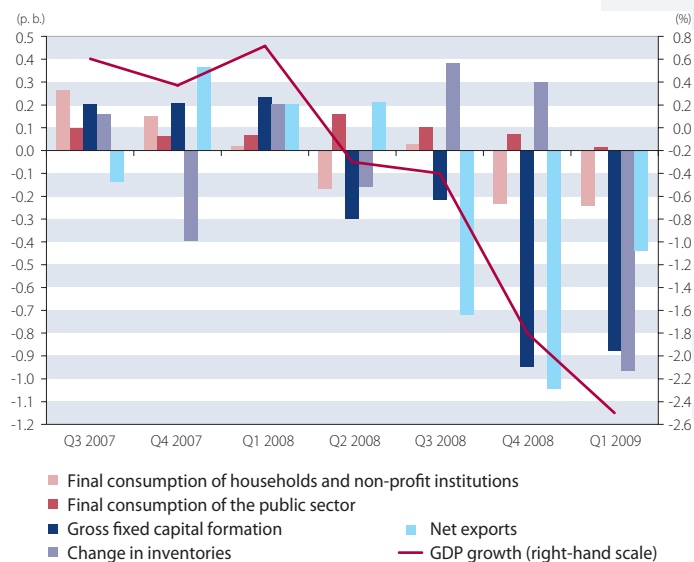
In terms of the individual economy sectors, the worst situation continued to prevail in the industry, where value added fell by 8.8% (compared to 5.7% in the fourth quarter of 2008). A decrease in

Chart 1 Economic growth in the euro area (current prices in 2000)



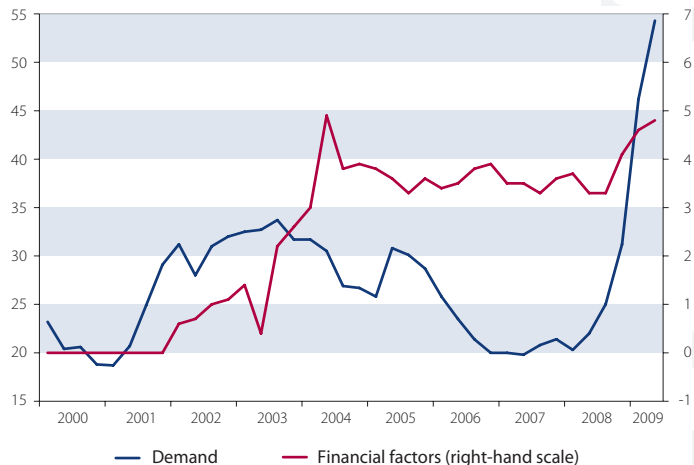
Source: Eurostat.

Chart 2 Contributions to quarterly GDP growth



Source: Eurostat, NBS calculations.

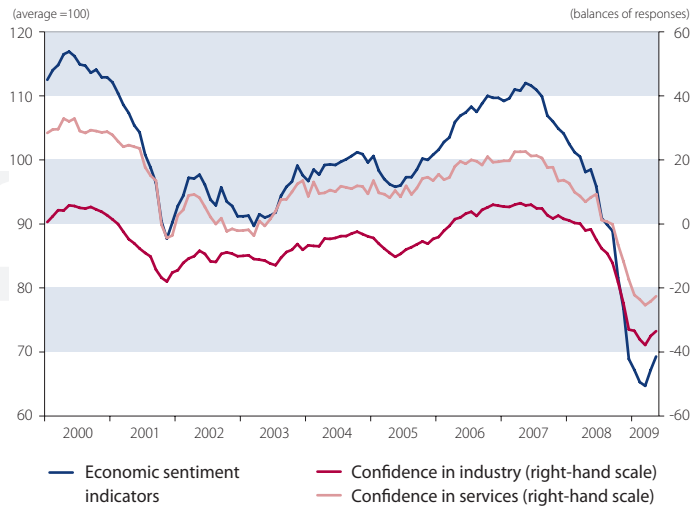
Chart 3 Factors limiting production (balance of responses)



Source: European Commission.

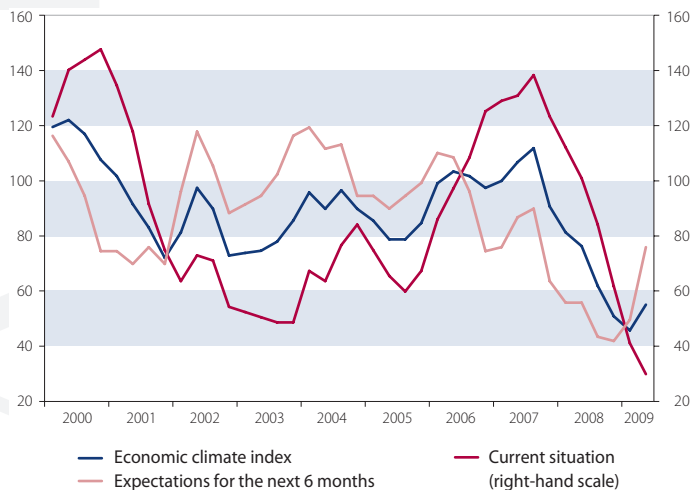


**Chart 4 Economic sentiment and confidence indicator in industry and services in the euro area**



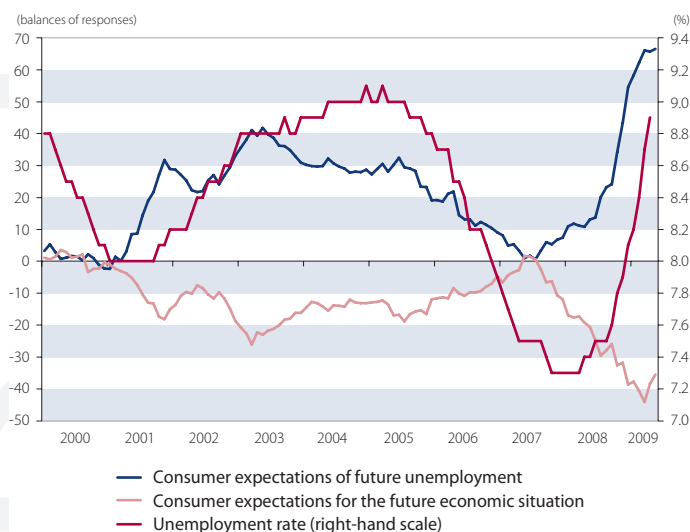
Source: European Commission.

**Chart 5 IFO Economic Climate Index (2000=100)**



Source: Ifo Institute for Economic Research.

**Chart 6 Unemployment rate and consumer expectations for the next 12 months**



Source: Eurostat, European Commission.

value added was mainly recorded in the manufacturing (by 10.1%), compared to a 6.2% decrease in the last quarter of the last year. Based on surveys in the industry, businesses indicate a gradual decrease in the utilization of production capacities and a loss of competitiveness both on the domestic market and on EU and non-EU markets. Businesses consider demand and financial factors the most limiting factors for production.

Several short-term indicators and surveys have indicated recently that the decrease in economic growth should moderate. The economy should continue to contract in the next future, but probably at a more moderate pace.

Following several quarters of decrease, the IFO Economic Climate Index for the euro area also showed an improvement in the second quarter of 2009. Evaluations of expectations for the following 6 months have indicated a more positive development for the second consecutive quarter, while the evaluation of the current economic situation has continued to deteriorate. However, the values of the total index, as well the values of its two components, remain at their historically low levels.

The contraction in economic activity continued to be accompanied by a relatively high growth of unemployment. The rate of unemployment in March 2009 was 8.7%, i.e. 0.6 percentage points more than in December 2008. In April it continued to increase again to 8.9%. Similarly to other economy segments, expectations of consumers regarding future economic development improved in April and May. The growth of their negative expectations of the future development of unemployment slowed down at the same time.

The moderation of negative development tendencies on the labor market is also indicated by the employment expectations surveys in individual industry branches (except for construction). However, these expectations are still on very low levels.

A falling trend of the price growth, which had started in the summer of 2008, continued in the first quarter of 2009. However, compared to the last quarter of 2008, inflation decreased more slowly. At the end of the first quarter, the growth of consumer prices decreased to 0.6% (i.e. by 1 percentage point since the end of the year). The price development continued to be affected mainly by energy and food prices. The year-on-year decrease in energy prices deepened quite considerably (from -3.7% in December to -8.1% in March) as a result of the base effect. The year-on-year growth of the prices of food, especially processed food, also decreased. Market components of inflation, particularly as a result of the March deceleration of the growth of the prices of services, also contributed in part to the slowdown in year-on-year inflation dynamics. Inflation stagnated at its March level in April, when its development faced the opposing influence of a deepening decrease in energy prices on the one hand, and a re-acceleration of the growth of



prices of services on the other. According to flash estimate of the Eurostat, the growth of consumer prices decreased again, as the prices stagnated on a year-on-year basis.

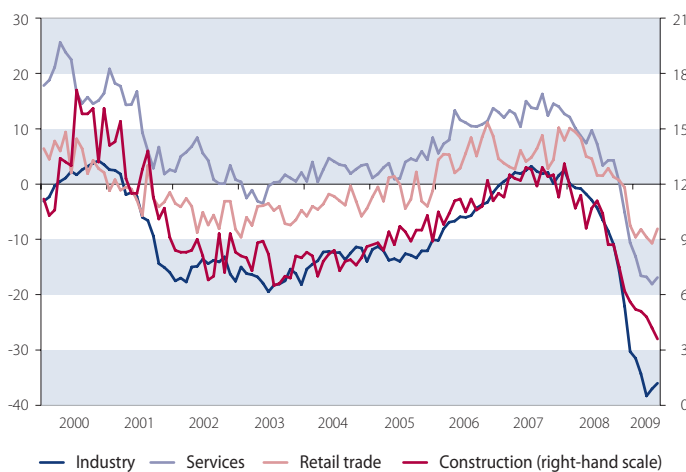
Slowing dynamics of the growth of processed food, as well as a lower growth of the prices of services, translated into a decrease of core inflation, which reached 1.5% at the end of the first quarter as compared to 2.1% at the end of 2008. After the growth of the prices of services has increased again in April, core inflation also increased slightly and reached 1.7%.

The development of the market components of inflation (industrial goods excluding energy and services) was relatively volatile in the first quarter and at the beginning of the second quarter. The slowdown of the growth in the prices of industrial goods in January was also reflected in their lower contribution to the year-on-year rate of headline inflation. The rise in prices in that segment accelerated gradually in the following months and at the end of the quarter, as well as in April, it reached the same level as in December. Overall, the impact of industrial goods prices excluding energy on the change in inflation was basically neutral. The rise in prices of services also slowed down in January, but especially in March, which was mainly due to a shift in seasonal factors. This was related to the different timing of Eastern in 2009 and 2008. The growth in the prices of services accelerated again in April almost to the level at the end of December. Prices of services thus contributed to a decrease of headline inflation in the first quarter; however, this impact disappeared as early as in April.

As a result of the financial crisis, the development of the EUR/USD exchange rate is characterized by a quite high volatility. In the course of the first quarter up to the beginning of March, the euro depreciated against the US dollar. This was the result of deterioration of economic growth expectations in the euro area, but also of a decrease in key ECB interest rates and expectations of their further cuts. However, from the second March decade onwards, the euro started to appreciate in connection with the announcement of additional non-standard monetary policy measures of the Fed. By the end of the quarter, the euro exchange rate has reached 1.3308 EUR/USD and has depreciated by about 4% since the beginning of the year. Exchange rate volatility continued in April, when the euro depreciated again almost all over the month. At the end of April, however, the euro appreciation trend was restored and it continued to the end of May, when the exchange rate was at 1.4098 EUR/USD. Thus, the euro has appreciated slightly against the US dollar since the beginning of the year (by about 1.3%).

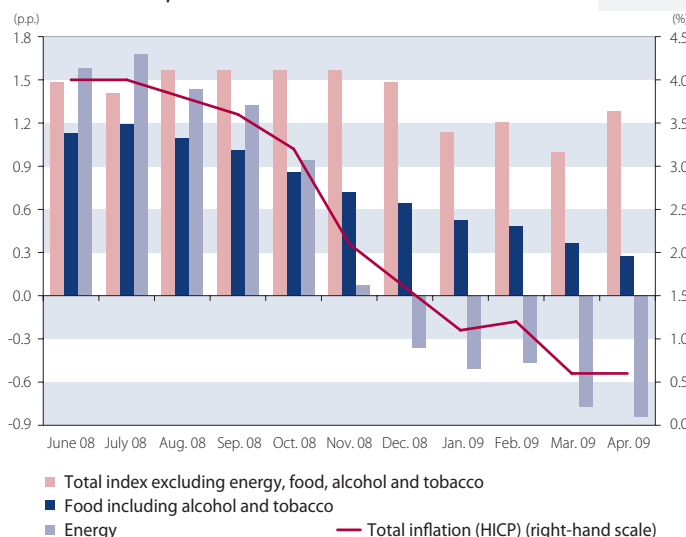
The ECB responded to the deepening of the financial crisis after Lehman-Brothers bankruptcy by gradually reducing the key interest rates. In the course of last quarter of 2008 the ECB lowered its rate for main refinancing operations by 2 percentage points to 2.5%. A continuing deterioration of

Chart 7 Expectations of the development of employment (balances of responses)



Source: Eurostat, European Commission.

Chart 8 Year-on-year headline inflation (HICP) and contributions of selected components in the euro area



Source: Eurostat, NBS calculations.

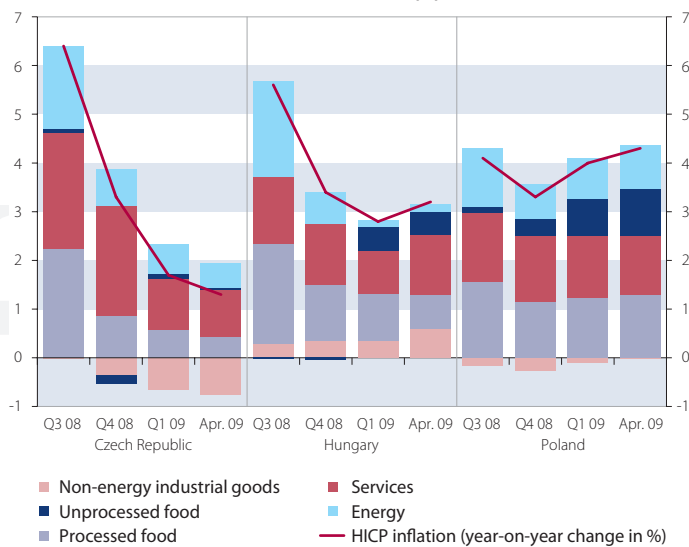
the economic growth prospects was the reason for a further decrease of the key ECB rates by 0.5 p.p. effective from 21 January. In accordance with a decision of the Governing Council of October 2008, the corridor of automatic operations, which was narrowed to 100 basis points with effect from 9 October 2008, was extended again to 200 basis points. A considerable decrease in economic growth forecasts for the years 2009 and 2010, together decreasing inflation impulses, were the reason for the decision to lower the key rates again in March (with effect from 11 March) by 0.5 p.p.

In the light of continuing signs of a contraction of economic activity with a dampening impact on inflation, the Governing Council cut the interest rate further in April by 0.25 p.p. Effective from 8 April, the rate for main refinancing operations was set at 1.25% and the rates for the marginal

2 For more information see [www.ecb.int](http://www.ecb.int).

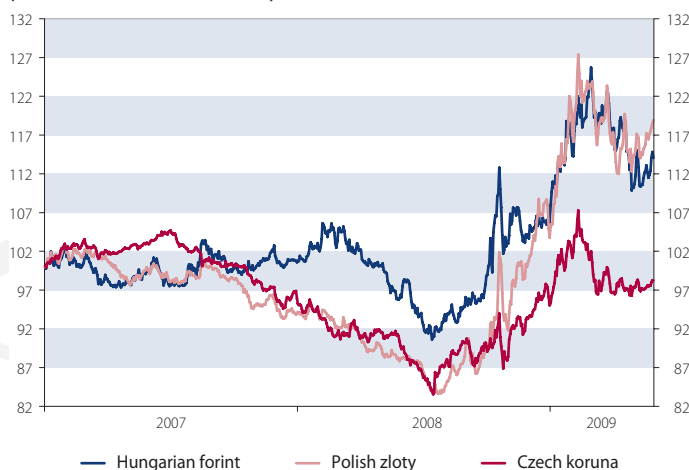


Chart 9 Contributions to HICP inflation (p.p.)



Source: Eurostat, NBS calculations.

Chart 10 Exchange rate indices of V4 currencies against the euro (29 December 2006 = 100)



Source: Eurostat, NBS calculations.

Note: A fall in value denotes an appreciation.

lending facility and deposit facility at 2.25% and 0.25%, respectively. A higher decrease of the euro area economy than expected was the reason for another cut in key rates at the beginning of May. With effect from 13 May 2009, the Governing Council decided to lower the rates for the main refinancing operations by 0.25 p.p. to 1.0% and the rates for the marginal lending facility by 0.5 p.p. to 1.75%. The interest rate for deposit facilities was not changed and was kept at the level of 0.25%. At its June meeting, the Governing Council kept its key interest rates unchanged. Overall, the level of the interest rate for main refinancing operations has been cut by 325 basis points since October.

In addition to key interest rates cuts, the ECB also carried out further measures to support the financial markets and ensure sufficient euro liquidity, but also liquidity in USD and CHF. At its

May meeting, the Governing Council decided to carry out three long-term refinancing operations with one-year maturity, as well as to purchase euro-denominated covered bonds.<sup>2</sup>

## THE DEVELOPMENT IN POLAND, THE CZECH REPUBLIC AND HUNGARY

Reflecting the current economic and financial crisis the Central European economies continued to slow down in the first quarter of 2009. The deceleration of economic growth was mainly due to a decline in foreign trade and a considerable decrease in inventories. The Polish economy, as the only one in the region, reached a positive economic growth of 1.9%. However, the growth decreased by 0.8 p.p. compared to the previous quarter. The decrease in the Czech and Hungarian economy deepened in the first quarter, both by 3.3 p.p. Thus, the year-on-year decrease in their GDP was 3.4% and 5.4%, respectively.

The slowdown of the Polish economy in the first quarter was mainly due to a considerable decrease in inventories, but also a lower growth of investment demand and general government consumption. The growth of household final consumption decreased, but consumer demand continued to contribute most to GDP growth. The volume of exports and imports decreased, but the contribution of net exports to GDP was moderately positive. Likewise, a decrease in inventories and deepening of the decrease in investment demand contributed to the contraction of the economy in the Czech Republic. Net exports continued to have a dampening effect on the economy. The growth of household consumption accelerated moderately and general government consumption increased quite markedly. Similarly in Hungary, there was a considerable decrease in inventories and investment. However, as compared to the Polish and Czech economy, private consumption decreased sharply too. Net exports were the only component with a positive contribution to GDP, the decrease in imports having exceeded the decrease in exports.

The development of inflation in the first quarter of 2009 was substantially affected by easing of inflation pressures due to a lower economic activity and lower demand. Regarding energy prices, the dampening base effect of world oil prices was partly offset by depreciation of nominal exchange rates and in part also by administrative adjustments of energy prices. The depreciation of exchange rates also influenced other consumer basket components.

Inflation decreased again in the Czech Republic and Hungary as compared to the previous quarter. In Poland, by contrast, the price growth accelerated, mainly due to an increase in administrative prices of energy and services related to housing. Likewise, the depreciation of the Polish zloty from the previous periods was mainly reflected in fuel prices and in part in non-energy industrial goods prices, where the negative contribution to headline inflation ceased to exist. The faster rise in prices

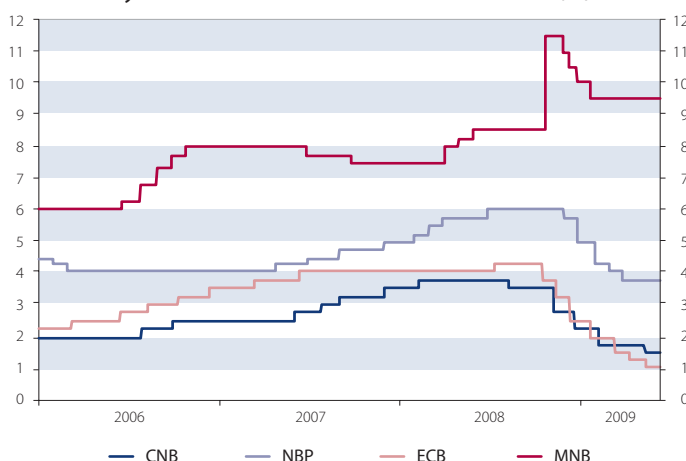


was also caused by an increase in excise taxes on alcohol and tobacco and a faster growth of food prices. Only the prices of services grew slower. In the Czech Republic the effects of reform measures taken in the beginning of 2008 gradually subsided with a moderate dampening effect on price development in the first quarter 2009. Just like in the case of Poland, some regulated prices were adjusted, mainly the prices of regulated rents, electricity and heat. Prices of services, energy and processed food grew more slowly compared to the previous quarter. By contrast, the decrease of the prices of unprocessed food stopped. Despite a longer-term depreciation of the Czech koruna, the negative contribution of non-energy industrial goods energy increased slightly again. Inflation in Hungary decreased by 0.6 p.p. to 2.8% in the first quarter of 2009. The price growth decelerated in the case of energy, processed food and services. The depreciation of the Hungarian forint translated to a growth of unprocessed food prices, which recorded a decrease in the previous two quarters. The growth of non-energy industrial goods also accelerated slightly. The slowdown of the price rising in April continued only in the Czech Republic (by 0.4 p.p. to 1.3%), in Poland and in Hungary inflation increased by 0.3 p.p. and 0.4 p.p. to 4.3% and 3.2% respectively.

All exchange rates of the countries under review continued to depreciate relatively sharply in the first quarter of 2009. The depreciation was primarily due to increased uncertainty of investors, which resulted from the problems encountered by some Eastern European economies and the fact that investors often perceive the whole of Eastern Europe as one investment unit. However, the increased risk aversion was, in part, also supported by domestic indicators, indicating a further economic slowdown. In mid-February, following a joint verbal intervention of central banks regarding the necessity to differentiate between the differing development of the economies of individual countries, the slump in exchange rates came to a halt and they even appreciated temporarily against the euro. However, they continued to show a relatively high volatility – primarily the Polish zloty and the Hungarian forint.

The depreciation of the Czech koruna compared to that of the other currencies was the lowest in 2009. After a global growth of risk aversion, outflow of short-term speculative capital and a subsequent fast depreciation of the exchange rate from the beginning of the year, the koruna exchange rate corrected in part, following verbal interventions, and appreciated until mid-March. In April, the exchange rate stabilized partly. The

Chart 11 Key interest rates of the NCBs of V4 countries (%)



Source: National central banks, ECB.

Polish zloty and the Hungarian forint recorded a similar development. Compared with the Czech koruna, however, those currencies depreciated more in the first months of 2009. The Polish zloty, similarly to the Czech koruna, recorded a partial correction in mid-February, while the Hungarian forint continued to depreciate until early March, thereby partially responding to the decrease of Hungary's ratings. The development of the zloty and forint exchange rate was relatively volatile in April. Compared with the end of 2008, the Polish zloty depreciated by 15.6% in the first quarter, the Hungarian forint by almost 13% and the Czech koruna by approximately 2%.

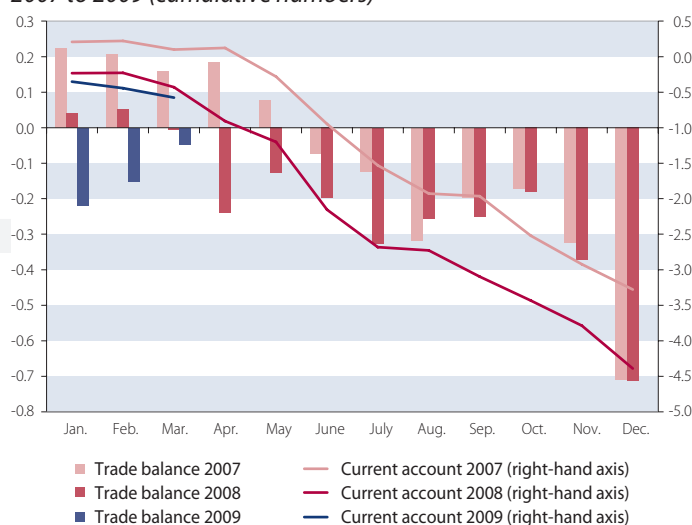
All neighboring central banks decreased their key interest rates in the first quarter of 2009, by which they continued with the tendency to easing of monetary policy from the last quarter of 2008. The Narodowy Bank Polski changed its reference rate three times, decreasing its rates by 0.75 p.p. in January, and both in February and in March by the same amount of 0.25 p.p. to the level of 3.75%. At its May meeting, the NBP also decided to lower the required reserve rate by 0.5 p.p. to 3% with the aim of providing banks with more incentives to expand credit activities. With effect from 6 February, the Česká národní banka cut its two-week repo rate by 0.5 p.p. to 1.75%. Likewise, the Magyar Nemzeti Bank decreased its basic interest rate by 0.5 p.p. to 9.5%. The main reasons for interest rate cuts in the region included a slowdown of domestic economic activity and foreign demand, expectations of weaker inflation pressures, particularly in Hungary and the Czech Republic, and lower credit activity of the banking sector.



# The development of the balance of payments in the 1st quarter of 2009

Marián Furka, Pavol Kyjac  
Národná banka Slovenska

Chart 1 Development of the trade balance and current account in 2007 to 2009 (cumulative numbers)



Source: NBS and Statistical Office of the Slovak Republic.

Table 1 Current account of the balance of payments (mil. EUR)

	January – March	
	2009	2008
Balance of trade	-46.7	-5.6
Exports	9,125.4	12,730.3
Imports	9,172.1	12,735.9
Balance of services	-396.2	-92.9
Balance of income	-78.6	-116.2
of which: Income from investment	-344.6	-411.6
of which: Reinvested profit	-304.5	-139.4
Current transfers	-54.9	-215.8
Current account in total	-576.4	-430.5
Share of current account balance to GDP in %	-3.9	-2.8
Share of current account balance (excluding dividends and reinvested profit) to GDP in %	-1.5	-1.2

Source: NSB and Statistical Office of the Slovak Republic.

## DEVELOPMENT OF THE BALANCE OF PAYMENTS ON CURRENT ACCOUNT

The balance of payments on current account for January to March 2009 deteriorated on a year-on-year basis by €145.9 million, and resulted in a deficit of €576.4 million.

The year-on-year increase in the deficit was mainly supported by the worsening balance of services and, to a lesser extent, by a worsening trade balance. On the other hand, the overall increase in the negative current account balance was moderated by smaller deficits in the current transfers balance and, in part also, income balance. The financial and economic crisis affected negatively the development of individual items of the balance of payments on current account, but, on the imports side, its impact on the balance was eliminated in part by the existing import intensity, lower investment imports, as well as a decrease in inventories in the economy.

Compared with the first quarter of 2008, exports fell by 28.3% over the first three months of 2009 and imports contracted by 28.0%. The higher year-on-year export and import dynamics at the beginning of the year was entailed by the economic and gas crisis, due to which the highest decrease was recorded in January and February, while the year-on-year decrease moderated in part in March.

The development of exports and subsequently also imports was negatively affected by foreign demand, which declined as a result of the financial and economic crisis.

## EXPORT DEVELOPMENT

In the first quarter of 2009, the sharpest decline in comparison with the same period of the previous year occurred in exports of machinery and transport equipment. The year-on-year decline in exports was almost two times as high as the increase of the previous year and it constituted almost 50% of the total decline in exports. The year-on-year decline in exports in the machinery and transport equipment category was mainly caused by a year-on-year decrease in exports in the transport equipment sub-category due to lower passenger car exports. The lower exports of transport equipment were the result of lower demand for passenger cars; the percentage of the lower exports of this good category was almost 88% of the total decrease in exports of the machinery and transport equipment category. Lower exports were also recorded in the machinery sub-category, where there was a year-on-year decrease in exports particularly of washing machines, pumps, shafts and bearings. The decline in exports in the machinery sub-category was



slowed down considerably by a year-on-year (18.4%) increase in TV set exports.

In addition to machines and transport vehicles, chemical products and semi-finished goods also recorded a marked decrease in export volumes. The lower exports were caused both by a year-on-year decrease in the exports of semi-finished goods (iron and steel and objects made of iron and steel and, to a lesser extent, also aluminum, copper and products made of aluminum and copper) and by lower exports of chemical products, which could be influenced by falling prices of oil products (especially caoutchouc and products made of caoutchouc). A year-on-year decline in exports was also recorded in the finished products category, where exports of footwear were the main item to decrease. Lower raw material exports were due to lower exports of processed oil products, associated mainly with price developments.

### IMPORT DEVELOPMENT

Similarly to the exports, the sharpest year-on-year decline in imports was recorded in the machinery and transport equipment category. The decrease in imports of this goods category was almost 45% of the total decrease in imports. The lower imports were connected with the pronounced decline in exports; this was reflected mostly in the imports of components for the automotive industry in the transport equipment sub-category. In the machinery sub-category, imports of components for the electrical industry, especially liquid crystal products, recorded the most marked decline. The year-on-year decrease in imports in this good category accompanied by simultaneous increase in TV set exports is the result of a lower import intensity of electrical industry by means of TV display production carried out in Slovakia.

A considerable year-on-year reduction in imports was also achieved in the chemical products and semi-finished goods category, which significantly contributed to the year-on-year fall in total imports. The lower imports of semi-finished goods were concentrated in the decrease of the imports of iron and steel and products made of iron and steel. In the chemical products category, the lower imports were reflected most in the imports of plastics and caoutchouc. The decrease in raw material imports was, similarly to the case of the exports, markedly affected by the world-market oil price, which led to a decline in crude oil imports. A decrease in the imports of natural gas and processed mineral oils was also recorded. The lowest year-on-year decrease in imports was recorded in the finished products category, where the most significant fall occurred mainly in car imports.

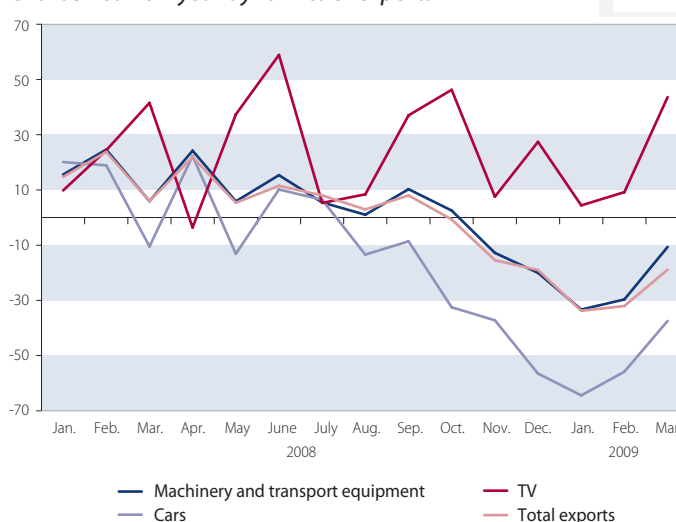
The balance of services showed a deficit of €396.2 million in January to March 2009, which represented a deterioration by €303.3 million compared to the same period of 2008. The year-on-year increase in the negative balance of services was mainly due to smaller receipts in all

Chart 2 Year-on-year dynamics of exports and imports



Source: NBS and Statistical Office of the Slovak Republic.

Chart 3 Year-on-year dynamics of exports



Source: NBS and Statistical Office of the Slovak Republic.

three main service sub-categories. The higher deficit in the services balance was mainly the result of lower receipts from services provided. The main reasons for a higher deficit of the balance of "other services total" was a decrease in receipts for services provided in computer and information services and services in other activities (above all intermediation services). The year-on-year deterioration in the balance of travel services was also due to a more marked decrease in the receipts for travel services provided during the first three months of the year. As regards transport services, the year-on-year reduction of surplus was mainly due to lower receipts from gas and oil transit (a decrease by €92.5 million), which were in part due to the gas transit outage in January (resulting from the gas crisis).

The year-on-year improvement in the income balance by €38.8 million in the first quarter of 2009 was caused by a decrease in the negative balance of investment income, which exceeded

**Table 2 Exports in January to March, year-on-year changes**

	Year-on-year change in millions of EUR		Contribution to the year-on-year change in % points	
	2009	2008	2009	2008
Raw materials	-283.5	184.7	-2.2	1.7
Chemical products and semi-finished goods	-1,338.7	290.3	-10.5	2.6
Machinery and transport equipment	-1,741.5	920.0	-13.7	8.3
Finished products	-241.2	216.4	-1.9	1.9
Exports in total	-3,604.9	1,611.3	-28.3	14.5

Source: NBS calculations based on data of the Statistical Office of the Slovak Republic.

**Table 3 Imports in January to March, year-on-year changes**

	Year-on-year change in millions of EUR		Contribution to the year-on-year change in % points	
	2009	2008	2009	2008
Raw materials	-681.0	695.2	-5.3	6.3
Chemical products and semi-finished goods	-1,111.8	241.9	-8.7	2.2
Machinery and transport equipment	-1,596.2	507.5	-12.5	4.6
Finished products	-174.8	332.0	-1.4	3.0
of which: agricultural and industrial products	-36.5	237.9	-0.3	2.2
passenger cars	-126.4	79.1	-1.0	0.7
machines and electrical consumer goods	-11.8	15.0	-0.1	0.1
Imports in total	-3,563.7	1,776.6	-28.0	16.2

Source: NBS calculations based on data of the Statistical Office of the Slovak Republic.

the decrease in the employee compensation surplus. The decrease in the balance of compensation of employees was connected with the impact of the economic crisis, which negatively affected employment. The lower deficit of investment was the result of lower payments of interest on portfolio investment and other short-term interest as a result of decreasing interest rates.

The year-on-year decrease in the current transfers deficit by €160.9 million was mainly caused by positive developments in the balance of government transfers, resulting from an increase in receipts from the EU budget.

#### **THE DEVELOPMENT OF THE CAPITAL AND FINANCIAL ACCOUNT**

Over the first three months of 2009, the balance of payments on capital and financial account resulted in a surplus of €866.1 million (compared to a surplus of €673.8 million in the same period of 2008). The year-on-year decrease in inflows within the balance of portfolio investments, caused by a fall in demand for government bonds among non-residents, was exceeded by a year-on-year increase in inflows in other financial and capital account items.

The balance of foreign direct investment (FDI) recorded an inflow of €175.8 million, which represents a year-on-year change by €371.6 million compared with the same period of 2008. The year-on-year change in the balance of direct investment was particularly due to a higher inflow in the form of other capital and, to a lesser extent, also by a higher estimate of reinvested profit, which was invested by foreign investors in the economy, and a higher inflow in the form of increases in equity capital. The total inflow within assets was moderated by a higher interest of residents in investment abroad in the form of FDI (inflow in the form of equity capital and other capital).

The net outflow of funds in portfolio investment was €648.8 million, while in the first quarter of the previous year, there was a net inflow of €657.2 million. The lower year-on-year net inflow was mainly the result of a decrease in the demand for government securities on the part of non-residents. On the assets side, the total outflow was only partially compensated for by sales of foreign securities from the NBS investment portfolio.

The item other investment recorded an inflow of €1,086.2 million between January and


**Table 4 Balance of payments capital and financial account (EUR millions)**

	January to March	
	2009	2008
Capital account	253.0	139.4
Direct investment	175.8	-195.9
SR abroad	-216.7	-49.8
of which: equity capital abroad	-194.6	-26.6
reinvested capital	20.4	-10.0
in the SR	392.5	-146.1
of which: equity capital in the SR	65.3	46.5
of which: other than privatization	65.3	46.5
reinvested profit	284.1	149.4
Portfolio investment and financial derivatives	-648.8	657.2
SR abroad	1,209.8	175.9
in the SR	-1,858.6	481.3
Other long-term investments	-31.6	232.4
Assets	-34.3	-6.6
Liabilities	2.7	239.0
Other short-term investments	1,117.7	-159.3
Assets	-3,122.1	391.7
Liabilities	4,239.8	-551.0
Capital and financial account	866.1	673.8

Source: NBS.

**Table 5 External debt of Slovakia**

	In millions of USD		In millions of EUR	
	31.12.2008	31.3.2009	31.12.2008	31.3.2009
Total external debt of the SR	52,526.5	53,262.7	37,286.0	40,023.1
Long-term external debt	25,414.7	22,038.7	18,040.6	16,560.5
Government and the NBS <sup>1)</sup>	10,313.3	7,368.9	7,320.9	5,537.2
Commercial banks	3,334.6	3,182.2	2,367.0	2,391.2
Entrepreneurial entities	11,766.8	11,487.6	8,352.7	8,632.1
Short-term external debt	27,111.8	31,224.0	19,245.4	23,462.6
Government and the NBS	0.0	16,798.0	0.0	12,622.5
Commercial banks	15,321.6	3,096.2	10,876.1	2,326.6
Entrepreneurial entities	11,790.2	11,329.8	8,369.3	8,513.5
Foreign assets	40,007.8	38,284.5	28,399.6	28,768.0
Net external debt	12,518.7	14,978.2	8,886.4	11,255.1
SKK/USD and SKK/EUR rates	21.385	–	30.126	–
EUR/USD cross exchange rate	–	1.3308	–	–

Source: NBS.

1) Including government agencies and municipalities.

March 2009, while an inflow of €73.1 million was recorded in the same period of the previous year. The year-on-year increase by €1,013.1 million resulted mainly from the development in the government and NBS sector, where the inflow exceeded the outflow recorded in the banking sector. The inflow in the government sector resulted from policies of the central bank following the accession to the euro area, as the central bank did not use its original foreign

exchange reserves to fulfill its obligations to the banking sector, but borrowed those funds from the Eurosystem by means of TARGET2. In the banking sector, the outflow was reflected mainly in a year-on-year decrease of short-term deposits of non-residents in the accounts of Slovak banks, which was associated with the euro adoption (euro accounts are of no use anymore) and was in part also associated with the financial crisis.



The foreign exchange reserves of the NBS decreased by €537.5 million (excluding exchange rate differences) in the first quarter of 2009.

### **EXTERNAL DEBT OF SLOVAKIA ON 31 MARCH 2009**

The total external debt at the end of March 2009 increased by 0.7 billion USD to €53.3 million as compared to the beginning of 2009 when it amounted to €40.0 million. The total long-term external debt at the end of March 2009 decreased by USD 3.4 billion, with the total short-term external debt having increased by USD 4.1 billion.

Foreign liabilities of the government of Slovakia and NBS decreased by USD 2.9 billion due to a lower demand for the purchase of government bonds. The long-term external debt of the commercial sector fell by a total of USD 0.5 billion over the period under review; the external debt of commercial banks decreased by USD 0.2 billion and foreign liabilities of businesses decreased by USD 0.3 billion.

A contradictory development was recorded within short-term external debt: Short-term liabilities of the government of Slovakia and NBS increased by USD 16.8 billion due to a negative balance in the NBS-ECB-TARGET2 account, while short-term liabilities of commercial banks decreased by USD 12.2 billion (the USD 10.2 billion decrease related to the item cash and deposits, while the USD 2.0 billion decrease related to the borrowing item) and short-term external debt of entrepreneurial entities by USD 0.5 billion, of which the decrease by 0.4 billion related to trade credits.

The total gross external debt per capita in Slovakia was USD 9,901 at the end of March. The ratio of total short-term external debt to total gross external debt of Slovakia recorded a year-on-year increase by 7.0 percentage points as at the last day of March 2009 and reached a level of 58.6%.

The net external debt was at a debtor position of USD 15.0 billion at the end of March 2009 and it increased by USD 2.5 billion compared with the 2009 base.



# The structure of private consumption in Slovakia and a comparison with European countries

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*Gradual convergence of Slovakia towards developed countries also includes catching up with the level of household final consumption. The level of private consumption should approach that of developed countries, as the population income is rising and the country's economy is developing. The convergence occurs not only at the level of the volume of household consumer expenditures, but also within their structure – both the structure of services and of goods in the consumer basket. However, the convergence to more developed countries, also in consumption, could be partially interrupted due to the global economic crisis, which is reflected in a decline of consumer confidence. Deteriorated consumer sentiment could be reflected in a contraction of overall consumption and its structure, in which necessary food and energy expenditures will predominate. This could stop or slowdown the convergence in catching up with both the level and the structure of consumption.*

In its first part, this paper deals with the development of final consumption and with comparing its level with the European average. In the second part, it evaluates similarities of consumer baskets in Slovakia and Europe. Further parts analyze the influence of consumption convergence on the price developments and the current development in the 1<sup>st</sup> quarter of 2009. Because the article is an update to already existing material<sup>1</sup>, it focuses on the development over the last years.

## DEVELOPMENT IN PRIVATE CONSUMPTION

The main determinant of the growth in household final consumption is their disposable income, whose rapid growth over recent years was also reflected in the growth of consumption. In addition to economic indicators, many social and geographical factors, such as the structure of society by age and education, degree of price regulation, degree of economic development of the country, consumer traditions etc. also affect the development of the structure and level of consumption. Slight differences in the consumption structure of individual countries should continue to prevail in connection with these determinants.

Slovakia achieved one of the most rapid growths in real household consumption within EU 27 countries in 2008; Cyprus was the only country to show a more rapid growth. The markedly higher growth in consumption compared to the Euroarea or EU 27 average also became evident in the

consumption level approaching the EU 27 average. In the period to follow, these developments might be partly interrupted due to the economic crisis, which also caused the contraction in private consumption in the 1<sup>st</sup> quarter of 2009. A decrease in private consumption should occur in all European countries, so that the final impact of the economic crisis on convergence towards developed countries can be more moderate.

To compare the relative standard of living in various countries, we have used the Eurostat indicator comparing the volume of final consumption per capita in a given country with the average volume of consumption in EU 27 countries at purchasing power parity. In 2008, Slovakia reached the level of 69.5%, which was in line with economic performance (71% of the EU 27 average) as measured by GDP per capita at PPP. The Baltic countries, V4 countries, new euro area members (except Cyprus) and Portugal, Sweden and Denmark did not reach a level below the EU 27 average. Due to its rapid economic growth and thereby also growth in consumption over the last two years, Slovakia improved its position by 3 places (by 7.2 percentage points) compared with 2006, when its consumption level outstripped that of Hungary, Estonia and Latvia.

## PRIVATE CONSUMPTION STRUCTURE

The structure of private consumption is one of the relative measures of the population's stand-

1 A.Vladová: The structure of the private consumption in Slovakia, January 2008.

2 It is an index calculated as follows:

$$I_{\text{Gatex}} = \sqrt{\frac{\sum_{k=1}^m (p_{1k} - p_{2k})^2}{\sum_{k=1}^m (p_{1k}^2 + p_{2k}^2)}}$$

where

$p_{1k}$  – is the  $k$ -th component's share in the consumer basket

$p_{2k}$  – is the  $k$ -th component's share in the average consumer basket of EU 27 countries

$m$  – is the number of consumer basket components

3 Groups of goods and services in consumer baskets:

1. energy;
2. non-energy industrial non-durable goods;
3. non-energy industrial semi-durable goods;
4. non-energy industrial durable goods;
5. unprocessed food;
6. processed food including tobacco and alcohol;
7. services related to communication;
8. services related to housing;
9. services related to recreation and personal care, excluding package holidays and accommodation;
10. services related to package holidays and accommodation;
11. services related to transport;
12. miscellaneous services.



**Chart 1 Household final consumption and disposable income (current prices, index same period previous year = 100)**



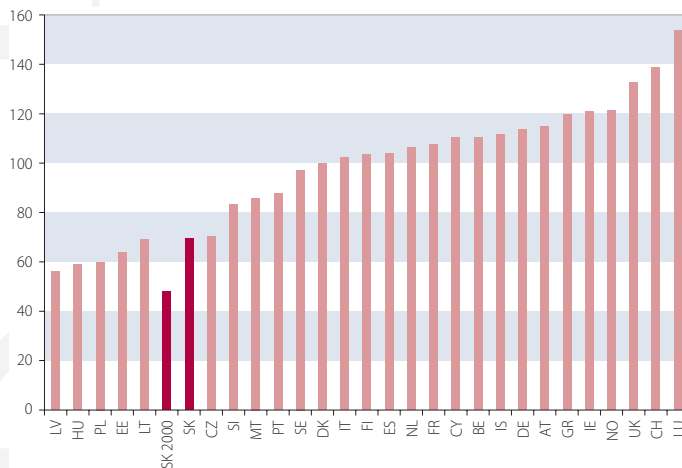
Source: Statistical Office of the Slovak Republic.

**Chart 2 Growth of household final consumption at constant prices (%)**



Source: Eurostat, own calculations.

**Chart 3 Level of final consumption per capita at PPP in 2008 (EU 27=100)**



Source: Eurostat.

ard of living, as convergence to the structure of consumer baskets of developed countries means improvement of the standard of living. To express the degree of similarity of consumer baskets, we have used the Gatev index<sup>2</sup>, for which a value closer to zero means higher similarity of consumer baskets. Consumer baskets of harmonized consumer price indexes in 2009 have been used in the calculation; the components were divided into 6 groups of goods and 6 groups of services.<sup>3</sup>

Based on the Gatev indexes, Slovakia belongs to countries whose consumer basket is least similar to that of the EU 27 average. In relation to 2006, its position slightly improved, as the index reached the value of 0.24 (0.28 in 2006) and, in addition more dissimilar consumption structure had besides Malta, Latvia and Poland, also Hungary and Norway. The goods to services ratio in the consumer basket is a possible cause of this dissimilarity. The European average was 59.6:40.4, while the goods to services ratio in Slovakia was 67.7:32.3 in 2009. The higher share of goods related to EU 27 can be a sign of a lower standard of living, as – according to theory – with increasing household income demand for services increases faster than demand for goods. However, convergence towards developed countries occurs in this field as well. The share of services in the consumer basket gradually increased from 20.9% in 1996 to the current level of 32.3%. The different goods to services ratio in the consumer basket does not sufficiently explain overall dissimilarity, as a goods to services ratio similar to EU 27 was also recorded in Malta (60.7:39.3), although the overall consumption structure in Malta significantly differs from the European average (the Gatev index value is 0.26). This dissimilarity is due to differences within the individual items of goods and services.

From the Gatev indexes is clear that Slovakia has converged faster in the structure of services than in the structure of goods. The value of the index by six service groups (0.19) makes Slovakia rank 12<sup>th</sup> among the compared countries, so that Slovakia achieved a relatively high similarity with the European average (the ranking does not change when comparing with the euro area average). In addition, the services structure is more dissimilar not only in the other V4 countries and Baltic countries, but also in some euro area countries. On the other hand, significant differences dominated in the goods part of the consumer basket. In spite of catching up also in this part of consumption over the last few years, Slovakia still belongs to countries with the most different structure based on a comparison in six goods groups (energy, processed food, unprocessed food, non-durable goods, semi-durable goods, and durable goods). The differences in the structure of goods were caused mainly by the high percentage of energy in the consumer basket. Their level was increasing up to 2006, when it reached its maximum of almost 19% (the share of energy was stable at about 9% in EU 27 and the euro area). The growth in the share of energy in the past was also con-



nected to increases in their prices, which in connection with the energy's low elasticity resulting from price regulation and its nature of a necessary item in household consumption lead to a reduction in demand for other goods. These are mainly semi-durable and durable goods, whose percentage is underestimated in spite of a slight convergence in recent years.

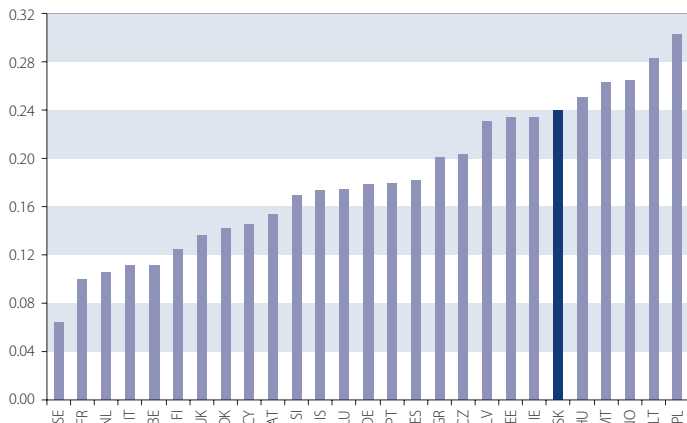
As regards the EU 27 countries, the most similar consumer basket structure to Slovakia was recorded in V4 countries, mainly Hungary and the Czech Republic (an index value of 0.16) followed by the Baltic countries (0.17 to 0.21). A higher share of goods and a lower share of services in the consumer basket as compared to the European average is a common feature of these countries. As for the goods, a high share of energy and processed food and a low share of semi-durable and durable goods is common to the countries. The most differing consumer structure compared to that of Slovakia was in Norway (0.36) and Malta (0.35).

**INFLUENCE ON THE PRICE DEVELOPMENTS.**

The share of semi-durable and durable goods together with the share of services should increase within the ongoing convergence of the structure of the consumer baskets towards developed countries. The average rise in prices of the surveyed consumer basket items over last three years implies that the prices of individual items of services were growing faster than the prices of goods (except for communication services, whose prices decreased). A further growth of the share of services in the consumer basket along with a growth of their prices, regarding the level of which Slovakia falls behind, should represent the materialization of price convergence in the future.

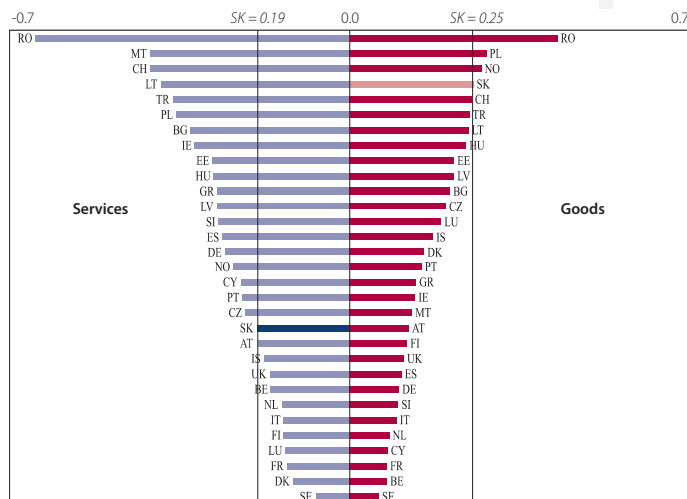
As regards the structure of consumer goods, there is room for increasing the share of semi-du-

**Chart 4 Degree of consumer basket similarity to EU 27 in 2009**



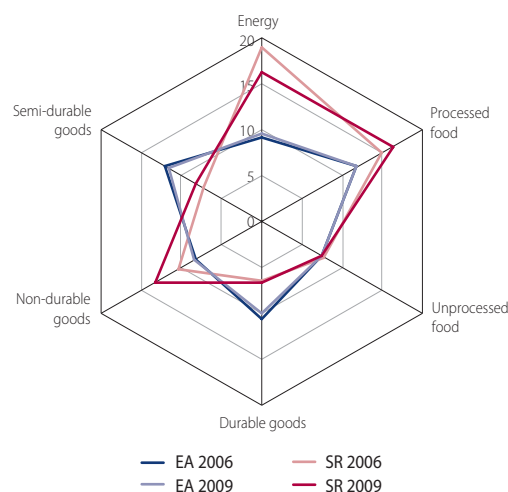
Source: Eurostat, own calculations.  
Note: Values closer to 0 correspond to a higher similarity of consumer baskets.

**Chart 5 Degree of the similarity in the structure of goods and services in 2009**



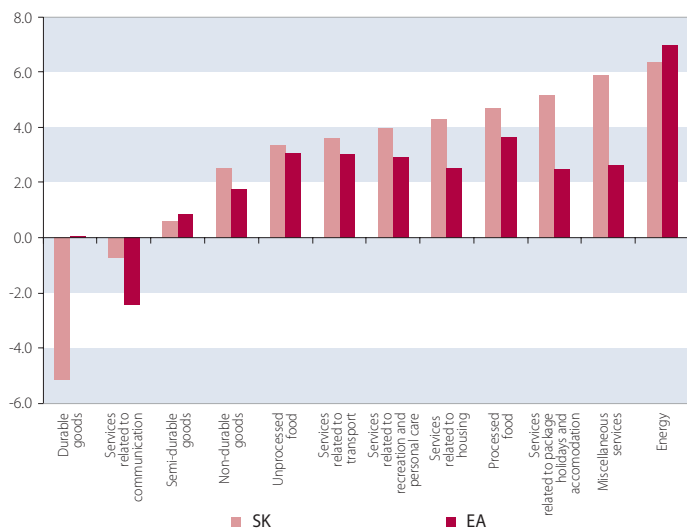
Source: Eurostat, own calculations.  
Note: Values that are closer to 0 correspond to a higher similarity of consumer baskets.

**Chart 6 Goods consumption structure**



Source: Eurostat.

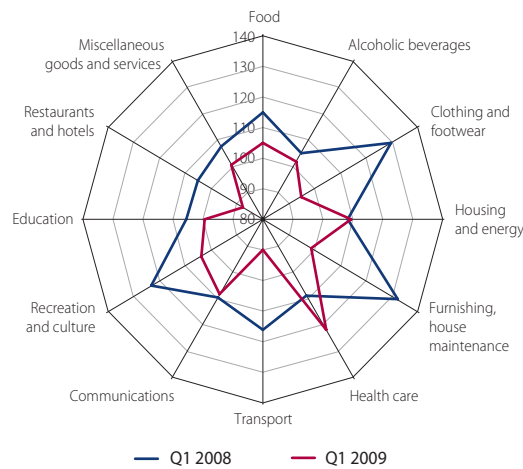
**Chart 7 Year-on-year growth of prices (2006-2008 average in %)**



Source: Eurostat, own calculations.



**Chart 8 Household final consumption according to COICOP (index same period previous year = 100)**



Source: Statistical Office of the Slovak Republic.

able and durable goods consumption at the expense of energy, processed food and non-durable goods. On the other hand, such convergence in goods should dampen the growth of prices in the future, as most of these goods come from imports with strong price competition and their prices are comparable to the price levels in developed countries. The prices of semi-durable and durable goods were falling or only slightly rising in recent years.

### CURRENT DEVELOPMENTS

The development of consumption indicates a possible slowdown or interruption of convergence in the structure of household consumption at the beginning of 2009. The decline of consumer household expenditures was mainly due to a decline in consumer confidence during the crisis, which was also reflected in a decrease in service expenditures. Expenditures in the category restaurants and hotels and transport were the main to decrease; regarding goods, expenditures on clothing and footwear decreased. The crisis also affected the growth of the share of mandatory household expenditures for food and housing, which account for most household consumption (a total of 44.1% in the 1<sup>st</sup> quarter of 2009).

### CONCLUSION

Gradual convergence of Slovakia towards developed countries also includes catching up with the level of household final consumption. The consumption of Slovak households reached the level of 69.5% of EU 27 countries' average consumption in 2008 and Slovakia got ahead of another 3 countries during the last 2 years. The convergence occurs both in the volume of expenditures for consumption and in the consumption structure. Nevertheless, Slovakia ranks among countries, whose consumer basket is least similar to the European average. These differences stem mainly from the structure of goods, while the structure of services underwent quick convergence and is very similar to the European one. As to goods, the most outstanding difference is in the high weight of energy and processed food. These necessary expenditures are partly withdrawing funds from households and thereby decreasing the demand for semi-durable and durable goods, whose share is markedly underestimated. The above analysis implies that the level as well as the structure of consumption of Slovak households should continue approaching that of developed European countries in the long run. The share of services should continue to increase and significant changes can also be expected in the share of individual components in the goods part of the basket. However, this development can be partly interrupted soon due to the economic crisis, which was also reflected in a decrease in private consumption in the 1<sup>st</sup> quarter of 2009. Because deterioration in consumer confidence was the main reason of the decline in consumption, we can expect an interruption of convergence in the structure of consumption and hence an increase in the share of necessary expenditures on food and energy. Since we expect a growth of consumption as soon as at the end of 2009 and in the following years, this interruption of convergence should be of short-term nature only. A similar development will occur in all European countries, so that the final impact of the economic crisis on convergence towards developed countries can be more moderate.



# A DSGE model for Slovakia

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*This article<sup>1</sup> presents a medium-size New Keynesian dynamic stochastic general equilibrium model (hereinafter referred to as DSGE) designed to simulate the dynamic behavior of the Slovak economy. The model consists of more than 50 equations and contains all important macroeconomic variables including real GDP and its most important components. We use three factors of production – labor, capital and energy. The price development is described by consumer, import and export price indices. Other important variables are the nominal interest rate and the exchange rate. Most model parameters are calibrated and the remaining parameters have been estimated using various estimation techniques. The appropriateness of the model is tested in several ways; we present the statistics comparison of simulated variables with empirical data and the analysis of impulse response functions.*

## INTRODUCTION

DSGE modeling belongs to the modern current of economic modeling. One of the main advantages of such models is the fact that they are based on microeconomic foundations, i.e. they are resistant to the Lucas critique. The model equations have been obtained by optimization of the behavior of the participating agents – the households, firms, the central bank and the foreign sector.

The Lucas critique, named after a 1976 paper by Robert Lucas, highlights the problems of traditional macroeconomic models in the estimation of the results of economic policies or in economic predictions. In fact, traditional models use simplified relationships between variables, which are often based on existing economic policies. Consequently, a change in policy leads to a change in the parameters of the model and simulations of possible policies at the original model are misleading. Models based on microeconomic foundations with deep structural parameters, by contrast, are resistant to such changes and are suitable for a simulation of the results of policy changes.

The model consists of 46 endogenous, 7 exogenous variables and 56 parameters.

The model includes all important macroeconomic quantities:

- the output and its components – consumption of households and the government, investment, exports, imports,
- factors of production – capital, labor force, oil,
- nominal quantities – price deflators (CPI, PPI, imports, exports), the nominal interest rate and the exchange rate.

This type of model can:

- serve as a laboratory for the study of business cycles
- enable an analysis of the effects of various types of monetary policy (fixed exchange rate, floating exchange rate, ...)

- enable a simulation of the effect of various shocks (technological, fiscal, monetary,...) on the economy,
- replicate data, whose statistical characteristics would as much as possible correspond to the empirical characteristics.

The basic structure of the model is based on the paper by Cuche-Curti, Dellas, Natal (2007), where a model of the Swiss economy is constructed.

## THE MODEL

This part presents the basic features of the model and briefly describes the individual economic agents.

### Firms

Two types of firms occur in the model – intermediate goods firms and firms producing final goods.

The intermediate goods firms use labor force and capital to produce intermediate goods, which are used for further processing in the domestic economy or exported abroad. Each processing firm is a monopoly producer of a certain specific product and thereby influences the price setting for that product.

The final goods firms process domestic and imported intermediate goods. There is a perfect competition in this sector, so that the prices of final goods are determined by the market. Final goods are consumed in the domestic economy only, either by the households, the general government or they serve for investment.

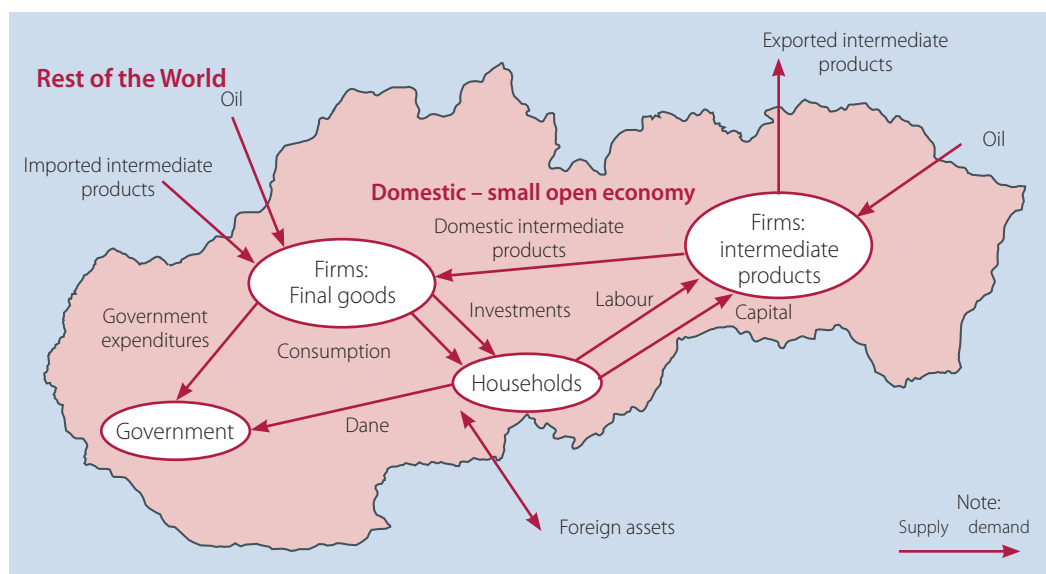
### Households

Similarly to Cuche-Curti et al. (2007), we take into account two types of households. The first type is represented by non-Ricardian consumers, who do not optimize their utility function, but consume their entire disposable income in each period. Adding the non-Ricardian households improves

<sup>1</sup> This article is a concise version of the NBS working paper No. 3/2009 entitled DSGE model – Slovakia.



### Model scheme



Source: Authors.

2 In this version of the model, the Slovak economy has autonomous monetary policy. This describes the situation before the end of 2008, when there was a separate Slovak currency.

3 Initially, we tried to estimate the Taylor rule parameters, but the estimated coefficients were non-significant.

responses of the model to government expenditure shocks. The second type of households maximizes their life-time utility from consumption and leisure. Such a household makes two decisions. It decides between current consumption and investment, which ensures higher consumption in the future. The second decision is the decision on the division of time between work and leisure. This type of households uses external habit formation, also known as “catching up with Joneses” (Abel 1990). That means that they try to maximize the difference between current consumption and average consumption in the last period.

There is an imperfect competition in the labor market, enabling employees to participate on the wage bargaining.

#### Monetary and fiscal policy

The monetary authority reacts to deviations in inflation, GDP and exchange rates from their equilibrium (steady-state) values by setting short-term interest rates (Taylor rule).<sup>2</sup>

Public consumption is financed by collecting taxes in a volume ensuring a balanced budget in any period.

#### Exogenous shocks

The model includes seven domestic and foreign shocks. The domestic shocks are in productivity, fiscal spending and domestic interest rate. The external shocks influence foreign production, interest rates, the price level and the oil price.

#### MODEL PARAMETERS

The set of all model parameters can be divided into four parts according to the way we have obtained their values.

The first group is made up of parameters borrowed from literature. The disadvantage of this approach is the lack of microeconomic studies on

Slovak households and firms. Therefore, we have used parameters from models of similar foreign economies. For example the discount factor has been set to 0.99 according to the Hansen (1985) study, and the rate of capital depreciation was taken over from a Czech study (Beneš a kol. 2005). According to Chang and Kim (2005), the typical Frisch elasticity value is less than 0.5. We assume a Frisch elasticity of 0.4. Parameters determining the behavior of the central bank have been also taken over<sup>3</sup>. Interest rates have been set as originally proposed by Taylor, i.e. the persistency parameter is 0.8. The parameter determining the reaction of the central bank to deviations in inflation is 1.5. Because we work with quarterly data, the parameter determining the response to deviations in GDP equals 0,125, as suggested by Galí (2008). The parameter defining the reaction to exchange rate changes has been determined in the same way.

On the other hand, some parameters have been determined through expert estimates allowing for the specific properties of the Slovak economy. This group includes for example the share of households that do not optimize (the rule of thumb) their consumption (50%). According to a statistical survey performed in Slovakia, one half of households does not create savings, i.e. they consume all they earn. We assume that wages are optimized once a year. On the other hand, the frequency of changes in prices is higher. The average duration of a price contract is 3.3 quarters.

Parameters estimated using the least square method constitute a third group of parameters. This is how we have estimated first order auto-regression processes, which represent the development of exogenous variables. We have obtained estimates for AR(1) process coefficients and their standard deviations.



Chart 1 Decrease in interest rates (Decrease of interest rates by 50 basis points)

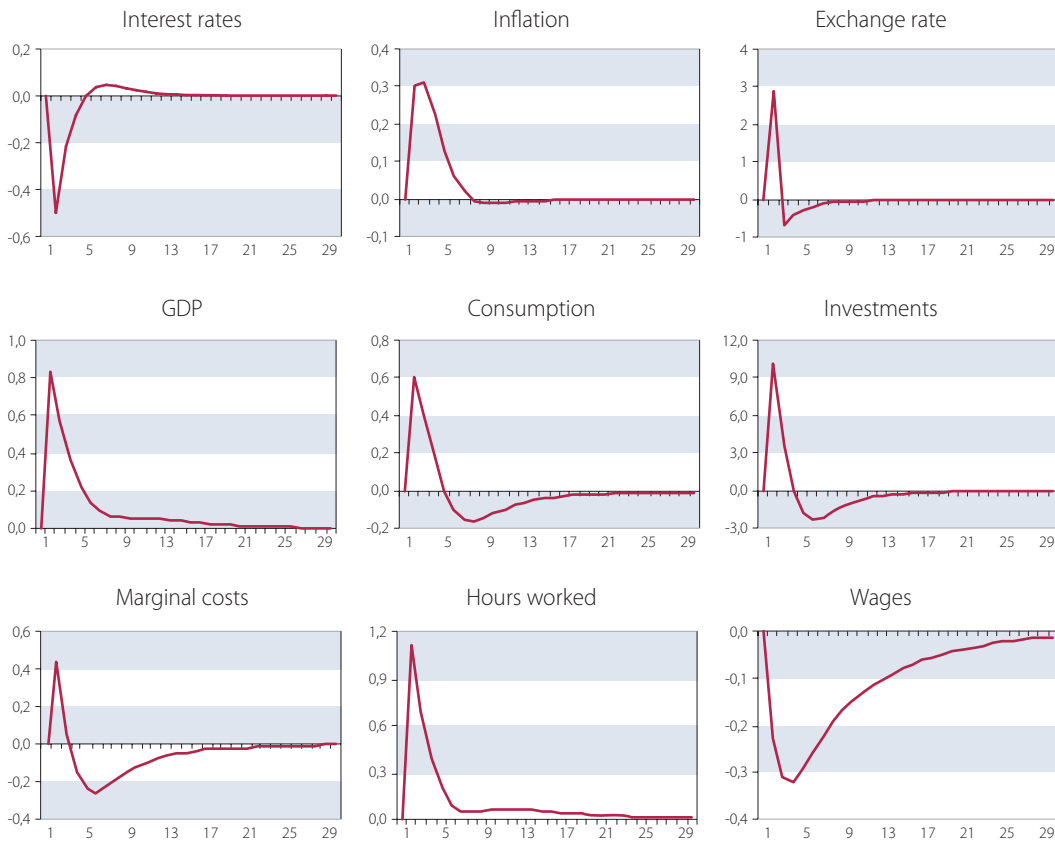
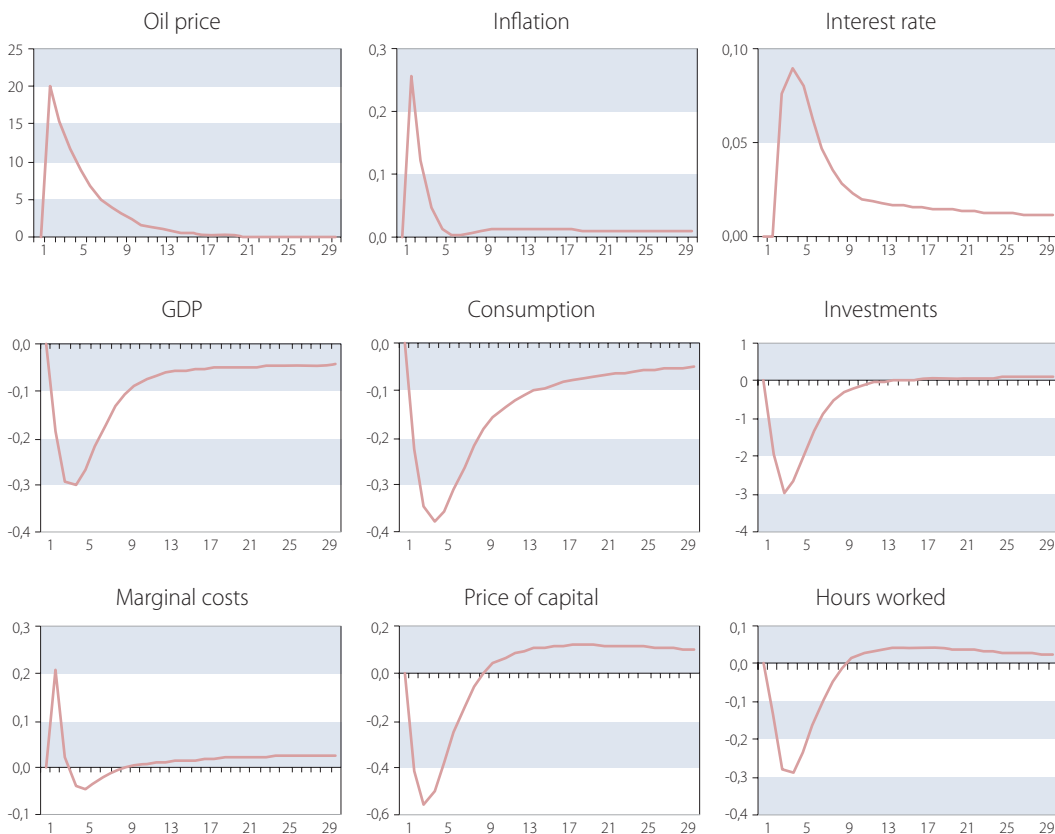


Chart 2 Increase in oil prices (Increase in oil prices by 20%)



Source: Calculations made by authors.



Table 1 Standard deviations

	Skutočnosť	Model
GDP	0.015	0.011
Consumption	0.016	0.010
Export	0.041	0.012
Import	0.037	0.032
Investments	0.083	0.086
Interest rates	0.014	0.004
Exchange rate	0.020	0.019
Inflation	0.013	0.004

Source: Authors.

Table 2 Standard deviations relative to GDP

	Skutočnosť	Model
GDP	1	1
Consumption	1.06	0.91
Export	2.77	1.14
Import	2.54	2.95
Investments	5.64	7.92
Interest rates	0.93	0.35
Exchange rate	1.35	1.74
Inflation	0.90	0.40

Source: Authors.

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The last group is made up of parameters that have been calibrated according to standard deviations of selected most important variables. Our aim has been to find such parameter values that the development simulated by the model has standard deviations as close as possible to the standard deviations of empirical variables. The standard deviations and relative standard deviations are presented in tables 1 and 2.

In order to compare the empirical time series and time series simulated by the model, we have used data from the 1999 to 2007 period. We have attempted to select the most consistent period of time possible in the development of the Slovak economy. On one hand, the lower bound of the interval is the year 1999, because the National Bank of Slovakia changed the exchange rate regime and started to perform managed floating in October 1998. On the other hand, in 2008, the last decisions needed for accession to the euro area were taken and the conversion rate was set. Because the model variables appear as deviations from the steady-state, the actual time series have been filtered using a Hodrick-Prescott filter for the sake of comparability.

#### MODEL RESPONSES TO TEMPORARY SHOCKS

This part provides an illustration of the application of the DSGE model for the Slovak economy and of the response of selected quantities to shocks (impulse response functions). We present two typical shocks. The first one is a decrease in interest rates by 50 basis points. The second one

is an increase in oil prices by 20%. The following charts show percentage deviations of variables from the steady state.

In the case of a monetary policy shock, consumption, investment and production increase. This expansion is carried out through two channels.

As a result of uncovered interest rate parity, the exchange rate channel – a lower interest rate – causes a depreciation of the domestic currency, which leads to a depreciation of the real exchange rate. Domestic products become more competitive, which leads to higher exports and lower imports. The higher net exports increase domestic production.

The interest rate channel – a higher interest rate – fosters higher current consumption and investment. The higher domestic demand increases marginal costs, which together with a depreciation of the domestic currency increase inflation.

An increase in oil prices will cause production, consumption and investment to fall. As a result of a lower demand for labor and capital, the price of these inputs will decrease. Nevertheless, the marginal cost increase due to the increase in the oil price. The higher production cost leads to higher inflation, which forces the government (central bank) to increase the interest rate.

#### CONCLUSION

We have presented the first version of a DSGE model for Slovakia in this article. It is a medium size model of a small open economy, in which economic agents optimize their behavior. It incorporates both nominal frictions (sticky prices and wages) and real frictions (capital increase cost and habit formation in household consumption), which improve the dynamic behavior of the variables. The values of the individual parameters have been determined by a combination of several techniques. A part has been borrowed from existing literature or determined using expert estimates, taken into account the conditions of the Slovak economy. Parameters of exogenous processes have been estimated using the least square method. We have also used calibration, by means of which we have determined selected parameters so as the time series simulated by the model have standard deviations comparable to actual time series.

The model application is currently restricted to simulations of the impacts of shocks on the Slovak economy. The article has presented the response of our economy to a monetary policy shock and to an oil price shock. This model would require further adjustments to be able to be used for forecasting.

As already mentioned, this is the first version of the model, which we will improve in the near future. The improvement will primarily consist in adapting the model to new conditions of the economy in connection with Slovakia's accession to the euro area. Another planned modification will be the use of Bayesian estimates of the model parameters. We also plan modifications in the capital and investment rigidities.



# Night events in the Museum of Coins and Medals



to try shooting with bow or crossbow. Thanks to astronomers from the Regional Observatory and the Planetarium of Žiar nad Hronom, the visitors could discover some of the secrets of the night sky – they had the opportunity to learn to recognize stars and planets on the sky or to take a „close“ look at Saturn. The end of the event featured a night concert of Eva Kollárová and Nikola Nižník in the St. Catherine Church, where they presented a diverse repertoire from classical music to tango.

## SUMMER NIGHTS OF MUSES

A series of night tours has been prepared by the museum for its visitors also for the summer season under the title Summer Nights of Muses. Similarly to the Night of Museums, the visitors could see exhibitions of the museum and the individual tours were accompanied by musical and theatre performances, poetry recitals and other recreational program. Visitors could see interpreters of various genres including guitar classics, jazz, rock and cabaret songs during the four summer nights. At the same time, they could listen to organ music in the St. Catherine Church along with a commentary on this extraordinary instrument. In the Town Castle, they had the opportunity to meet the Kremnica

witches and to visit their oracle in the ossuary, and muses taking the form of musical and poetic performances awaited them in the rooms of the long-term artistic and historical exhibition The Roads of Collecting as a supplement to the exhibition tour in the rooms of the a late Gothic burgher house. Creative workshops were prepared during all four events for those embracing inspiration.

The summer night tours have taken place for the second consecutive year now. Together with the Night of Museums, they have won the favor of the public and are becoming traditional events, thanks to which the visitors get to know the museum from a different perspective. A visit to the museum can thus become an interesting experience, associated with both new knowledge and fun and playing for the whole family.

Partner institutions (the J. L. Bella Elementary School of Art at Kremnica, the School of Applied Arts at Kremnica and the Kremnica Municipal Office), as well as – thanks to their active involvement – the employees of the museum, participated considerably in the implementation of the Night of Museums and of other similar summer events.

*Erika Gniaková  
Museum of Coins and Medals at Kremnica*



*Photographs: From the archives of the museum.*

