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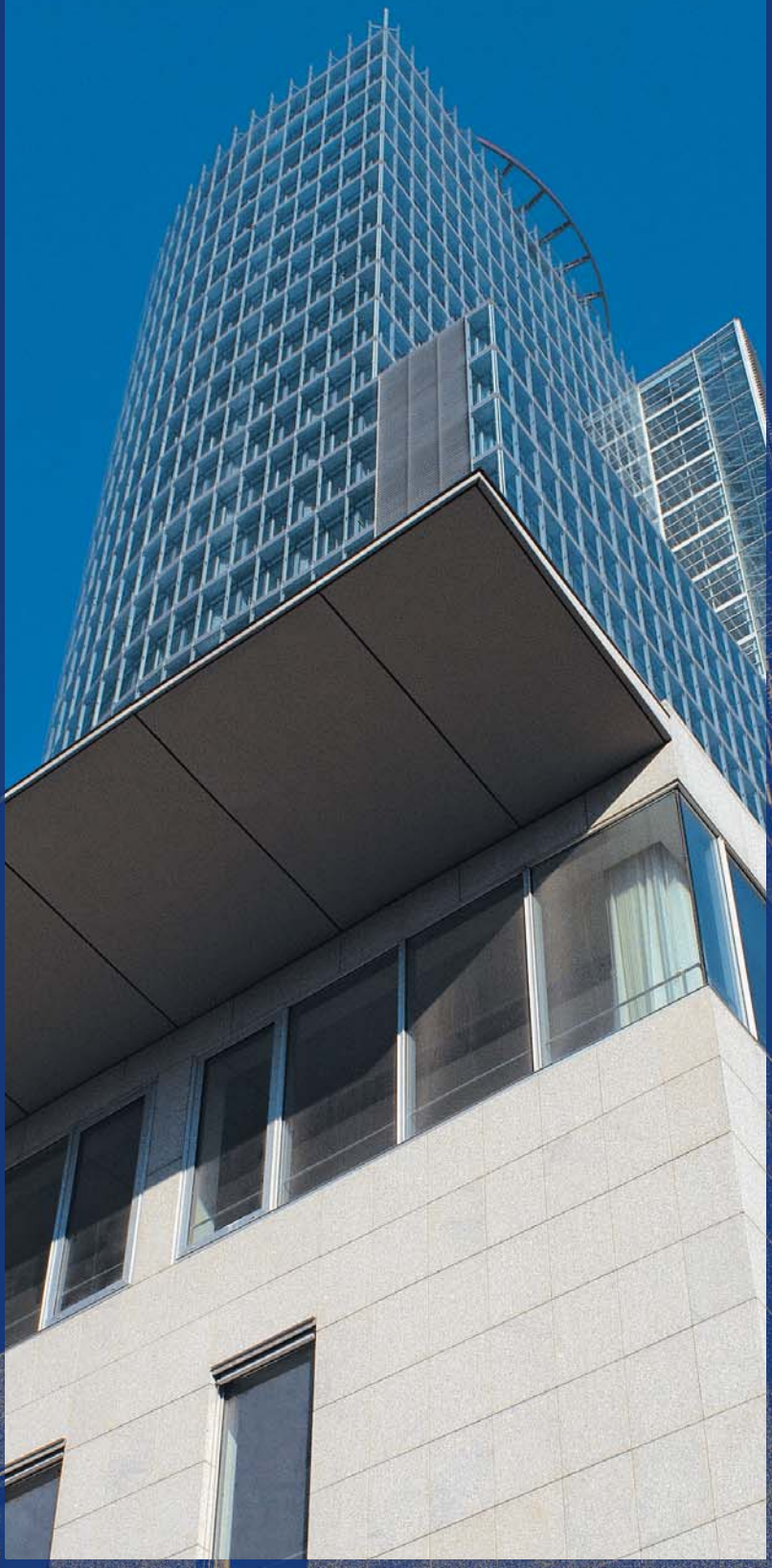

BIATEC

NÁRODNÁ BANKA SLOVENSKA

First year of the euro in Slovakia

A conference to evaluate the usage of the euro in Slovakia during 2009 was organized by the Representation of the European Commission in Slovakia in cooperation with Národná banka Slovenska.

Photo: NBS

A press conference was given during the event by NBS Governor Ivan Šramko (left), European Commissioner Maroš Šefčovič, and the European Commission's representative in Slovakia, Branislav Slyško.

The conference began with speeches from Slovak Prime Minister Róbert Fico, Slovak Finance Minister Ján Počiatek, NBS Governor Ivan Šramko, European Commissioner Maroš Šefčovič, and other distinguished guests from the social, political and banking spheres, including VÚB bank's deputy CEO, Elena Kohútiková, the president of the Slovak Association of Commerce and Tourism, Pavol Konštiak, and the central director of the Slovak Trade Inspectorate, Nadežda Makúchová. In addition, analysts from independent institutions and banks held a discussion about the future outlook for the euro in Slovakia.

The conference participants agreed that Slovakia had adopted the euro at a pivotal time in regard to economic, social and political events.

According to Prime Minister Fico, Slovakia had joined the euro area at the last possible moment. In his address to the conference, he said: "I am quite convinced that we caught and boarded the last euro train. This train to Europe will certainly not be dispatched in coming years. It is unlikely that in 2011, 2012 or 2013 any other country will meet the entry conditions and become part of this truly elite club." He added that the euro had given Slovakia a certain competitive edge, as demonstrated during the current economic crisis.

According to Finance Minister Počiatek the case for the long-term benefit of the euro is winning, and the currency is important for investors in that it offers a stable environment without exchange rate fluctuations.

Governor Šramko pointed out in his speech that although Slovakia was now in the euro area it should as soon as possible get back to being in the position as if it still had to meet the fiscal criteria. "What should now be firmly stressed is that economic policy cannot disregard certain tendencies and developments. If it does, the euro will not solve the problems that arise", he said.

European Commissioner Šefčovič noted that "the fiscal rules of the Stability and Growth Pact countries have helped and motivated countries, and these countries were consequently in a position to cope with the economic crisis after its unexpected and swift emergence."

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Contents

Opinion of Národná banka Slovenska on the general government budget for 2010–2012

The general government budget for the period 2010–2012 (hereinafter "the GGB") is based on the assumption that the economy will recover in 2010 and that economic activity will subsequently accelerate. The economic outlook determining the revenue side of the budget constitutes the basic framework around which the GGB is compiled for the medium-term horizon. In accordance with its macroeconomic forecast, the Ministry of Finance of the Slovak Republic (MF SR) expects that tax and contribution revenues, after declining steeply in 2009, will stabilize and rise slightly in 2010, and then increase sharply in the following two years.

While such a development may be realistic – provided that external demand recovers – allowance should be made for the possibility that external demand, as well as domestic demand, will pick up at a more moderate pace. After all, in the light of what is now known, estimates of current and especially future developments are subject to a great degree of uncertainty.

The expectations for key macroeconomic indicators which serve as the basis of the GGB correspond to as the central bank's estimates.

As for the development of public expenditure, the determining factor is the implementation of the Government's aims and policies. In this regard, the budget reflects above all the Government's priority to maintain peoples' social standards and partially also to improve the efficiency of public spending by cutting staff in the public administration sector (including through a reorganization of the Slovak Armed Forces).

As regards the overall general government deficit, the Government has presented a consolidation plan that sets out to gradually reduce the deficit, from the expected 6.3% of GDP in 2009 to below 3% in 2012. Looking at the pace of consolidation, the average annual reduction in the deficit will be 1.1% of GDP per year. However, as in the past, the submitted GGB focuses consolidation efforts on the more distant time horizon, with the deficit projected to improve by 0.8 p.p. in 2010, 1.3 p.p. in 2011 and 1.2 p.p. in 2012).

It should also be noted that the worsening fiscal balance for the recent period is not simply the result of cyclical fluctuations. Potential GDP growth has been significantly affected by the economic crisis, too. Not only that, but the budget for 2009 has already reckoned on certain one-time revenues that will not be repeated in the future. Furthermore, the position of some state enterprises has deteriorated and will have to be addressed by Government sooner rather than later. It can therefore be said that the larger fiscal deficit is only partly caused by cyclical factors.

When assessing the GGB, it is necessary to note the requirements laid down in the Stability and Growth Pact, the recommendations of the European Commission, and the pace and nature of the planned consolidation (including an evaluation of the long-term sustainability of public finances). It is also necessary to analyse and consider how public finances are managed in the "good times".

Regarding compliance with the Stability and Growth Pact, structural consolidation is supposed to begin in 2010, and in no circumstances should it lag economic recovery. Those countries that have a high deficit and/or debt, as well as those with a sharply rising debt, must ensure that consolidation effort represents at least 1 p.p. of GDP per year (the nominal debt of Slovakia, which has one of the least indebted economies in the EU, is projected to rise by 79% over four years, from 27.7% of GDP in 2008 to 42.2% of GDP in 2012.

As regards the expected failure to meet the government deficit criterion laid down in the Treaty establishing the European Union, the deficit of 4.7% for 2009 (estimate of the European Com-

Table 1 Macroeconomic forecasts

Real growth in %	2009		2010		2011	
	MF SR	NBS	MF SR	NBS	MF SR	NBS
GDP	-5.7	-4.8	1.9	3.1	4.1	4.3
HICP	1.2	0.9	2.6	1.2	3.7	2.5

Source: MF SR and NBS.

Table 2 Comparison of actual receipts from structural operations (Structural Funds and the Cohesion Fund) with the budgeted level (in EUR millions)

	2005	2006	2007	2008	2009	2010	2011	2012
GGB 2005-2007	535	627	756					
GGB 2006-2008		564	1,416	1,452				
GGB 2007-2009			771	910	1,189			
GGB 2008-2010				924	1,533	2,337		
GGB 2009-2011					1,349	1,966	2,162	
GGB 2010-2012						2,132	2,384	2,020
GGB average	535	596	981	1,095	1,357	2,145	2,273	2,020
Actual figure	180	313	414	529	389*			
Actual figure/ GGB (in%)	34%	55%	54%	57%	29%			

** Balance as at the end of October 2009.*
Source: MF SR; budgeted amounts calculated using the conversion rate of 30.126 SKK/EUR.

mission) is not "close" to the reference value of 3% of GDP, and although it is, under the terms of the Treaty, "exceptional", it is not "temporary". On 7 October 2009, the European Commission adopted a report in accordance with Article 104(3) of the Treaty in which it states that an excessive deficit exists in Slovakia. The report also states that the "good times" were not used to make progress in the consolidation of public finances, and therefore the excessive deficit in 2009 is due not only to the economic downturn, but also to a significant deterioration in the structural balance since 2006. The proposal to initiate the excessive deficit procedure for Slovakia sets a deadline of 2013 for rectifying the excessive deficit. On 2 December 2009, the EU Council discussed the EC's proposal and approved it in full.

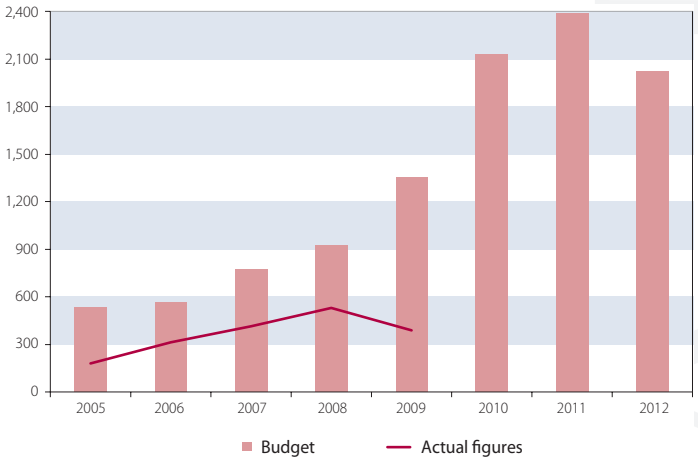
Národná banka Slovenska on one hand takes a positive view of the Government's consolidation efforts, which, in accordance with the European Commission's recommendations, include a resumption of public finance consolidation at the first signs of economic recovery; on the other hand, however, NBS notes certain risky areas in the adopted fiscal strategy.

Besides the above-mentioned uncertainty about the pace and scope of Slovakia's economic recovery (necessitating the inclusion of some leeway in expenditure), the principal risk is the absence of active fiscal policy measures on the expenditure side that are directed towards the recovery of public finances.

The consolidation is designed on the assumption of the natural rise in revenues and increase in nominal GDP as the basis for calculating the deficit ratio.

It may already be expected that European institutions will criticize Slovakia for not having introduced binding limits on public expenditure. Although these have long been recommended as an effective instrument for maintaining fiscal discipline during periods of unexpected drops in revenue, the GGB does not envisage any such measures.

Chart 1 Comparison of actual receipts from structural operations with the budgeted level (EUR millions)



Source: MF SR.

The financing of expenditure through an *ambitious amount of receipts from EU funds* may be seen as a vulnerability of the GGB. In the past (even during good times), Slovakia demonstrated a limited absorption capacity of EU funds. Unless there is more vigorous support for the use of these funds – and such support is not provided for in the GGB – it is difficult to expect a substantial acceleration of these funds.

Another potential risk in the expenditure structure is *uneven distribution in the use of expenditure* over the budget horizon. For 2010, central government expenditure is projected to be high on the current assumption that the expenditure of other entities in the public administration sector will be cut back. For 2011 and 2012, the opposite tendency is set out in GGB: central government spending should fall as the spending of other general government entities rises. Apart from the improbability of local authorities achieving a balanced budget in 2010, it may be assumed that local authorities will need to finance delegated responsibilities by increasing their indebtedness,

and also that a transfer of budgetary funds will be needed if local authorities are to carry on performing their responsibilities to a functional level. Like the central government, however, local authorities did not use the good times to make provision for a future deterioration in the macroeconomic situation.

As regards the expenditure structure, it is necessary to focus expenditure on expense items that have the highest value added, i.e. that are expected to bring a greater benefit to the economy in the future. This includes mainly spending on research and development, education, infrastructure projects, structural reforms, and so on. According to the approved GGB, however, spending on science and technology and on the construction, administration and maintenance of the roads infrastructure will be lower than in previous years. If the projected drawings of EU funds and the need for their co-financing were not met, then in 2010 the central government's capital expenditure would even decline. At the same time, a rise in funding is budgeted for current expenditure.

Národná banka Slovenska puts the total expenditure savings in certain chapters of the central government budget at more than €700 million. It also notes, however, that the budget expenditure savings should be focused mainly on chapters that make a lower contribution to potential GDP and should be implemented in a sustainable way, meaning through the implementation of appropriate structural measures and reforms.

If expenditure policy is dominated by tendencies to maintain a high share of compulsory expenditure while capital investments decline, it will pose a risk to the long-term sustainability of public finances. Given the high share of compulsory expenditure in total public expenditure and the absence of built-in expenditure limits, current expenditure in the 2009 state budget remained at the level of current expenditure in "good times" and *savings were recorded only the in area of capital expenditure***.** Since, however, it is such investment expenditure, not current expenditure, that stimulates long-term economic growth, this development represents a risk in the GGB. The risk posed by budget deficits created through such a fiscal policy is that government debt will accumulate without the creation of capacities for its amortization over the medium- to long-term horizon.

This *increase in government debt* may represent another public finance risk in that the need to finance it (in the context of the rising indebtedness of governments at the Central European level) could put pressure on private investments and, with interest rates climbing, add to the pressures on GGB expenditure.

When assessing the pace of public finance consolidation, it should be noted that the public sector debt of Slovakia will rise by 14.5 percentage points of GDP over four years, or €14.7 billion. In this regard, it would be desirable to have an accelerated consolidation of public finances so as to avoid burdening future generations.

The unexpected and deep downturn of the economy in 2009 highlighted the importance of *saving in the good times***,** when there may also be scope for achieving a balanced general government budget (if not a budget surplus). The effect of automatic stabilizers in regard to the deficit level (exceeding 3% of GDP) and total indebtedness would then not be so considerable. The unfavourable starting position of the public finances in 2009 may therefore be partly attributable to the insufficiently tight fiscal policy of preceding years.

As regards the medium- to long-term government debt-sustainability, it should be noted that for the current government debt ratio to be maintained over the medium-term horizon, the general government primary balance (excluding debt interest costs) would have to be maintained at a balanced level, assuming a "steady state" (i.e. permanent GDP growth of 3% per year from 2009, an inflation rate of 2%, and a government debt interest rate averaging 5%). Otherwise, the debt could approach the Maastricht reference level of 60% of GDP.

NBS sees another public finance risk in the fact that, over the horizon of the next three years, the Slovak Government has not made more vigorous preparations for dealing with the *ageing population issue***.** The remaining privatization proceeds earmarked for covering the revenue gap of the Social Insurance Agency (in relation to the introduction of Pillar II of the pension system) are to be used in 2010. This shortfall will need to be financed by direct transfers from the state budget, the immediate effect of which will be to push up the government debt. Furthermore, because of the economic crisis, the budget of the Social Insurance Agency has been seriously affected by a drop in revenues, which in turn has left the pay-as-you-go pension system in an impaired condition. Attention should therefore be focused on the issue of a sustainable system of pension insurance, as noted by the European Commission

Table 3 General government deficit and debt (in %)

	2007	2008	2009	2010	2011	2012
Deficit	1.9	2.3	6.3	5.5	4.2	3.0
Debt	29.3	27.7	36.4	40.8	42.5	42.2
GDP growth	10.4	6.3	-5.7	1.9	4.1	5.4

Source: MF SR.

in its recommendations on Slovakia's Stability Programme for 2008–2012.

Regarding considerations about how to set fiscal policy in terms of long-term sustainability, simulations show that the existing level of government debt, at 40% of GDP, may be too high.

There is also a risk in expectations for the fulfilment of the non-tax revenue target of the state budget. Whereas, in comparison with last year's budget assumptions, real economic growth has fallen sharply (reflected in falling corporate profits), non-tax revenue, including dividends, is expected to have risen. At the same time, NBS considers that, in the midst of an economic recession, it is a risk to increase the estimate for income from administrative and other fees.

Conclusion

Národná banka Slovenska appreciates that the general government budget aims to provide a fiscal policy response to the current economic crisis, and also that it aims to make savings of more than €700 million in central government spending. At the same time, however, the budget contains several risks, particularly the following:

- The absence of an alternative scenario in the event that the economy develops differently than expected. The GGB makes no financial provision for the lower revenues and higher social costs that would arise if the recovery was slower than forecast. Since the previous budget policy was insufficiently prudent and had a tendency to put off more rigorous consolidation until a later period, no reserves are available from past periods. In this regard, it would be desirable if the GGB took greater account of what happened with public finances in 2009 – faced with an unexpectedly adverse macroeconomic development, along with inflexible fiscal mechanisms and an absence of reserves from previous "good times", public finances slumped, and now, as a result, the way back to restoring them has an exceptionally inauspicious starting point.
- Passive consolidation based on a recovery on the revenue side of the GGB. The absence of systematic, pro-active consolidation measures on the expenditure side could result in insufficiently fast progress in structural consolidation, which is assessed in terms of compliance with the Stability and Growth Pact.
- An inappropriate expenditure structure. The budget combines a high share of compulsory expenditure with a lack of expenditure limits and with savings in capital expenditure. This represents a systemic risk of rising government debt and of public finances becoming even more unsustainable over the long term.
- With government debt thus increased, it may in future be difficult to refinance the debt if the context is that fiscal policy credibility has fallen and the indebtedness of Central European governments has risen. The higher yields required on government debt instruments will represent an additional pressure on GGB expenditure. In addition, given the limited supply of disposable capital in financial markets, private investment may be squeezed, again at the expense of potential GDP growth.
- The ambitious amount of projected receipts from EU funds should be supported by the introduction of instruments for accelerating the use of these funds, considering that progress in this area has so far been less than ideal.
- The ageing population and the rising financial pressures that this puts on public expenditure and its long-term sustainability is a matter for which corrective measures will need to be formulated within the budget period of 2010–2012. The GGB, however, does not address this issue.

Overview of EU public finances

Ing. Jana Jirsáková, Ing. Jakub Obst
Národná banka Slovenska

The global economy is experiencing its deepest recession since the Second World War. Along with other negative consequences, this has resulted into a sharp deterioration in the state of public finances. Most European governments are now facing similar problems: on one hand, a steep drop in tax and other revenues, and, on the other hand, rising public expenditure caused by automatic stabilizers and by one-time measures designed to stabilize the financial sector and to kick-start the economy, or at least to mitigate the effects of the economic crisis. Due to several factors, it is difficult for governments to set and time "exit strategies" for unwinding the unprecedented damage to public finances. There is the persistent uncertainty about the start and extent of the expected economic recovery, which in turn is related to the continuing pressure on public finances. The unstable situation in capital markets along with the acute problem of ageing populations will in the near future put public expenditure under additional pressure. These factors are also contributing to differences in expert opinions on the timing and pace of the necessary consolidation of public finances.

Pre-crisis developments

Public finance developments in the EU up to 2008 can be divided into three stages:

- In 1997, the Stability and Growth Pact entered into force, as an agreement of EU Member States designed to achieve and maintain fiscal discipline in the Member States. The setting of rules for an autonomous fiscal policy indeed led to the strengthening of fiscal discipline in subsequent years, which gradually fed through to the more efficient use of public resources at the EU level, peaking at a surplus in 2000.
- From 2001, the EU saw a slowdown in economic growth (largely due to the business cycle of the largest Member States). The recession was also reflected in a turnaround in the development of public finances in the EU. As economic growth declined, the general government deficits of EU countries rose. The deficit at the EU aggregate level increased for three years and in 2003 exceeded even the Maastricht reference value of 3% of GDP.
- In 2004, again as a result of a shift in the business cycle in EU countries, public finances underwent another change in development, entering a four-year phase of consolidation which culminated in 2007 when the deficit fell to 0.8% of GDP. The countries included in the monetary union recorded an even lower deficit of 0.6% of GDP.

The global economic crisis and its effect on EU public finances

The latest phase in the development of EU public finances, which began in 2008, is also expected to last around three to four years and has also been determined by a change in the economic environment. In reaction to the eruption of the global financial and economic crisis, governments adopted costly financial market stabilization measures. As a way of fighting the recession, the governments of EU Member States agreed on a joint coordinated reaction by adopting the *European Recovery Plan* (ERP). The ERP is based on the following two key pillars:

The 1st pillar is a major injection of purchasing power into the domestic economy, implemented through a fiscal impulse amounting to 1.5% of GDP and in accordance with obligations under the Stability and Growth Pact.

The 2nd pillar rests on direct and immediate action to reinforce the EU's competitiveness in the long term. The plan includes a set of measures to support "smart" investment: investing in energy efficiency; investing in clean technologies to boost sectors like construction and automobiles in the low-carbon markets of the future; and investing in infrastructure and inter-connection to promote efficiency and innovation.

Since the fundamental principle of the ERP is solidarity and social justice, the ERP must be geared to, or compatible with, the objective of assisting those groups who are hardest hit by the crisis, with particular emphasis on maintaining employment.

Both financial sector support measures and anti-crisis measures represent a heavy burden on public budgets. The EU general government deficit deteriorated from 0.8% of GDP in 2007 to 2.0% of GDP in 2008. For euro area countries, the deficit increased by a larger margin still, from 0.6% of GDP in 2007 to 2.0% of GDP in 2008.

In 2008, eleven countries reported a general government deficit exceeding the reference

value of 3% of GDP, including, in the euro area, Ireland, Greece, France, Spain and Malta, and, outside the euro area, Lithuania, Latvia, Hungary, Poland, Romania and the United Kingdom. The deficit rose most sharply in Ireland, which went from having a surplus of 0.2% in 2007 to a deficit of 7.2% in 2008 – a difference of 7.4 percentage points. Despite the global crisis, the consolidation of public finances continued in five countries: Bulgaria, Germany, Hungary, the Netherlands and Austria.

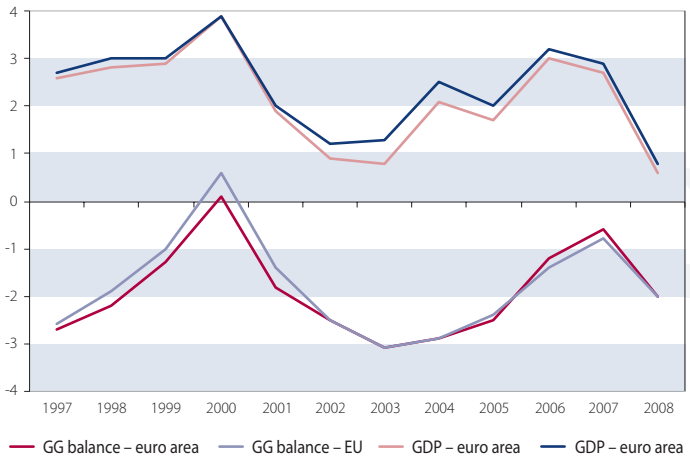
In the euro area, government debt rose from 66.2% of GDP in 2007 to 69.3% of GDP in 2008, and in the European Union as a whole it increased from 58.7% to 61.5% for the same years.

In 2007, eight countries failed to meet the Maastricht debt criterion: Belgium, Germany, Greece, France, Italy, Hungary, Malta and Portugal. In 2008, the reference value of 60% of GDP was exceeded also by Austria, which reported a debt of 62.6% of GDP (from 59.4% in 2007). Ireland recorded the largest increase in government debt – a rise of 19.1 percentage points, to 44.1% of GDP in 2008. By contrast, seven countries reported a government debt in 2008 that was lower than in 2007. They were Bulgaria, Cyprus, Lithuania, Slovenia, Slovakia, Finland and Sweden, with Cyprus recording the largest drop of 11.2 percentage points, down in 48.4% of GDP in 2008.

Excessive deficit procedure (EDP)

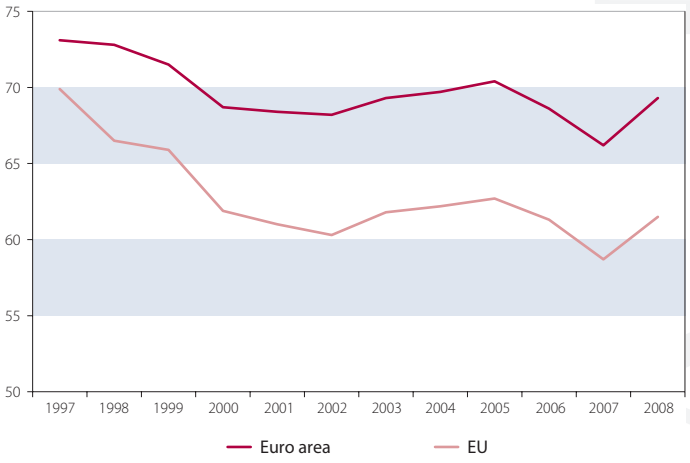
At the end of 2007, six countries were subject to the excessive deficit procedure, including two countries in the euro area (Italy and Portugal) and four outside the euro area (Poland, Slovakia, the Czech Republic, and Hungary). In the first half of 2008, the procedure was terminated for all countries – except for Hungary (which was given until 2009 to correct the excess deficit) – since their fi-

Chart 1 General government balance (as a % of GDP) and GDP in the EU and euro area



Source: Eurostat.

Chart 2 Government debt in the EU and euro area (in % of GDP)



Source: Eurostat.

Table 1 Overview of general government balances in euro area countries

General government deficit (-) / surplus (+) in the euro area (in % of GDP)									
	2000	2001	2002	2003	2004	2005	2006	2007	2008
Belgium	0.0	0.5	0.0	-0.1	-0.3	-2.7	0.3	-0.2	-1.2
Germany	1.3	-2.8	-3.7	-4.0	-3.8	-3.3	-1.5	-0.2	0.0
Ireland	4.8	0.9	-0.4	0.4	1.4	1.7	3.0	0.2	-7.2
Greece	-3.7	-4.5	-4.8	-5.7	-7.5	-5.1	-2.8	-3.6	-7.7
Spain	-1.0	-0.6	-0.5	-0.2	-0.3	1.0	2.0	2.2	-4.1
France	-1.5	-1.5	-3.1	-4.1	-3.6	-2.9	-2.3	-2.7	-3.4
Italy	-0.8	-3.1	-2.9	-3.5	-3.5	-4.3	-3.3	-1.5	-2.7
Cyprus	-2.3	-2.2	-4.4	-6.5	-4.1	-2.4	-1.2	3.4	0.9
Luxembourg	6.0	6.1	2.1	0.5	-1.1	0.0	1.4	3.6	2.5
Malta	-6.2	-6.4	-5.5	-9.9	-4.7	-2.9	-2.6	-2.2	-4.7
Netherlands	2.0	-0.2	-2.1	-3.1	-1.7	-0.3	0.6	0.3	0.7
Austria	-1.7	0.0	-0.7	-1.4	-4.4	-1.6	-1.6	-0.5	-0.4
Portugal	-2.9	-4.3	-2.8	-2.9	-3.4	-6.1	-3.9	-2.6	-2.7
Slovenia	-3.7	-4.0	-2.5	-2.7	-2.2	-1.4	-1.3	0.5	-1.8
Slovakia	-12.3	-6.5	-8.2	-2.8	-2.4	-2.8	-3.5	-1.9	-2.3
Finland	6.9	5.0	4.1	2.6	2.4	2.8	4.0	5.2	4.5

Source: Eurostat.

Table 2 Overview of excessive deficit procedures closed

EDP in the past		
	EC report (pursuant to Article 104(3) of the Treaty)	Council decision to abrogate the EDP
Poland	12 May 2004	8 July 2008
Portugal	22 June 2005	3 June 2008
Italy	7 June 2005	3 June 2008
Czech Republic	12 May 2004	3 June 2008
Slovakia	12 May 2004	3 June 2008
Cyprus	12 May 2004	11 June 2006
Malta	12 May 2004	16 May 2007
United Kingdom	21 September 2005	12 September 2007
Greece	19 May 2004	16 May 2007
Netherlands	28 April 2004	7 June 2005
Germany	19 November 2002	16 May 2007
France	2 April 2003	31 January 2007
Portugal	24 September 2002	11 May 2004

Source: http://ec.europa.eu/economy_finance/.
Note: Council – the EU's Economic and Financial Affairs Council (ECOFIN).

Table 3 Overview of current excessive deficit procedures

Countries subject to the excessive deficit procedure (EDP) as at 2 December 2009			
	EC report (pursuant to Article 104(3) of the Treaty)	Council decision on existence of an excessive deficit	Deadline for correction
Belgium	7 October 2009	2 December 2009	2012
Czech Republic	7 October 2009	2 December 2009	2013
Germany	7 October 2009	2 December 2009	2013
Italy	7 October 2009	2 December 2009	2012
Netherlands	7 October 2009	2 December 2009	2013
Austria	7 October 2009	2 December 2009	2013
Portugal	7 October 2009	2 December 2009	2013
Slovenia	7 October 2009	2 December 2009	2013
Slovakia	7 October 2009	2 December 2009	2013
Poland	13 May 2009	7 July 2009	2012
Romania	13 May 2009	7 July 2009	2011
Lithuania	13 May 2009	7 July 2009	2011
Malta	13 May 2009	7 July 2009	2010
France	18 February 2009	27 April 2009	2012
Latvia	18 February 2009	7 July 2009	2012
Ireland	18 February 2009	27 April 2009	2013
Greece	18 February 2009	27 April 2009	2010
Spain	18 February 2009	27 April 2009	2012
United Kingdom	11 June 2008	8 July 2008	2013/2014
Hungary	12 May 2004	5 July 2004	2011

Source: http://ec.europa.eu/economy_finance/.

nal general government budget deficits for 2007 were below 3% of GDP.

In summer 2008, the Council (ECOFIN) decided that the United Kingdom had an excessive deficit, and in April 2009 it did the same for Ireland, Spain, France and Greece. Greece was given until 2010 to correct its deficit, Spain and France until 2012, and Ireland until 2013. In the case of the United Kingdom, the Council revised the deadline for correction, to 2013/2014. Latvia and Malta, despite their higher budget deficits, were not originally considered for the excessive deficit procedure, given that, in the case of Latvia, a new government had just taken office, and, in the case

of Malta, the budget excess was deemed to be small and temporary. In February, however, the EDP was initiated for Latvia, and in June, on the basis of the EC's April notification, the EDP was initiated also for Lithuania, Malta, Poland and Romania. Malta has until 2010 to correct its deficit, Latvia until 2011, and Romania and Poland until 2012. In the case of Hungary, the EC took into account its exceptional situation (characterized largely by a deep recession and fragile financial system) and decided to extend the correction deadline under the EDP, from 2009 to 2011. On 11 November 2009, the EC published a report in which it proposed initiating the EDP for Belgium, the Czech Republic, Germany, Italy, the Netherlands, Austria, Portugal, Slovenia and Slovakia. Belgium and Germany were to be given until 2012 to correct their budgets, and the other countries until 2013. On 2 December 2009, the Council adopted the EC's recommendations, and, as a result, a total of 20 countries were subject to the excessive deficit procedure as at the end of 2009.

Chart 3 Expected general government deficits in the euro area according to the EC's Autumn Forecast

Source: Economic Forecast, DG ECFIN; Eurostat.

Expected developments

Expected developments in EU public finances are addressed by several institutions in forecasts and publications. For the purposes of implementing the EU's fiscal policy, however, the relevant forecasts are mainly those of the European System of Central Banks (Working Group on Public Finance), the European Commission (Directorate-General for Economic and Financial Affairs – DG ECFIN), the International Monetary Fund (IMF), the OECD, and the forecasts of individual countries published in the form of convergence programmes and stability programmes. Given that the Eurosystem's forecast (the Public Finance Report) is not published, this article is based on the DG ECFIN's forecasts, which, like the Eurosystem's forecasts, are published twice a year (in spring and autumn) and are complemented by a twice yearly "Interim Forecast".

According to this year's Autumn Forecast, the euro area's deficit will rise to 6.4% of GDP in 2009, from 2% of GDP in 2008, and it will continue climbing to 6.9% of GDP in 2010. No consolidation is expected until 2011, when the deficit is projected to decline by a modest 0.4 p.p., to 6.5% of GDP. As for the European Union as a whole, its deficit for this year is expected to be 6.9% of GDP, rising to 7.5% in 2010, and there should then follow a period of moderate consolidation. That the EU deficit is projected to be higher than the euro area's deficit is largely due to the double-digit deficits projected for the United Kingdom, including 13.8% of GDP in 2010.

The largest general government deficits for 2009 are expected to be reported by Greece, at 12.7% of GDP, and Ireland, at 12.5% of GDP. In 2010, too, the Irish deficit is expected to be the highest in the EU-27, at 14.7% of GDP, and in 2011 it should stabilize. Double-digit budget gaps over the projection period (2009–2011) are also forecast for Latvia, the United Kingdom, Spain and Greece. By contrast, five countries (Luxembourg, Finland, Bulgaria, Denmark and Sweden) are expected to maintain their budget deficit at below the 3% reference value, while a sixth, Estonia, is projected to report a deficit of 3.0% of GDP. All countries except for Bulgaria are projected to exceed the threshold in 2010. The EC expects that in 2011, as in 2010, not one euro area country will meet the Maastricht public finance criterion. Across the EU-27, only Bulgaria and Sweden are projected to meet this criterion in 2011, and Estonia is expected to return to a deficit of 3% of GDP.

Gross public debt in the euro area will, according to the EC's expectations, increase by 8.9 percentage points from last year's figure, to 78.2% of GDP, and will maintain a rising tendency in 2010 (84% of GDP) and 2011 (88.2% of GDP). The EU's gross debt for 2009 is projected to be 73% of GDP, rising to 79.3% of GDP in 2010 and to 83.7% of GDP in 2011. This upward tendency is expected to continue in subsequent years, too.

In the context of the business cycle, it is generally the case that forecasts are revised upwards in "good times", i.e. during booms, but that during "bad times", i.e. recessions, each forecast is more pessimistic than the last. The current economic crisis provides a good example of this phenomenon. For a complete picture, it is best to start by comparing the EC's Spring Forecast with its previous Autumn Forecast. In the Spring Forecast, the deficit projected for the euro area in 2009 was 3.5 p.p. higher than in the previous Autumn Forecast, and likewise the projection for the EU's 2009 deficit was 3.7 p.p. higher in 2009 Spring Forecast than in the 2008 Autumn Forecast. A similar pattern can be seen in expectations for 2010, too, where the deficit forecasts for the euro area and European Union rise by, respectively 4.5 p.p. and 4.7 p.p.

In the case of individual countries, the change in the deficit forecast for 2009 ranged, in the euro

Table 4 Comparison of the spring 2009 and autumn 2008 forecasts for general government balances

	Spring 2009			Autumn 2008			Spring 2009 – Autumn 2008		
In % of GDP	2008	2009	2010	2008	2009	2010	2008	2009	2010
Euro area	-1.9	-5.3	-6.5	-1.3	-1.8	-2.0	-0.6	-3.5	-4.5
EU	-2.3	-6.0	-7.3	-1.6	-2.3	-2.6	-0.7	-3.7	-4.7

Source: Economic Forecasts, DG for Economic and Financial Affairs; NBS's own calculations.

Table 5 Comparison of the current (autumn) forecast with the previous (spring) forecast

	Spring 2009				Autumn 2008			Spring 2009 – Autumn 2008			
In % of GDP	2008	2009	2010	2011	2008	2009	2010	2008	2009	2010	2011
Euro area	-2.0	-6.4	-6.9	-6.5	-1.9	-5.3	-6.5	-0.1	-1.1	-0.4	-
EU	-2.0	-6.9	-7.5	-6.9	-2.3	-6.0	-7.3	0.3	-0.9	-0.2	-

Source: Economic Forecasts, DG for Economic and Financial Affairs; NBS's own calculations.

Table 6 Comparison of general government balances before and during the economic crisis

General government balances in the European Union; % of GDP			
	2007	2009	2009 – 2007
Belgium	-0.2	-5.9	-5.7
Germany	-0.2	-3.4	-3.2
Ireland	0.2	-12.5	-12.7
Greece	-3.6	-12.7	-9.1
Spain	2.2	-11.2	-13.4
France	-2.7	-8.3	-5.6
Italy	-1.5	-5.3	-3.8
Cyprus	3.4	-3.5	-6.9
Luxembourg	3.6	-2.2	-5.8
Malta	-2.2	-4.5	-2.3
Netherlands	0.3	-4.7	-5.0
Austria	-0.5	-4.3	-3.8
Portugal	-2.6	-8.0	-5.4
Slovenia	0.5	-6.3	-6.8
Slovakia	-1.9	-6.3	-4.4
Finland	5.2	-2.8	-8.0
Bulgaria	0.1	-0.8	-0.9
Czech Republic	-0.6	-6.6	-6.0
Denmark	4.5	-2.0	-6.5
Estonia	2.7	-3.0	-5.7
Latvia	-0.4	-9.0	-8.6
Lithuania	-1.0	-9.8	-8.8
Hungary	-4.9	-4.1	0.8
Poland	-1.9	-6.4	-4.5
Romania	-2.5	-7.8	-5.3
Sweden	3.8	-2.1	-5.9
United Kingdom	-2.7	-12.1	-9.4

Source: 2007 Eurostat; 2009 Economic Forecasts, DG for Economic and Financial Affairs; NBS's own calculations.

area, from -0.9 p.p. (Malta) to -5.7 p.p. (Spain), and, in the rest of the EU-27, from -0.1 p.p. (Hungary) to -5.9 p.p. (United Kingdom). Among euro area countries and among the rest of the EU-27, the largest deteriorations in the EC's 2010 estimates were recorded for, respectively Ireland (a difference of 8.4 p.p.) and the United Kingdom (7.3 p.p.). By contrast, the forecasts that are expected

to have changed the least are, as in 2009, those for Malta and Hungary, their deterioration being, respectively, 0.7 and 0.6 percentage points.

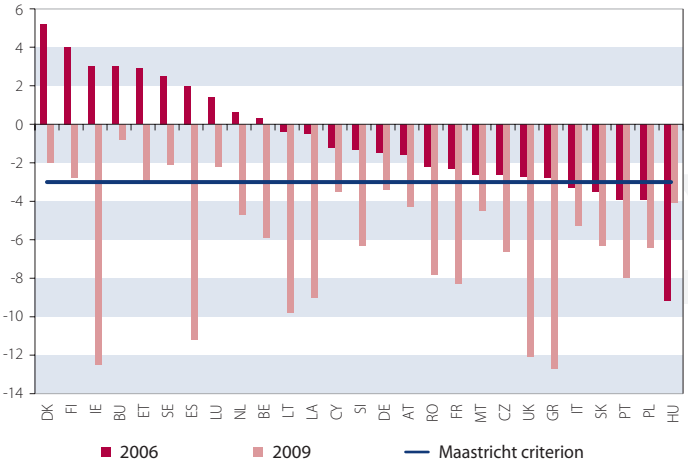
As for the 2009 Autumn Forecast, the outlook for government deficits has continued to worsen, albeit more moderately (since the most pessimistic expectations had already been incorporated into the Spring Forecast). The deterioration from the spring figures is most noticeable in the forecasts for 2009 (1.1 p.p. in the euro area and 0.9 p.p. in the EU), as a result of the actual figures for the first three quarters of 2009. The differences on a country-by-country basis are similar, i.e. projected deficit increases ranging from 2.6 p.p. (Spain) to 0.3 p.p. (Bulgaria) were recorded by countries mainly in 2009. Greece is an exception, since it is the only country to have its budget deficit for 2008 revised considerably upwards, by 2.7 p.p. to 7.7% of GDP, the reason being that previous forecasts did not incorporate the crisis-induced increase in its public expenditure. The EC expects the deficit forecasts for Greece in coming years to again show the largest differences from the previous forecast, i.e. a difference of 7.6 p.p. in 2009 and 6.5 p.p. in 2010. In the case of Spain, the Czech Republic and Romania, the EC still expects an adjustment of more than 2 p.p., but for Latvia, Germany and Sweden it is predicting an improvement on the figures in the 2009 Spring Forecast. The outlook for Latvia has improved by as much as 2.1 p.p. largely due to the adjusted general government budget of October 2009, which the Latvian government approved as a prerequisite for borrowing funds from the EU and IMF. The budget features considerable cuts in old-age pensions and salaries of state employees and an increase in income tax, all of which had to be adopted in order to keep the deficit within 10% of GDP. In 2010, the Commission predicts an improvement in the general government deficit not only of these countries, but also of Ireland and the United Kingdom, though the 0.9% reduction estimated in both cases will make only a slight difference to their projected double-digit budget gaps.

The effect of the crisis on the development of public finances has undoubtedly been severe. Certain differences have, of course, appeared from one country to another, according to the particular impact of both the economic and financial crisis. The differences lie in the original fiscal deficits recorded before the crisis and in how the "good times" were used.

CYCLICALLY ADJUSTED BALANCE (CAB)

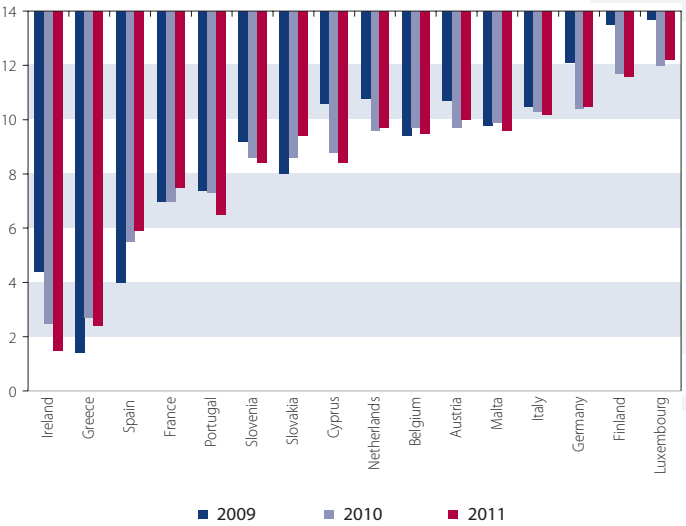
In addition to the current deficit of general government budgets, another indicator that is used is the so-called cyclically adjusted balance (CAB), i.e. the general government balance adjusted for the effect of the business cycle. Where real GDP is at the level of its potential, then the CAB is equal to the current, nominal general government balance, since in this case the cyclical component has a zero value. According to the EC, the euro area's CAB for 2009 will be worse than that for

Chart 4 Comparison of general government balances before and during the economic crisis (in % of GDP)



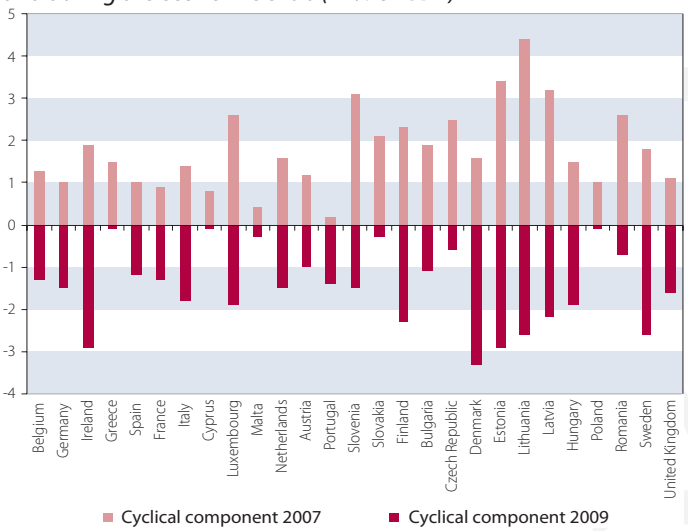
Source: Economic Forecast, DG for Economic and Financial Affairs.

Chart 5 Cyclically adjusted general government deficits of euro area countries, according to the autumn forecast (in % of GDP)



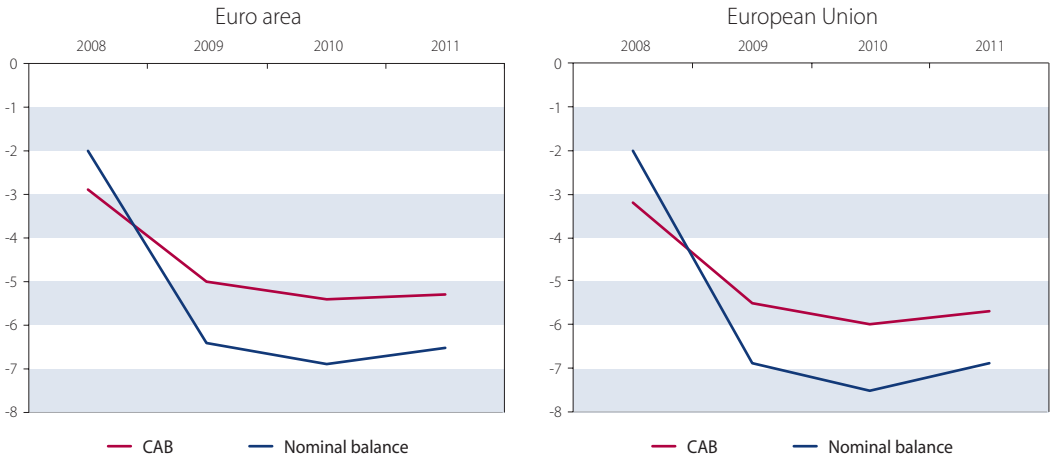
Source: Economic Forecast, DG for Economic and Financial Affairs.

Chart 6 Cyclical components of general government deficits before and during the economic crisis (in % of GDP)



Source: Economic Forecast, DG for Economic and Financial Affairs; NBS's own calculations.

Charts 7 and 8 Comparison of the cyclically adjusted balance and nominal balance



Source: Economic Forecast, DG for Economic and Financial Affairs.

the previous year by around 2 p.p. From -2.9% in 2008, the CAB is expected to be -5% in 2009 and -5.4% in 2010. No structural consolidation is projected until 2011, and then only a very slight improvement of 0.1 p.p., to -5.3% of GDP. As for the EU-27, which recorded a CAB of -3.2% in 2008, the EC forecasts its CAB to be -5.5% in 2009 and -6% in 2010. Here, too, a moderate consolidation is projected in 2011, when the CAB is forecast to be -5.7% of GDP.

The comparison of the cyclically adjusted deficits and the nominal general government deficits shows that the general government deficit of every EU Member State was positively affected by the cycle, while exactly the opposite is the case over the projection horizon (2009–2011). The EC expects that with the exception of Malta (which has only a very small, positive cyclical component of 0.1% of GDP), all countries of the EU-27 (including the euro area) will see their general government balance for 2011 adversely affected by the cycle.

Conclusion

In the current forecasts of the ECB, EC and other institutions, as well as the forecasts of the Member States themselves, the fiscal policies of EU countries are based on the fact that that the global economy is experiencing its deepest recession since the Second World War. As a consequence, the condition of public finances has deteriorated sharply as all countries face similar problems: a sharp decline in tax revenues and other budget revenues, alongside a huge rise in expenditure caused by automatic stabilizers as well as by one-time measures designed to kick-start the economy, or at least to mitigate the effects of the current crisis. Taking the examples of the most troubled economies, the principal reasons for their high budget deficits and public debts can be clearly illustrated, and consideration can be given to what measures are most crucial to the restoration of public finances. In the case of Ireland (which has a double-digit budget deficit despite taking consolidation measures since the middle of 2008, including the raising of certain taxes and contributions), budget revenues have continued to fall and general government expenditure has risen. Another negative factor is the climbing costs for managing a level of public debt that, in the projection horizon, is expected to reach 96% of GDP. There is a prevailing view that the condition of public finances in Ireland stems from a failure to address the issue of sustainable public expenditure growth when revenues were rising sharply. For the future, it would be advisable to support fiscal discipline with a framework programme that ensures both sounder management of public finances and a broadening of the tax base to make it less sensitive to the volatility of economic activity. In the case of Greece, the EC even in its Spring Forecast expected the budget gaps for 2010 and 2011 to be, respectively, 5.1% of GDP and 5.7% of GDP, but because these projections did not incorporate rising expenditure and falling revenues, the projections for Greece's deficit had to be revised in the Autumn Forecast and now stand at double digits over the whole projection horizon. The example of Greece serves as a pertinent illustration of the failure to comply with the requirements of European institutions for transparency and consistency in submitted data. The consequence is a history of regular upward revisions to the general government budget deficits. Because of the considerable degree of uncertainty in the data notified by the Greek authorities, Eurostat, in its news release[1], expressed reservations on the data submitted by Greece for 2008. In the example of the United Kingdom, which also has a double-digit budget deficit, we can see the effect of stimulation measures introduced by the government (particularly in support for financial institutions), which are expected to exacerbate the overall government deficit by one quarter. For the purpose of containing fiscal expenditure in the future, it would therefore be desirable to lay down clear rules for the provision of assistance to individual financial

1 *Eurostat News Release 149/2009 of 22 October 2009.*

institutions. In addition, it is recommended that the United Kingdom make greater efforts to consolidate public finances, so that by taking steps that are less dependent on macroeconomic developments, it can achieve sustainable public finances. Bulgaria, by contrast, is the only EU-27 country that has maintained its budget deficit at below 1% of GDP, and it expects that figure to worsen only slightly (by 0.4 p.p.) next year. Here too, however, despite the relatively positive results, there are persistent risks of a deterioration in economic developments. Considering also that Bulgaria has elections looming, this country, too, faces the risk of declining efficiency in public expenditure. Fiscal policy should focus on maintaining macroeconomic stability and on increasing confidence among foreign investors. Above all, and it would be advisable for every country, it would be appropriate to focus on raising the efficiency of its public expenditure.

Estimating the NAIRU in the Slovak economy[1]

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Národná banka Slovenska

The NAIRU (Non-accelerating Inflation Rate of Unemployment) indicates the rate of unemployment that does not accelerate inflation. If the unemployment rate is lower than the NAIRU, then inflation will rise; in the opposite case, the economy produces output without making full use of production factors and inflation falls.

1 This article is an abridged version of an eponymous paper that sets out a detailed approach to estimating the equilibrium rate of unemployment in Slovakia, using a simple econometric model and a model with unobserved variables. It is published on the NBS website.

NAIRU is, along with the output gap, another key factor in describing the cyclical position of the economy. The place of the NAIRU concept in the development of economic theory is briefly described by Ball (2002). As for the relationship between unemployment and inflation, it is captured by the Phillips curve. There is a close link between, on one hand, deviations of actual unemployment from the equilibrium rate of unemployment (the NAIRU) and, on the other hand, the output gap representing the cyclical fluctuation of the economy's total output around its potential level. This link is explicitly captured in the production function which, when used to estimate potential output, must include the equilibrium labour force. One option is to estimate the given equilibrium using the NAIRU concept. For the purposes of economic policy, NAIRU is therefore a key indicator that gives a clearer picture of the economy's cyclical position – the basis on policy instruments are set. In the case of Slovakia, another reason to analyse unemployment is its persistent relatively high level, which is often mentioned as one of the country's key economic problems. Estimating the NAIRU in the Slovak economy could bring a clearer understanding of the extent to which unemployment is the result of a cyclical disequilibrium or structural disproportions in the labour market.

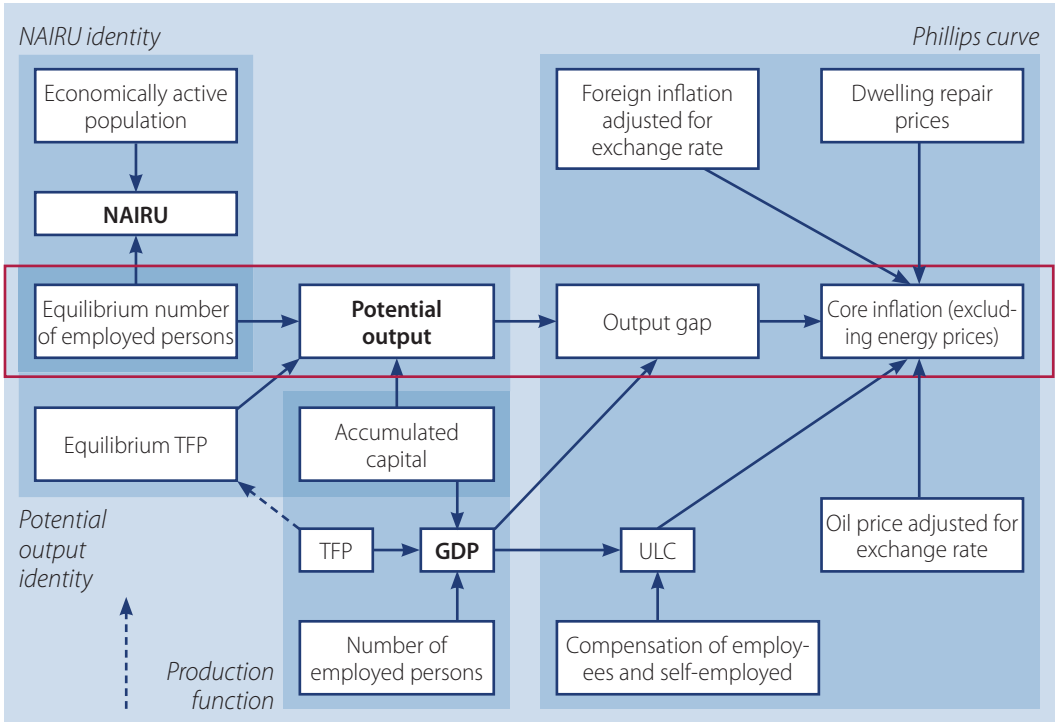
The main aim of the paper on which this article is based is to estimate the equilibrium rate of unemployment in the Slovak economy, to compare the selected estimation approaches with other methods, and to verify the results against the findings of business cycle surveys. The following lines provide a brief outline of the subject, including non-technical results.

The NAIRU is an unobservable variable, and except for making a simple, but relatively unrealistic, assumption about its constant level (Hogan [1998] showed that the assumption of a constant NAIRU reduced the ability of the Phillips curve to explain the inflation observed in the USA), its trajectory needs to be estimated using some of the methods described in the literature:

- Statistical approaches – they extract the trend component from a time series of unemployment, or employment (unemployment is then calculated as the difference between the labour supply and number of employed). The drawback with them is the lack of economic information in the equilibrium trajectory of unemployment, which makes it impossible to interpret the causes of its estimated development. This group includes the trend analysis, moving averages, Hodrick–Prescott filter, and band-pass filter. Because of their simplicity, statistical approaches are often used for preliminary analyses or for estimating the equilibrium development of exogenous variables in macroeconomic models.
- Methods combining statistical approaches with economic information – a multivariate Hodrick–Prescott filter or Kalman filter.
- Econometric models that to various depths capture the economic links relating to unemployment, inflation, and the economy's output (the Okun law, Phillips curve, structural vector autoregressive [SVAR] model, wages and prices determination model).

The most suitable concept for estimating the equilibrium rate of unemployment in the Slovak economy appears to be the non-accelerating inflation rate of unemployment (NAIRU), considering that the country's monetary policy is focused on stabilizing the inflation at close to its target level. In order to estimate the NAIRU, two model approaches were used: a simple econometric model and a model with unobserved components using a multivariate Kalman filter. These models share the same background defined by the economic theory underpinning the NAIRU concept. The size and duration of the unemployment rate's deviations from the equilibrium level obtained using these two approaches are compared with the simpler statistical filters represented by the Hodrick–Prescott filter and band-pass filter, which do not take account of economic information. In summary, the economic interpretability of the results obtained from these estimation methods is set against "soft indicators" from the business cycle survey carried out by the Statistical Office of the Slovak Republic (SO SR), indicators of unemployment structure, and the results of other studies focused on foreign economies.

Scheme 1 Model structure and relations



Source: The authors.

The structure of the model used is based on the definition of the NAIRU as the equilibrium rate of unemployment that does not accelerate inflation. The model must therefore include a link between the labour market, which determines the rate of unemployment, and the market in goods and services, for which prices and the inflation rate are determined. In the model solution process proposed by Hogan (1998), the sought-after equilibrium rate of unemployment corresponds to a certain equilibrium number of employed persons which, through the production function, generates such a level of potential economic output that the respective output gap in the Phillips curve, along with other explanatory variables, captures the actual development of inflation. The behavioural equations of the production function and Phillips curve are supplemented by two identities – one defining the equilibrium rate of unemployment through the exogenous labour supply and equilibrium number of employed persons, and another defining the output gap through GDP and its potential (the individual relationships in the model are shown in Scheme 1).

The level of inflation is determined by the extent to which the market in goods and services deviates from the equilibrium represented by the economy's potential output. The effect of the difference between the real and potential output – the output gap – is captured by the Phillips curve.

The inflation-determining market in goods and services is linked to the labour market using a Cobb–Douglas production function, which expresses the economic output level as a function of the basic production factors of labour and capital.

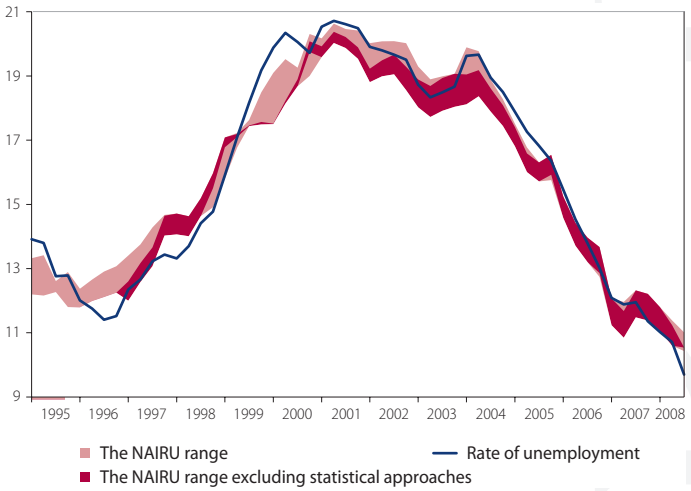
The NAIRU is estimated using the equilibrium number of employed persons obtained through solving the model for the number of employed persons in order to capture the actual development of inflation as accurately as possible.

The equilibrium number of employed persons constitutes a certain trajectory that leads, via the production function, to potential output and to the resulting output gap, with which the Phillips curve can best capture the course of inflation.

EMPIRICAL NAIRU ESTIMATE RESULTS AND RELATED VARIABLES

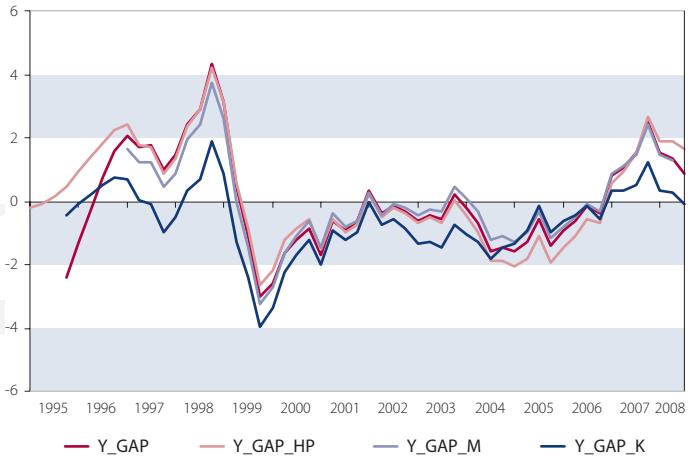
The results of estimating the NAIRU by using a model with unobserved components and a sim-

Chart 1 The NAIRU range (in %)



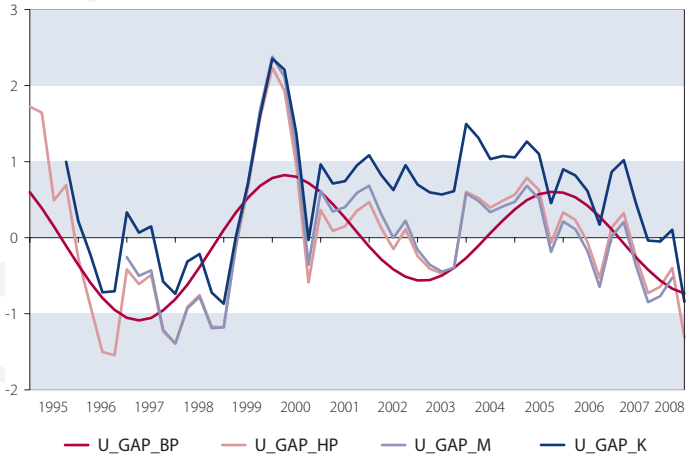
Source: Authors' calculations.

Chart 2 Output gap (in %)



Source: Authors' calculations.
Key: Y_GAP – output gap obtained using the production function; Y_GAP_HP – output gap obtained by smoothing GDP with a Hodrick–Prescott filter; Y_GAP_M – output gap from a simple econometric model; Y_GAP_K – output gap from a model with unobserved components using a Kalman filter.

Chart 3 Unemployment gap (in %)



Source: Authors' calculations.
Key: U_GAP_HP – unemployment gap obtained using a Hodrick–Prescott filter; U_GAP_BP – unemployment gap obtained using a band–pass filter; U_GAP_M – unemployment gap from a simple econometric model; U_GAP_K – unemployment gap from a model with unobserved components using a Kalman filter.

ple econometric model, in conjunction with the Hodrick–Prescott filter and band-pass filter estimates, create a range for the equilibrium development of unemployment. In Chart 1, this range is plotted against the actual unemployment rate.

In the development of both the actual and equilibrium rate of unemployment, two basic periods can be identified. From 1997 to mid-2001, when unemployment peaked, the prevailing trend was a rising unemployment rate due to the continuing economic transformation – a process which required structural changes in the economy and which led to the rationalization of the number of employees, i.e. to the closure of several businesses and a downturn in labour demand. From the second half of 2001, the economy gradually began to show the beneficial effects of foreign direct investment inflows (supported by economic reforms), which had initially focused on the purchase of state enterprises and later included investments in a range of areas, from infrastructure to greenfield production facilities. The effect of these investments, as well as their secondary impact of increasing growth in other economic sectors, persisted to the end of period under review. During this period of the Slovak economy's development, the unemployment rate gradually declined to less than half of its previous all-time high.

The deviations of GDP (Y_GAP) and unemployment (U_GAP) from the equilibrium obtained through statistical approaches are smaller and shorter-lasting in comparison with the results obtained from the model with unobserved components (Kalman filter). The economic information taken into account (including the development of inflation in relation to the level of economic activity in the Phillips curve, and the link between total economic output and the utilization of labour in the production function) reveals more pronounced and longer-term periods of disequilibrium in the Slovak economy. Where the simple econometric model of the NAIRU is used, the deviations of GDP from its potential are generally slightly lower, and the unemployment gap is moderately wider, in comparison with the figures from statistical approaches. The fact that the NAIRU model is more similar to the results of statistical filters than is the model with unobserved components is due to the use of these filters in determining the equilibrium values of total factor productivity (when calculating potential output) and in the process of estimating model parameters.

Based on the estimates of potential output and the NAIRU, it is possible to identify the increasing overheating of the economy at the beginning of the period under review – over the period from 1995 to 1998 – which gave rise to substantial trade and fiscal deficits. The rate of unemployment in the first two years was falling from higher levels caused not just by the structural changes related to the transition from a planned to market economy, but also by the partition of the Czech and Slovak Federal Republic, until it decreased below the NAIRU level. The rate remained below that level (i.e. close to the lower end of the range of NAIRU estimates produced by alternative approaches) until 1999, when the government adopted restrictive measures that led to a sharp slowdown in economic activities together with a temporary overshooting of the equilibrium level. This resulted in a negative output gap and a gradual increase in the rate of unemployment, which rose above the NAIRU and peaked in 2000. In 2001 and 2002, the unemployment rate continued to fluctuate mostly above the NAIRU (or close to the upper end of its range – if account is taken of the statistical approaches, which tend, in the long run, to remain close to the actual data), accompanied by a negative output gap. In 2003, the unemployment rate briefly returned to the lower half of its equilibrium range, which approxi-

mately corresponded to a temporary narrowing of the negative output gap. That GDP continued to remain below its equilibrium in the years 2004 to 2006 was caused also by the gradual acceleration of potential output – facilitated by economic reforms designed to boost the inflow of foreign direct investment, which had a positive effect on capital and especially TFP. The fact that the unemployment rate during this period was higher than the NAIRU indicates a certain degree of inflexibility in the labour market, which may explain why the sustainable rise in the number of employed persons lagged the dynamic potential economic growth. In 2007 and 2008, all approaches point to overheating of the economy, but this is only temporary given the expected adverse impact of the financial crisis. The launch of production at new FDI enterprises in the automobile and electronics industries – which for the economy represents a unique, positive supply shock, one that is hard to capture using models estimated on historical data that do not cover any changes of similar intensity – implies that potential output may not be exceeded by as large a margin as had been indicated. The continuing decline in the unemployment rate in these years meant that it returned to the estimated range of the NAIRU and that it exceeded the range at the end of the period under review.

COMPARISON OF THE NAIRU WITH LABOUR MARKET INDICATORS

The estimate of the NAIRU, like other unobservable variables, depends on the method used. In order to confirm the results obtained, it is advisable to ascertain whether the conclusions drawn from them are supported by other economic indicators. In our case, we selected a comparison with qualitative evaluations made as part of the business cycle survey.

The expected change in the number of employees in individual sectors is ascertained in business cycle surveys of the Statistical Office of the Slovak Republic. On average, for all sectors over the whole period under review, a preponderance of firms expected a decline in the number of employees. However, the prevalence of expectations of a reduction in number of workers changed over time. In those periods when firms' expectations were more pessimistic about the level of employment compared with the historical average (especially in 1999 and 2004), the rate of unemployment rose within a relatively short time above the NAIRU. Similarly, during those periods when unemployment was lower than the NAIRU, or fluctuated within its estimated range, the overall tendency of firms to lay off staff was lower. To better illustrate the relationship between the unemployment rate and the average expectations of firms concerning the number of employees for all sectors, Chart 4 shows the deviations of this indicator, in percentage points, from its average level for the entire observed history (since the predominance of firms' expectations for a decline

Chart 4 Unemployment gap and expected number of employees

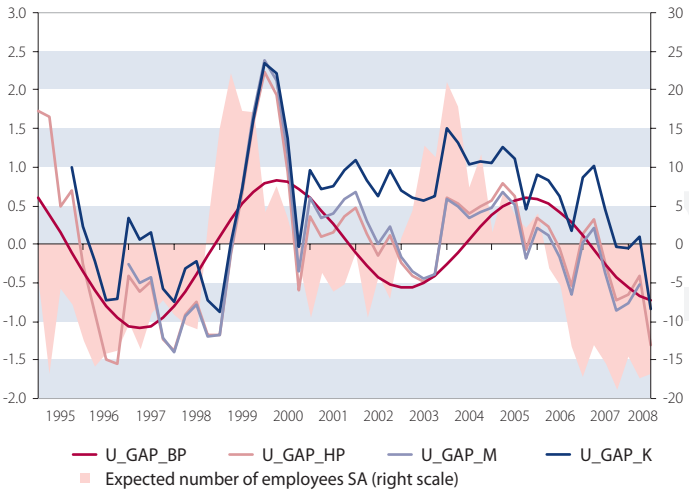


Chart 5 Unemployment gap and shortage of employees

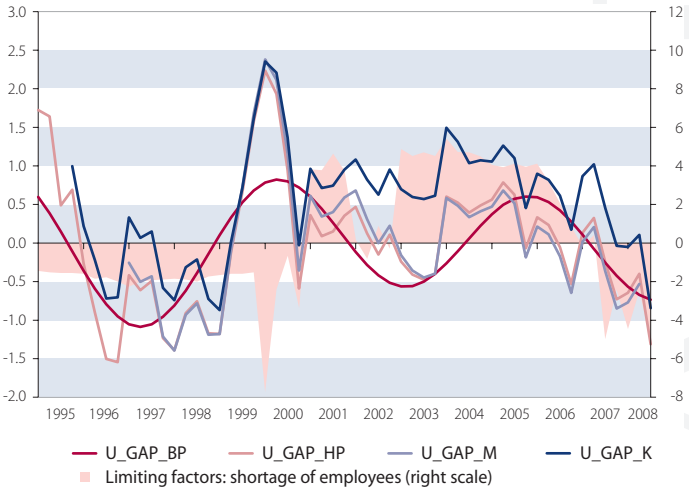
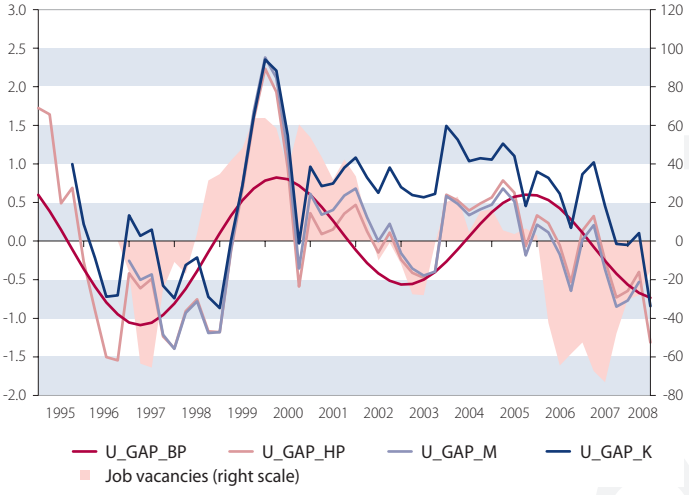


Chart 6 Unemployment gap and job vacancies



Source: Centre of Labour, Social Affairs and Family; authors' calculations.
Key: U_GAP_HP – unemployment gap obtained using a Hodrick–Prescott filter; U_GAP_BP – unemployment gap obtained using a band–pass filter; U_GAP_M – unemployment gap from a simple econometric model; U_GAP_K – unemployment gap from a model with unobserved components using a Kalman filter.

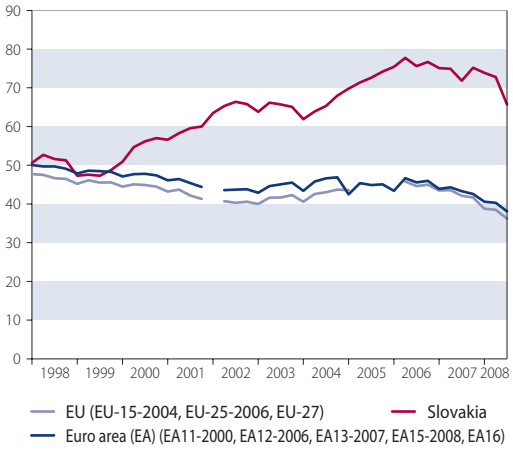
in employees corresponds to the higher rate of unemployment, opposite values of the indicator deviations are plotted) and compares them with the deviations of the unemployment rate from the NAIRU.

Another part of the business cycle survey relating to the labour market situation seeks to establish whether a shortage of employees is a limiting factor. For as long as this indicator has been monitored, the proportion of firms limited by labour supply has been relatively low, which could be caused by the persistent, relatively high rate of unemployment in Slovakia. In the period 2003 to 2006, across the whole economy, the proportion of firms experiencing a labour shortage was at an historical low and the unemployment rate, reflecting the sufficient labour supply, soon rose above the NAIRU. In 2007 and 2008, there was a sharp rise in the proportion of firms constrained by the availability of labour, which was in line with the estimated overheating of the economy and the gradual decline in the unemployment rate to below the NAIRU. The fast pace of this rise could also, however, be partially attributed to the outflow of labour to foreign countries that occurred after Slovakia joined the European Union (under the EU's free movement of workers). In Chart 5, as with the previous indicator, the development of the unemployment rate's deviations from the NAIRU is compared with the deviations in the proportion of firms (across all sectors under review) experiencing a labour shortage from the historical average proportion (the opposite deviation values in percentage points were again used, since a higher perceived labour shortage implies a lower rate of unemployment).

The deviation of the unemployment rate from the NAIRU may also be compared with the number of job vacancies reported by the Centre of Labour, Social Affairs and Family. This indicator is better illustrated in Chart 6, which, as in the previous cases, shows (as opposite values) the percentage deviations in the number of job vacancies from the average number (since an above-average number of job vacancies implies a lower rate of unemployment). Again, it is possible to observe the correlation between the deviations of unemployment from the equilibrium and the fluctuations in the number of job vacancies. During periods when the number of job vacancies was relatively high, i.e. 1997–1998 and 2006–2008, the unemployment rate fell with a lag to below the NAIRU. When the number of job vacancies was below average, particularly in the period from 1999 to mid-2002, the unemployment rate rose above its equilibrium level.

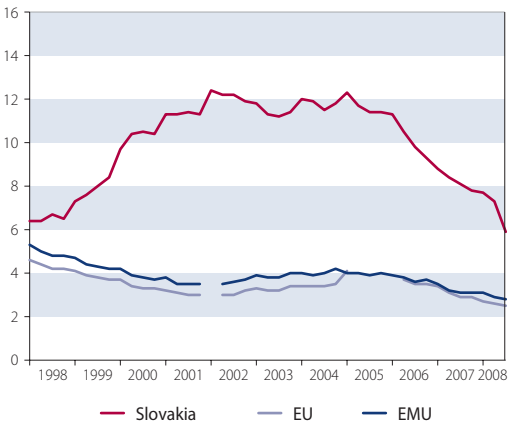
The relatively high NAIRU in Slovakia implies that the higher rate of unemployment in the long run was not the result of persistent disequilibrium in the economy, since in that case, under the NAIRU concept, it would also have been reflected in a long-lasting negative output gap and low inflation. The causes of the high unemployment are therefore more structural than cyclical in nature. This assertion is supported by the structure of the unemployed broken down by duration of unemployment. In comparison with the EU and

Chart 7 Long-term unemployed (as a % of the unemployed)



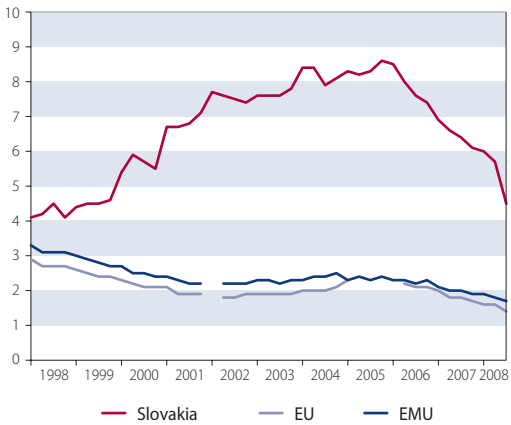
Source: Eurostat.

Chart 8 Rate of long-term unemployment (as a % of the active population)



Source: Eurostat.

Chart 9 Very long-term unemployed (as a % of the active population)



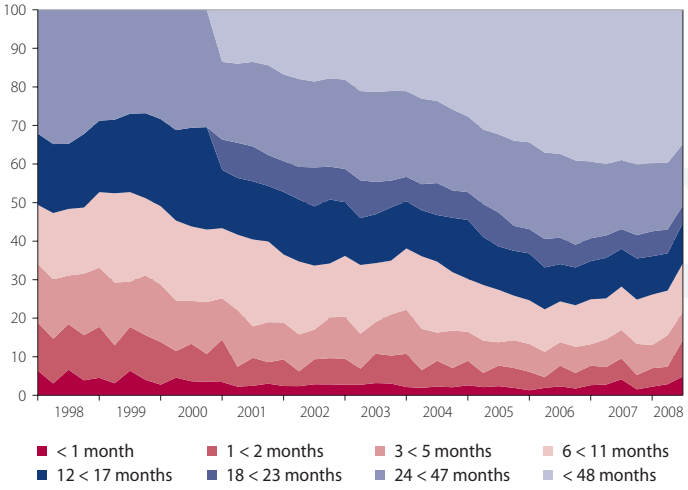
Source: Eurostat.

euro area, Slovakia has a considerably higher proportion of long-term unemployed (people out of work for more than one year), as shown in Charts 7 and 8. The disproportion in the case of very long-term unemployed (out of work for more than two years) is even more marked (see Chart 9).

A more detailed breakdown of the duration structure of unemployment is given in Chart 10 (data on unemployment spells of 18 to 23 months and more than 48 months have been available only since 2001, and hence the jump in the chart). The decline in unemployment during the dynamic economic growth of recent years led to an increase in the share of very long-term unemployed.

That Slovakia has a higher share of long-term unemployed at the expense of shorter-term unemployed implies that its labour market, in comparison with the EU or euro area, is less flexible and probably includes greater mismatches between

Chart 10 Rate of unemployment by duration of unemployment (in %)



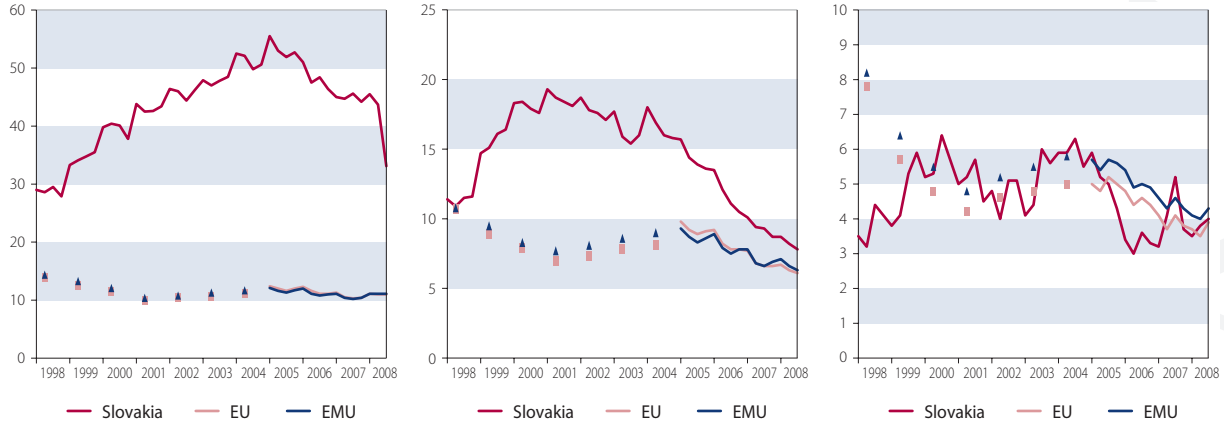
Source: Eurostat and the authors' calculations.

Chart 11 Structure of the unemployed by education (in %)

a) Pre-primary, primary and lower secondary education – levels 0-2 (ISCED 1997)

b) Upper secondary and post-secondary non-tertiary education – levels 3-4 (ISCED 1997)

c) Tertiary education – levels 5-6 (ISCED 1997)



Source: Eurostat and the authors' calculations.

labour supply and demand. One of the factors characterizing the composition of labour supply is educational structure, as shown in Charts 11a, 11b and 11c. The unemployment rate among economically active people with a tertiary education is comparable to the corresponding rate in the EU and the euro area, but the unemployment rate among working-age people with a primary education is between three and five times higher than the European average. Among people with a secondary education, the unemployment rate shows a gradual decline towards Europe-wide levels, implying that the drop in unemployment during the rapid economic expansion occurred mainly within this segment of the population.

Given the changing structure of the Slovak economy as a result of its transformation to a market economy and FDI inflows, it would be useful, when assessing the mismatches between supply and demand in the labour market, to see the unemployment structure broken down by the previous occupation of the unemployed. Although such data are available from the Eurostat database, they lack high information value since the vast majority of respondents did not answer the respective question.

Conclusion

The estimates of the NAIRU in Slovakia imply that the historically high level of unemployment is more structural than cyclical in nature. The NAIRU in Slovakia is higher than in most other EU or OECD countries, indicating that the structural mismatches between labour demand and supply are relatively more pronounced here. The assumption that the Slovak labour market is relatively more inflexible is supported by the comparison of unemployment structure in terms of the duration of unemployment, and not only by the fact that the dynamics of the equilibrium number of employed persons increasingly lagged the economy's sustainable growth during its recent period

of acceleration. The proportion of long-term unemployed is substantially higher in Slovakia than in the euro area or the European Union, where the predominant length of unemployment is less than one year.

As far as monetary policy is concerned, the estimated NAIRU is an indicator that helps provide a picture of the economy's cyclical position, which may prove useful for the stabilizing setting of policy instruments. The deviations of unemployment from the NAIRU range (particularly from its narrow version abstracting from the results of pure statistical approaches, which in the long run tend to remain close to the actual data) provide information about periods of labour market disequilibrium. In order to ensure the sustainable reduction of unemployment that has a predominant structural component, it is necessary to carry out reforms that increase the labour market flexibility and labour force skills, since this could mitigate undesirable deviations of unemployment from the equilibrium.

Comparison of central bank measures taken in response to the financial crisis

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Národná banka Slovenska

The current financial crisis, which started in the United States in the autumn of 2007, has spread across the entire global financial market and pushed the world economy into recession. In order to stabilise the financial markets and to attain the primary objective of maintaining price stability, the world's major central banks took both conventional and unconventional policy measures. The present article is divided into two parts; the second part will be published in the next number of Biatec. The first part is devoted to the measures taken by the European Central Bank and the Bank of England. The measures adopted by the American and Japanese central banks to restore the stability of financial markets will be described in the second part. Financial market stability has been seriously undermined by the reluctance of banks to bear the credit risk in dealing with their interbank partners and private clients. Hence, central banks have adopted instruments designed to support interbank market liquidity, as well as lending to households and corporate financing. These instruments, combined with government measures, aim at restoring the efficient functioning of the financing markets and stimulating economic growth.

Common measures

The financial crisis has caused a general decline in confidence in the financial markets, with banks becoming reluctant to lend funds via the interbank market. As a result, credit market conditions have worsened significantly. This situation has led to a rise in market interest rates and an increase in the spread between secured and unsecured deposit rates[1]. Before August 2007, the differences between these rates had been around 10 basis points. By the end of the year, the spread for three-month rates had grown to 100 basis points. After the collapse of Lehman Brothers in September 2008, the spread reached a historical high (150 to 350 basis points). This trend was caused by mounting pressures in the markets, where banks were reluctant to make unsecured deposits, the price of which markedly increased in comparison with the price of unsecured deposits. Consequently, trading in unsecured deposits stopped completely and banks gradually tightened their lending conditions for both households and enterprises. A different trend was observed in Japan: the spread remained unchanged, because Japan was actually hit by the financial crisis as late as the end of 2008.

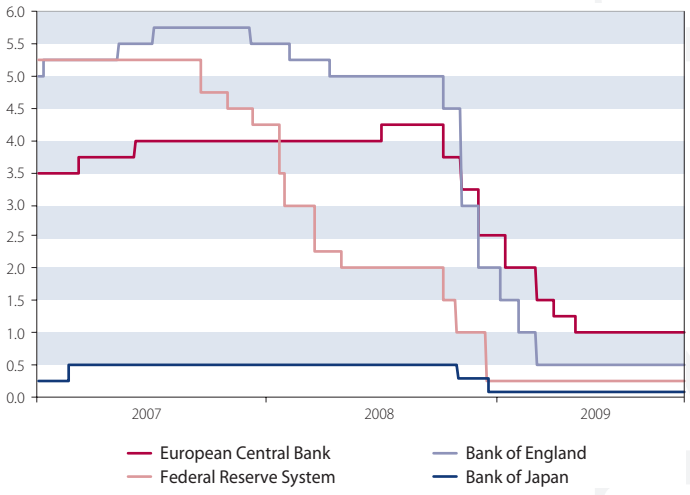
The first common response to the worsening financial market conditions was that central banks raised the level of liquidity through standard refinancing operations and conducted additional liquidity-providing operations. The common responses of central banks to the deepening financial crisis after September 2008 can be summarised in five points:

1. Key interest rate reduction

In view of the negative economic outlook stemming from the deepening financial crisis, the Federal Reserve System (Fed) started to ease its

1 The difference between the Overnight Index Swap (OIS) rate and the deposit rate with the same maturity expresses the credit and liquidity risks of investors. Deposits that are not secured by any collateral have a risk margin incorporated in their prices (interest rates). The higher this margin is in comparison with the low-risk OIS rate, the higher the level of uncertainty in the market will be.

Chart 1 Key interest rates of selected central banks (in %)



Source: ECB, Fed, BoE, BOJ.

monetary policy conditions as early as September 2007, by lowering its key interest rates. Later, the Bank of England also reduced its base rate. After the financial market tensions had intensified, six major central banks (including the European Central Bank) announced reductions in their key interest rates in October 2008, in an unprecedented coordinated move. This decision was followed by a phase of monetary policy easing throughout the world. At present, the key rates of the central banks under review are already at levels close to zero (see Chart 1).

2. Increased longer-term liquidity supply via the interbank market

During the credit boom, which lasted till the summer of 2007, European financial institutions became dependent on interbank transactions in US dollars, since they had extended their trading activities to the global market in the previous period. Hence, after the financial market situation had worsened, they started having problems in obtaining liquidity in US dollars. Under these conditions, the European Central Bank (ECB) and the Swiss National Bank (SNB) began to provide liquidity in US dollars (in December 2007) via a swap line agreed with the Federal Reserve System. A further increase in the strong demand for US dollars was triggered by the collapse of Lehman Brothers in September 2008, when banks were already reluctant to lend dollar liquidity; they were accumulating dollar reserves on their accounts. A similar swap agreement was made by the BoE, the Bank of Japan (BoJ), and the Bank of Canada. This instrument helped to dampen the financial market pressures to a significant extent and thus interest rates for US dollars began to fall.

In domestic markets, liquidity was provided almost exclusively by central banks, which, in an attempt to ease the market tensions, significantly increased the volume of funds provided in open-market operations. Besides supplying other central banks with US dollar liquidity via swap lines, the Fed increased the amount provided in one- and three-month *Term Auction Facility* (TAF) operations, to USD 150 billion in October 2008. At end-September 2008, the ECB increased the frequency of standard long-term (3-month) operations and introduced operations with maturities of 1, 6 and 12 months. The standard tender procedure was changed from variable-rate tender auction to fixed-rate tender procedure with full allotment. In September 2008, the BoE began to provide more liquidity through three-month operations. In October 2008, the BoJ also started to supply more liquidity via auctions, in order to relieve the year-end tension in the domestic market.

3. Expansion of the collateral framework

In order to be able to satisfy flexibly the strong demand in refinancing operations, central banks decided to expand their collateral framework. In mid-September 2008, the Fed expanded its list of eligible collateral to include the *Primary Dealer Credit Facility (PDCF)* and *Term Securities Lending Facility (TSLF)*. In mid-October 2008, the ECB also expanded the list of assets eligible to be used as collateral in Eurosystem refinancing operations to include marketable debt assets denominated in currencies other than the euro, and lowered acceptable credit rating for such assets from A- to BBB-. The BoE announced an extension of its collateral framework for three-month refinancing repo operations to include asset-backed securities and other assets. In mid-October 2008, the BoJ expanded its collateral framework to include variable-rate bonds, inflation-linked bonds, and 30-year government bonds.

4. Direct exposure to markets with markedly impaired functioning

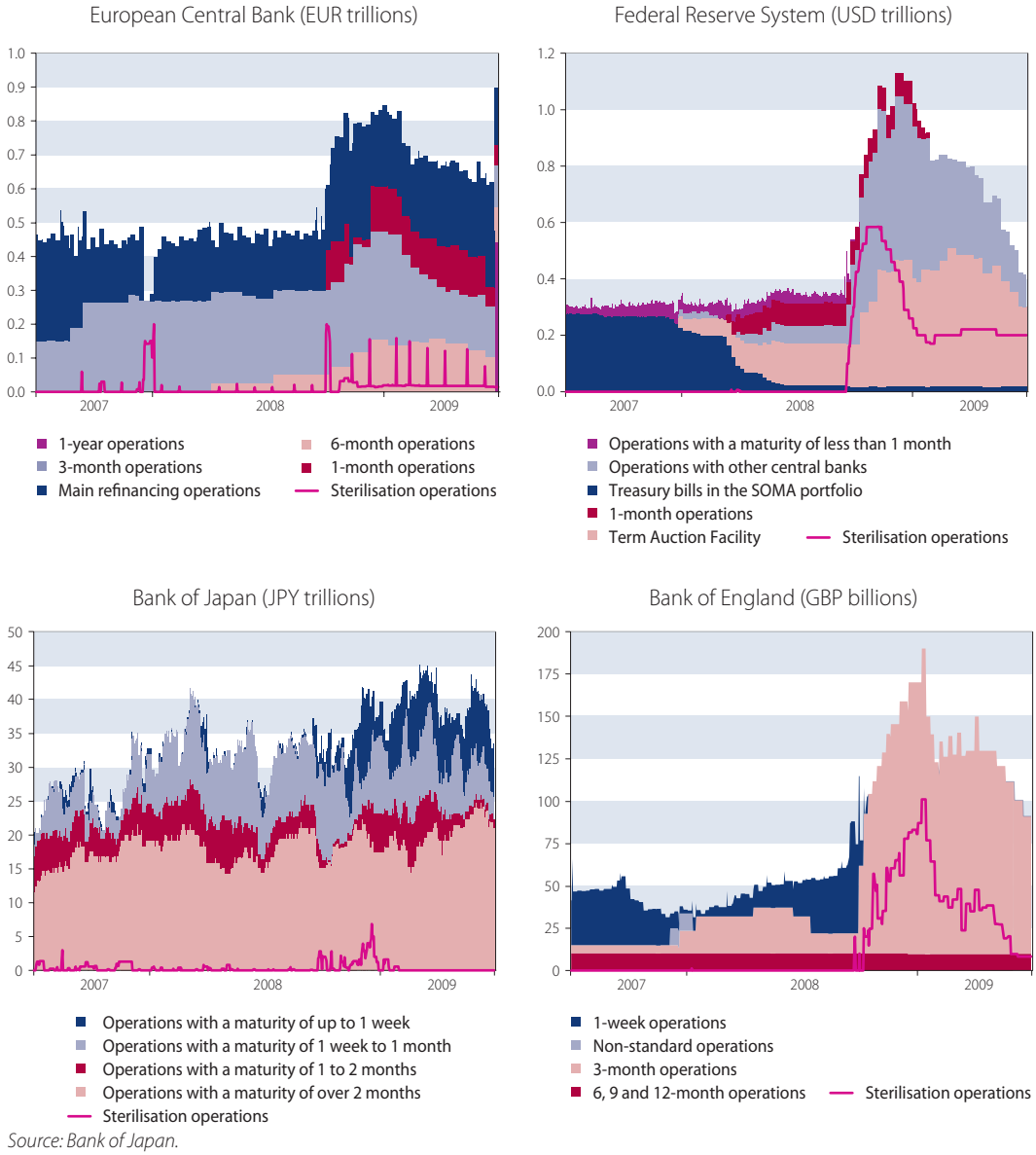
The financial crisis led to a serious deterioration in the interbank market situation, hitting both households and enterprises. This was also reflected in the worsening credit market conditions. The central banks under review launched new programmes (described in the relevant chapters) to stop the financial and economic crisis deepening still further.

5. Other measures

The intense supply of liquidity to the banking sector through refinancing operations put strong pressure on overnight market rates, whose stability is one of the operational goals of all four central banks (Fed, ECB, BoE, BoJ). To achieve this goal, some of these central banks took further policy measures. At the beginning of October 2008, the Fed announced that the excess reserves of deposits institutions that meet the minimum reserve requirements would be remunerated. In order to stabilise the overnight EONIA rate, the ECB reduced the width of the corridor formed by the standing facility rates, from 200 to 100 basis points around the key rate for the main refinancing operations, at the beginning of October 2008. In January 2009, however, the corridor was widened again to 200 basis points. When lowering its key rates in May 2009, the ECB narrowed the corridor again to 150 basis points, in order to avoid having a zero interest rate for overnight deposits (the current rate is 0.25%). The BoE extended the range of overnight refinancing operations, which were rarely used by financial institutions because of a possible loss of reputation, to include new deposit and refinancing operations. These were overnight operations with rates set at ±25 basis points around the monetary-policy rate, conducted to exert pressure on the overnight market. In October 2008, the BoJ introduced a new *Complementary Deposit Facility*, for the purpose of interest payment on excess reserves.

The marked expansion of the refinance volumes, provided by central banks to help domestic commercial banks to overcome the tense financial market situation, was also reflected in the balance sheets of central banks. The increase in

Chart 2 Growth in central bank financing



Source: Bank of Japan.

refinancing in the four central banks under review is illustrated in Chart 2.

Individual measures

European Central Bank

After the United States, the second largest region that has been hard hit by the financial crisis since 2007 is the euro area. The financial market turbulence spread to Europe from America in a very short time. This situation required immediate intervention by the European Central Bank. The ECB's operational target is to maintain a stable overnight EONIA rate at a level close to the key rate for the main refinancing operations, which is in line with the Eurosystem's monetary-policy objectives. Before the outbreak of the crisis (August 2007), EONIA had followed a stable course. The Bank implemented its monetary policy using standard instruments, including banking sector refinancing through open-market operations, overnight refinancing and sterilisation operations (*standing facilities*), and minimum reserve requirements. Within the scope of open-market operations, main refinancing operations conducted at weekly intervals were of key importance. Such operations played a dominant role in the banking sector's refinancing (around 70%). The amount provided in such operations was determined on the basis of a benchmark calculated according to the refinancing needs of banks in the given week. In addition to such operations, the ECB conducted longer-term operations with a maturity of 3 months (3M LTROs – *long-term refinancing operations*) on a monthly basis. They accounted for roughly 30% of the total volume of refinancing.

A characteristic feature of the ECB's measures taken during the financial crisis is the use of existing instruments with extended maturities, intervals and volumes. In the recent period, however,

a special non-standard programme has also been launched, namely the *Covered Bond Purchase Programme*.

The most difficult test ever faced by the euro-area financial market and the ECB was the summer of 2007. The liquidity situation rapidly deteriorated, for banks suffering from a liquidity shortage had problems in purchasing funds via the interbank market, while other banks had excess liquidity on their accounts. Banks with free funds tended to give preference to the economically ineffective deposit facility over lending to their trading partners. A well functioning money market is very important for the Eurosystem, for interest rate formation represents the first step in its monetary policy transmission mechanism. The ECB's first immediate response to the tense situation in the European interbank market was to renew the supply of short-term liquidity, which banks were reluctant to lend to one another. The ECB also increased the frequency of three-month operations and extended the range of its instruments to include supplementary six-month operations. Using such operations, the ECB started to provide liquidity in excess of the actual needs of banks. The banking sector began to give preference to longer-term financing, which gradually led to a change in the structure of refinancing. While in the first half of 2007 the main refinancing operations accounted for approximately 70% and the rest took place in long-term (three-month) operations, in the second half of the year, the share of long-term operations increased to roughly 60%.

In September 2008, the ECB introduced a new supplementary operation with a maturity of one maintenance period. Since the interbank market continued to be exposed to negative pressures, the ECB took further important measures in the following month. The process of monetary-policy operations was changed. Up to that time, they had been conducted via multiple rate auction (American auction). The amount provided in these operations was calculated by the central bank according to the banking sector's needs in upcoming 1 week period. The change consisted in the introduction of fixed-rate operations (at a rate equal to the key rate for the main refinancing operations) and the meeting the full demand in these tenders. In order for banks to have enough collateral for such operations, the ECB also extended the list of eligible collateral. Thus, the central bank acted as an exclusive provider of interbank market liquidity, which was also indicated by the number of participants in the main refinancing operations. Before the financial crisis, the number of participants had been up to 400. By the end of 2008, their number had doubled, because banks were reluctant to lend liquidity via the interbank market; refinancing took place exclusively via the ECB.

In the first half of 2009, the Eurosystem introduced another type of non-standard operations with a maturity of one year. They were designed as fixed-rate operations with full allotment. Since the ECB guaranteed a fixed rate (corresponding to the key rate for the main refinancing operations), operations with a maturity of one year arouse great interest.

Table 1 Balance sheet of the Eurosystem

Assets	EUR billions		Liabilities	EUR billions	
	Aug. 09	June 07		Aug. 09	June 07
Autonomous factors					
Net foreign assets	392	317	Currency in circulation	767	633
Domestic assets	341	131	Government deposits	136	70
			Other autonomous factors	189	27
Liquidity-providing operations in foreign currencies					
USD repo operations	31	0	Fed receivables	31	0
DKK swap operations	0	0	Receivables of the Swiss National Bank	19	0
SEK swap operations	3	0			
Monetary policy instruments					
Portfolio of covered bonds	9	0	Reserve accounts	203	182
Main refinancing operations	78	313	Liquidity-absorbing operations	0	0
Long-term refinancing operations	634	150	Overnight deposit operations	143	1
Fine-tuning operations	0	0			
Overnight refinancing operations	0	1			
Total	1 488	913	**Total**	1 488	913

Source: ECB.

For the European banking sector, the financial crisis represented a significant increase in the amount drawn by banks from the ECB, as well as a change in the structure of maturities. Before August 2007, the sector's refinancing position had stood at approximately €450 billion. At the end of 2008, however, it reached €860 billion.

The refinancing position fell somewhat at the beginning of 2009. In July 2009, the volume of refinancing provided to the banking sector reached a historical maximum (€900 billion). Since that time refinancing has been falling in volume, indicating that the money market conditions are improving. The structure of maturities underwent another change in 2009. The main refinancing operations now account for only 7% (a historical low), the rest is formed by longer-term operations.

The large volume of liquidity provided to banks after the introduction of the full allotment procedure for monetary-policy operations led to increased demand for the deposit facility. Despite having been virtually unused before the crisis (owing to the economically ineffective interest rate), this facility seemed to be the only possibility for the placement of free funds during the crisis. Its utilisation increased to a historical high in January 2008 and July 2009, i.e. to more than €300 billion.

Swap lines with other central banks

In order to ease the pressures in the European US dollar funding markets, the ECB established a new swap line with the Fed, under the *Term Auction Facility (TAF)*. Through this swap line, the ECB provided US dollar liquidity to European banks against collateral eligible for Eurosystem credit operations. The largest volume was provided at the turn of the year 2008 (almost USD 100 billion). This line is currently used up to the amount of USD 3 billion.

In October 2008, the ECB, in cooperation with the SNB, established a line in Swiss francs for euro-area banks, through which a pre-set amount is provided on a weekly basis, i.e. maximum €25 billion. The utilisation of this line is currently in decline.

The covered bond purchase programme

In May 2009, the Eurosystem introduced a special programme for the purchase of covered bonds. This programme was designed to facilitate the reduction in long-term money market rates, to support bank lending to the private sector, to improve the liquidity situation in important segments of the private market, and to allow banks and enterprises easier access to funds. The program was launched in July 2009 and will last until June 2010. By that time, the Eurosystem should purchase covered bonds in the amount of €60 billion.

The increased volume of liquidity provided caused a noticeable increase in the Eurosystem's balance sheet. Compared with €913 billion in June 2007, total assets reached almost €1,500 billion at the end of August 2009.

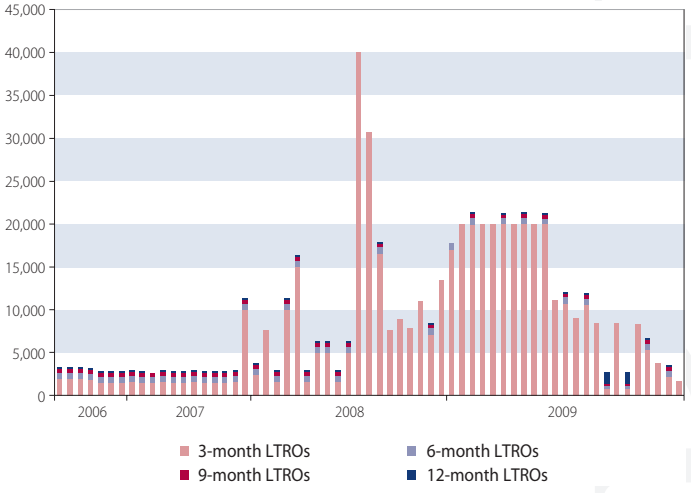
Bank of England

The operational target of the Bank of England is to maintain overnight money market rates in the United Kingdom at a level close to the Bank Rate by ensuring that the supply of bank reserves is in line with demand, which expresses the target amount of minimum required reserves set by the counterparties themselves. In implementing its monetary policy, the BoE uses standard open-market operations (OMOs), including the main 1-week refinancing operation and long-term operations with maturities of 3, 6, 9 and 12 months conducted on a monthly basis. In addition to refinancing operations, OMOs also include the purchase of government bonds (gilts). After the outbreak of the financial crisis in the second half of 2007, the BoE responded by easing its monetary conditions, mainly by extending the set of monetary-policy instruments and launching special programmes.

The first unconventional measure was taken in December 2007, when the BoE expanded the list of eligible collateral for long-term operations with a maturity of 3 months. Later, the Bank increased the frequency and volume of operations. Before the financial crisis, the amount allocated via three-month LTROs had accounted for 60% (GBP 2 billion) of the total volume of long-term refinancing operations[2]. Later, however, the BoE used this instrument to supply liquidity in an increased amount (up to GBP 40 billion). Compared with the amount that was allocated to the sector via 1-week operations on the same day, LTROs accounted for only 9%; the remaining 91% was provided via short-term (1-week) operations. After the sector had been overfilled through 3-month LTROs, the BoE stopped providing 1-week refinancing completely and started to absorb the excess liquidity through sales of 1-week

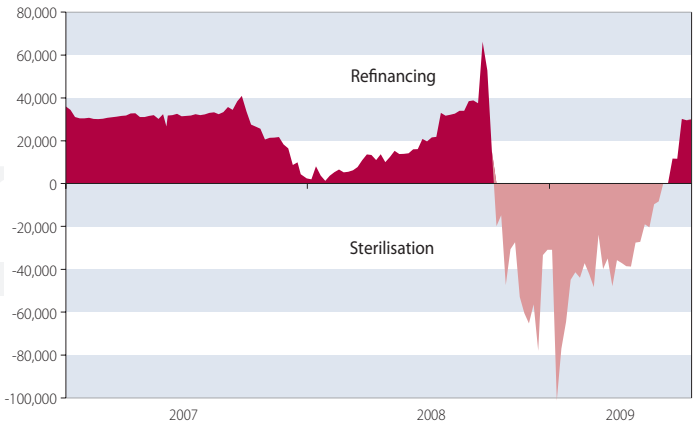
2 The BoE conducts LTROs with all maturities on the same day of the month. Through a single 3-month LTRO, the Bank provided up to GBP 2 billion of the total volume provided on the same day through LTROs (3, 6, 9, 12-month), i.e. approximately GBP 3.3 billion.

Chart 3 Long-term refinancing operations of the Bank of England (GBP millions)



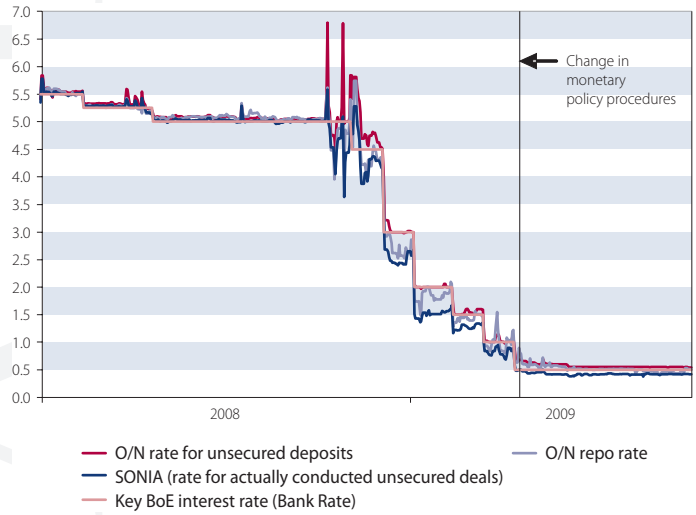
Source: BoE.

Chart 4 One-week repo operations of the Bank of England (GBP millions)



Source: BoE.

Chart 5 Overnight interest rates for GBP (in %)



Source: BoE.

BoE bills on a weekly basis. These developments are illustrated in Chart 3.

In April 2008, the BoE introduced a scheme devised to swap illiquid assets for liquid Treasury bills, referred to as *Special Liquidity Scheme* (SLS). Under this scheme, UK banks are temporarily allowed to swap currently illiquid high-quality mortgage-backed bonds and other securities in exchange for UK Treasury bills. The swaps are conducted for a period of one year and may be renewed for up to three years. The SLS was designed to provide financing for temporarily illiquid assets that had been issued before the end of 2007. Banks can hold the Treasury bills obtained in their portfolios or use them as collateral in monetary-policy operations with the BoE, or exchange them for cash in repo operations or through sale. The scheme was originally designed for GBP 50 billion and planned to remain in place until October 2008, but since the financial market tensions had persisted, it was prolonged until January 2009.

In October 2008, the BoE introduced a new instrument for sterling money market operations, namely the *Discount Window Facility* (DWF). This facility allows the Bank's eligible counterparties to borrow gilts against a wide range of collateral. This range is wider than the list of eligible collateral under the SLS. The DWF allows banks to borrow gilts against eligible collateral either for 30 days or, since February 2009, for 365 days in return for a fee, which varies with the collateral used and the total size of borrowings.

The beginning of 2009 saw several important changes in the monetary policy of the BoE. In cooperation with the UK Treasury, the BoE introduced a joint instrument called *Asset Purchase Facility* (APF), devised for the purchase of high-quality private sector assets (including commercial papers and corporate bonds) and financed through issues of UK Treasury bills. The APF was designed to improve the liquidity situation in, and access to, the corporate credit market. The amount earmarked for this instrument was GBP 50 billion. The programme also enabled the use of this instrument for achieving the 2% CPI inflation target through financing backed by an increase in the BoE reserves. For this purpose, the Bank purchased government debt on the secondary market. A total of GBP 150 billion was allocated for the programme, of which GBP 50 billion was used for the purchase of private sector assets.

The first purchase took place at the beginning of February. By the end of the month, the amounts purchased in support of credit market revival for enterprises had reached GBP 500 million. Since the purchases were covered by UK Treasury bills, they had no influence on the monetary base.

In addition to cutting the Bank Rate to 0.5% (the lowest level since the Bank's foundation in 1694), the BoE decided to implement an unconventional monetary-policy measure (i.e. quantitative easing) in March 2009. Thus, the APF started to be used for monetary-policy purposes, while the BoE purchased eligible assets covered by an increase in its reserves. Initially, the aim of such purchases was to obtain GBP 75 billion in three months. At its May meeting, the Monetary Policy Committee of the BoE decided to expand the asset purchase programme to GBP 125 billion by the end of August. At the August meeting, the programme was increased to an unexpected GBP 175 billion (the market had expected an increase of only GBP 25 billion). At its November meeting, the Committee decided to expand this facility still further, to GBP 200 billion.

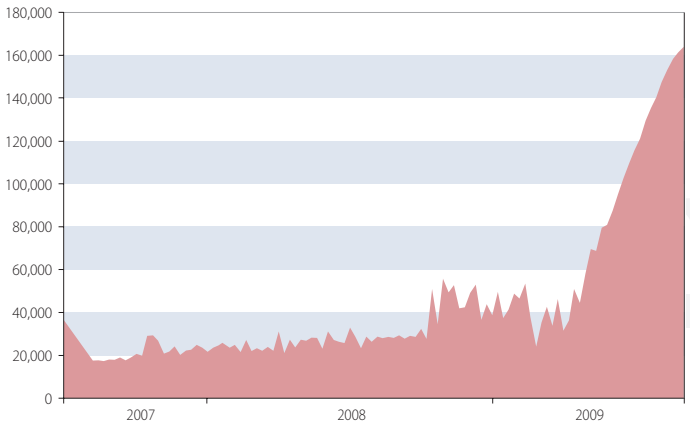
The aim of quantitative easing is to inject money directly into the economy in order to boost nominal spending. By purchasing eligible assets, the BoE expands the supply of money in the economy, improves the credit market conditions, and influences the rate of growth in nominal demand for money in order to meet the 2% inflation target. To put enough money into the economy within a short period, the Bank must purchase assets of which there is an abundant supply in the

market. Hence, such purchases take place mostly in the gilt market. This enables purchases in large amounts within a short period of time. However, the Bank also purchases assets in the private sector, mainly commercial papers and corporate bonds, though in smaller amounts. The aim of private asset purchases is to improve the functioning of these markets and to allow companies easier access to financing. Although purchases in the private sector are not necessarily financed from central bank resources (they serve another purpose), they stimulate growth in the monetary base for they have been financed from bank funds since the application of quantitative easing.

Under the Asset Purchase Facility, the BoE currently purchases the following high-quality assets: investment-grade commercial papers, investment-grade corporate bonds, and UK government bonds. Other assets are also allowed to be purchased, e.g. assets issued under credit guarantee schemes *(Credit Guarantee Scheme, UK Treasury)*, syndicated loans, and other types of securities covered by assets, but such assets are not yet purchased by the BoE.

Before the adoption of quantitative easing, the BoE had implemented its monetary policy partly through the voluntary reserve commitment regime. Before a new period, banks had set their reserves by themselves and were required to maintain these reserves throughout the given period. Since the policy of quantitative easing caused a marked increase in banks' reserve account balances, which tended to increase the volatility of overnight rates, the BoE decided to cancel the setting of reserves and of the rate of interest thereon. According to the new procedure, the account balances of banks attract interest at the Bank Rate. As a result, the overnight rates have stabilised; they are now hovering around the level of 0.5%, close to the Bank Rate.

Chart 6 Reserve accounts of banks (GBP millions)



Source: BoE.

For the time being, the Bank of England has a contract for the conduct of repo operations in US dollars in the domestic market. In recent months, however, there has been minimal or zero interest in such operations.

Balance sheet of the BoE

Since the period before August 2007, the balance sheet of the BoE has almost tripled in size as a result of quantitative easing, from approximately GBP 80 billion to GBP 217 billion (August 2009). Since the Bank charges interest on banks' reserve account balances at the main monetary-policy rate, there is no reason to use the overnight facility, which is therefore missing in the Bank's balance sheet. The balance sheet has been

Table 2 Balance sheet of the Bank of England

Assets	GBP millions		Liabilities	GBP millions	
	June 07	Aug. 09		June 07	Aug. 09
			Currency in circulation	39,606	46,671
			Reserve accounts	18,145	133,654
Overnight refinancing operations	300	–	Overnight deposits		–
Short-term operations			Short-term operations		
Fine-tuning RR operations			Fine-tuning repo operations		
One-week RR operations	31,750		One-week repo operations	–	
Other RR operations			Other repo operations		
Long-term RR operations	15,000	58,174			
Instruments provided to government	13,370	370			
Bonds and other securities from market operations	7,735	13,104	Government bonds issued in foreign currency	4,351	3,699
			Other deposits	2,717	2,547
Other assets	12,382	145,706	Other liabilities	15,718	30,783
Total	80,537	217,354	Total	80,537	217,354

Source: BoE.
Note: RR – reverse repo.

expanded to include two new items: one-week repo operations and reverse repo operations with other maturities.

The specific amounts indicate that refinancing has shifted from one-week to long-term operations. Overall refinancing via reverse repo operations has increased to almost GBP 60 billion (from GBP 47 billion). This growth, however, is negligible in comparison with the 'other assets' item, which has grown in connection with the APF twelve times, from GBP 12 billion to GBP 145 billion. On the liabilities side, this is mainly reflected in the 'reserve accounts of banks', which have increased from GBP 18 billion to GBP 150 billion.

Structural aspects of labour demand developments in the Slovak Republic

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Following a long and difficult period that saw restructuring of the economy, mass redundancies, low job-creation, falling employment and mounting levels of unemployment, the Slovak labour market entered a new phase of development after 2004. This phase was marked by strong dynamics in job creation, rising employment, and a falling rate of unemployment. Alongside these positive tendencies, however, was a gap between labour supply and demand that represented one of the major problems in the Slovak labour market.

Mismatches between labour supply and demand showed up not only in the scope of work but also in the skills gaps between the two sides of the labour market. In 2008, for example, there were almost 25 000 job vacancies in Slovakia, while the average number of unemployed was close to 260 000, of whom 170 000 were low-skilled and low-educated.

In the first half of 2009, the global financial and economic crisis began having a more severe impact on the Slovak labour market, as employment fell, unemployment rose, and job vacancies declined. Even so, the unmet labour demand in this period remained relatively high (more than 19 000 job vacancies), indicating that the nature of unemployment in Slovakia was structural – the skills profile of the workforce lagged the shifting requirements of the labour market.

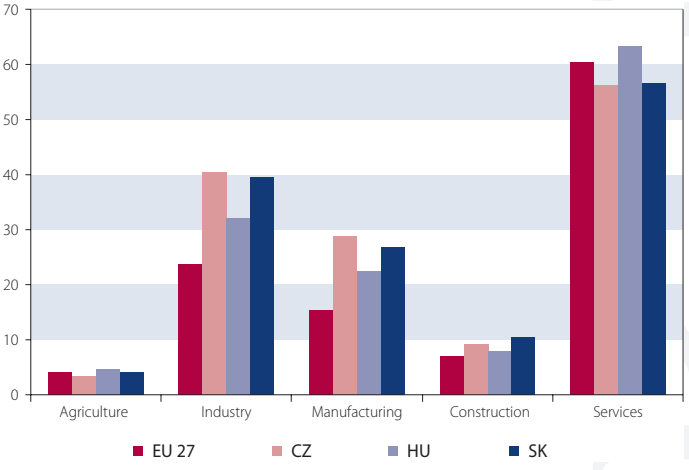
International comparison of Slovak labour market developments

In 2008, Slovakia recorded a sharper rise in GDP compared with neighbouring countries and an increase in employment that was second only to Poland (based on Labour Force Survey figures and using the methodology of ESA 95 national accounts). While real GDP grew by more than half (3.9 p.p.) in Slovakia – outstripping growth in the Czech Republic and, by more than 5.6 percentage points, in the EU-27 – this development was not reflected in employment. Rather it was related to the sharp rise in labour productivity, which during the period under review was the main contributing factor to real economic growth. Whereas in 2004, Slovakia's labour productivity expressed in purchasing power parity represented only 65.6% of the EU-27 average (the second-lowest level among the countries compared), in 2008 it rose to 79.0% of the EU-27 average (the highest level among the countries compared). Nominal wages and income in Slovakia rose rapidly from 2004, when they were 50.3% higher than in 2000, to 2008, when they were 101.8% higher. The only one of Slovakia's neighbouring countries that recorded faster wage and income growth in 2004 and 2008 was Hungary (Table 1).

In 2008, Slovakia had the second-highest employment rate compared with its neighbouring countries (the Czech Republic had a higher rate; Hungary and Poland had lower rates). In comparison with the Czech Republic and with the EU-27 average, the employment rate in Slovakia was lower by, respectively, 4.3 percentage points (p.p.) and 3.6 p.p. It may be seen as positive that the increase in employment recorded by Slovakia between 2004 and 2008 was the second-highest among the countries compared (Slovakia's rise of 5.3 p.p. was lower only than Poland's 7.5 p.p.), and higher even than the EU-27 average (which went up by 2.9 p.p.).

As regards education, Slovakia's employment rate among low-skilled workers was relatively low

Chart 1 Employment structure by sector in 2008 (in %)



Source: Eurostat, LFS.

Table 1 Main labour market indicators for 2004 and 2008

	EU-27	EU-25	SR	CR	Hungary	Poland
GDP (sppy = 100, at constant prices)						
2004	102.5	102.5	105.2	104.5	104.9	105.3
2008	100.8	100.7	106.4e	102.5	100.6	105.0
Rate of employment in % (15-64 year-olds)						
2004	63.0	63.4	57.0	64.2	56.8	51.7
2008	65.9	66.3	62.3	66.6	56.7	59.2
Rate of unemployment (in %)						
2004	9.1	9.1	18.2	8.3	6.1	19.0
2008	7.0	7.1	9.5	4.4	7.8	7.1
Employment development (ESA 95 NAs, sppy = 100)						
2004	100.7	100.8	99.8	100.3	106.9	101.2
2008	101.0	101.0	102.8e	101.2	98.8	104.4
Employment development (LFS, sppy = 100)						
2004	100.8	100.9	100.3	99.8	99.5	101.3
2008	101.2	101.2	103.2	101.6	98.8	103.7
Labour productivity in % (EU-27 = 100)*						
2004	100.0	104.2	65.6	68.0	67.3	61.5
2008	100.0	103.5	79.0e	71.8	69.3	63.3
Wages and income (indexes, 2000 = 100)**						
2004	.	.	150.3	136.6	167.8	109.3
2008	.	.	201.8	175.6	235.5	.

*Notes: * GDP in purchasing power parity per employed person, ** Average nominal wages and incomes for the whole economy except for agriculture, fisheries, private households with employed persons, e – estimate, sppy – same period of previous year.*
Source: Eurostat.

Table 2 Main labour market indicators for the quarters from 2008Q4 to 2009Q2

	EU-27	EU-25	SR	CR	Hungary	Poland
Rate of employment in % (15-64 year-olds)						
Q4 2008	65.8	66.2	62.9	66.8	56.7	60.0
Q1 2009	64.6	65.0	61.0	65.6	55.1	58.9
Q2 2009	64.8	65.1	60.4	65.4	55.6	59.3
Rate of unemployment in %						
Q4 2008	7.3	7.4	8.6	4.4	8.0	6.7
Q1 2009	8.7	8.8	10.4	5.8	9.7	8.3
Q2 2009	8.7	8.9	11.3	6.3	9.6	7.9
Employment development (ESA 95 NAs, sppy = 100)						
Q4. 2008	100.2	100.1	102.1	100.9	99.1	103.0
Q1 2009	98.8	98.7	99.6	100.3	97.0	99.0
Q2 2009	98.1	98.1	98.7	98.6	95.5	99.3
Employment development (LFS, sppy = 100)						
Q4 2008	100.5	100.4	102.8	101.3	99.3	103.0
Q1 2009	99.0	99.0	100.0	99.8	97.9	101.3
Q2 2009	98.4	98.4	98.9	98.8	98.2	101.0

Source: Eurostat.

between 2004 and 2008, but among intermediate-skilled workers it was approaching the EU-27 average, and among high-skilled workers it was almost on a par with EU-27 average. This clearly shows that one of the problems of the Slovak labour market is the relatively low integration of unskilled and low-skilled workers in the employment process.

In 2008, the proportion of the workforce employed in construction was the higher in Slovakia

Table 3 Job vacancy rate (in %)

	EU-27	EU-25	SR	CR	Hungary	Poland
Total						
Q4 2008	1.7 p	1.7 p	1.2	2.7 p	1.0 p	0.9
Q1 2009	1.4 p	1.5 p	1.1	1.6	1.0 p	0.7
Q2 2009	1.4 p	1.4 p	1.0	1.2	0.9 p	0.7
By sector (2008Q4)						
Total	1.7 p	1.7 p	1.1	2.7 p	1.0 p	0.9
Agriculture	.	.	0.3	3.2 p	0.5 p	0.8
Industry	.	.	0.8	2.7 p	0.7 p	0.8
Construction	.	.	0.8	6.4 p	1.0 p	2.5
Business services	.	.	0.8	2.3 p	0.6 p	1.0
Financial services	.	.	1.0	5.6 p	1.3 p	1.1
Public services	.	.	1.9	0.8 p	1.4 p	0.6

*Notes: Job vacancy rate = number of job vacancies / (number of occupied posts) * 100, p – preliminary figure.*
Source: Eurostat.

than in the EU-27 or in neighbouring countries, and the share employed in manufacturing was the second highest (after the Czech Republic). The share of workers employed in services was lower than the EU-27 average and Hungary's figure, but was slightly higher than in the Czech Republic (Chart 1).

The Slovak labour market in 2008 still reported a tendency of rising employment together with falling unemployment. In the first half of 2009, however, the situation in labour markets in both Slovakia and neighbouring countries gradually deteriorated as a result of the global financial and economic crisis. According to the Labour Force Survey (LFS), all of the countries under review, except for Poland, recorded a year-on-year decline in employment in the first half of 2009. In Hungary, the employment rate declined throughout 2008 and fell even more sharply in the first quarter of 2009. In Slovakia, mass redundancies started to be seen at the beginning of 2009, and this was reflected in the unemployment rate, which returned to double digits (10.9%) in the first half of 2009. The unemployment rate that came closest to this was reported by Hungary (Table 2).

During 2008, Slovakia was the only one of the neighbouring countries to maintain rising employment in almost all sectors (except for agriculture). Both the Czech Republic and Hungary reported a decline in manufacturing employment as at the end of 2008, and Hungary also saw employment in the construction industry fall.

The mismatch or gap between labour supply and demand is shown in data on job vacancies. Both at the end of 2008 and at the beginning of 2009, the average job vacancy rate in Slovakia was relatively high, owing to persisting unmet labour demand, particularly in public services. On the other hand, the job vacancy rate in construction and industry was lower at the end of 2008, due to an increase in labour supply and drop in the number of available jobs (Table 3).

Labour market developments in Slovakia

Macroeconomic environment

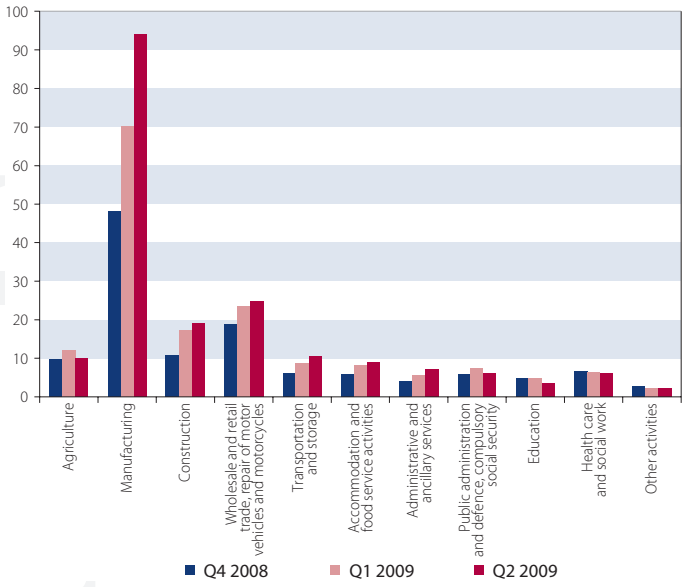
Slovakia improved its economic performance significantly in 2006 and 2007, when it reported real economic growth of, respectively, 8.5% and 10.4% year-on-year. This positive trend continued into the first three quarters of 2008, when GDP increased by 8%. Towards the end of 2008, the pace of economic growth was slowed down by the crisis, to 2.5%, and from the first quarter of 2009 the economy began to contract. In the first half of 2009, real GDP slumped by 5.5% year-on-year (by 5.6% in the first quarter and 5.3% in the second).

Industry and services made a significant contribution to GDP, and services accounted for an increasing share of the total. Industry as a share of total nominal GDP declined from 28.2% in 2006, to 25.5% in 2008, and to 22.9% in the first half of 2009. Meanwhile, the share of GDP generated by services increased by more than 3 percentage points from 2006 to 2008 – when it reached 54.2% – and rose to 57.9% in the first half of 2009. The manufacturing sector of industry accounted for approximately 22% of GDP in 2006 and 2007, and its share fell to 20% in 2008 and 16.7% in the first half of 2009.

As for the nominal value added in manufacturing, the share of it attributable to the manufacture of machinery, electrical equipment, and means of transport increased between 2006 and 2008, while the manufacture of metal and metal products, chemicals, oil and rubbers accounted for falling shares. For the chemical and rubber industry and for the manufacture of metals and metal products, the trend decline in their share of the total nominal value added in manufacturing continued in the first half of 2009.

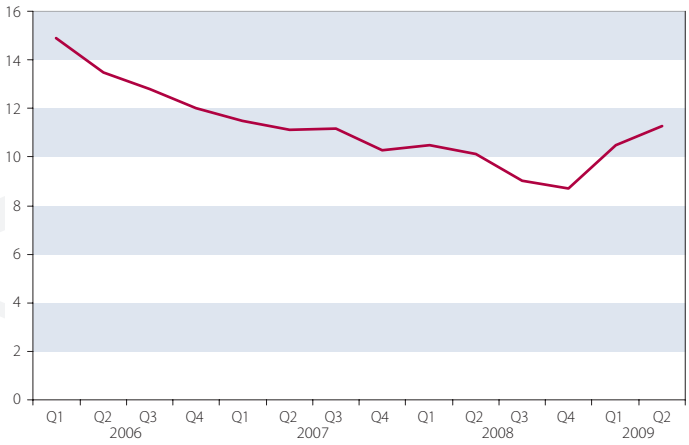
From 2006 to 2008, economic development was reflected in rising labour demand and employment increased by more than 2% per year on

Chart 2 Number of unemployed by sector of last occupation (in thousands)



Source: SO SR, Labour Force Survey.

Chart 3 Unemployment rate (in %)



Source: SO SR, Labour Force Survey.

average (based on the methodology of ESA 95 national accounts). Employment in the Slovak labour market peaked in the third quarter of 2008, at 2 263 000 people. Even though the first signs of the economic crisis were appearing in the fourth quarter of 2008, the crisis was not having a noticeable effect on employment at this time (in the fourth quarter, the number of people in employment rose year-on-year by 46 300, and compared to the previous quarter it fell by 11 600). This may be put down to expectations of a short-term crisis and to a slight lag in the transmission of the crisis to the labour market. Eventually, however, in early 2009, the crisis did hit the Slovak labour market. The total number of employed people fell in the first quarter of 2009 to 2 200 000, a drop of more than 51 000 people compared with the end of 2008. Although, taking a long term view, employment has fallen at the beginning of every year, the decline in the first quarter of 2009 was exceptionally steep. In the second quarter of 2009, the average number of employed people (calculated using ESA 95 national accounts) was 2 198 000, down by 29 000 year-on-year and by approximately 2 000 compared with the previous quarter. For the first half of 2009, total employment fell by 0.8% year-on-year (by 0.4% in the first quarter and by 0.8% in the second).

The changes in labour demand also fed through to unemployment. If the average number of unemployed is calculated using the LFS methodology, then it exceeded 353 000 in 2006, fell to 292 000 in 2007, and dropped again in 2008 to almost 258 000. For each year from 2006 to 2008, there was a year-on-year decline in unemployment, but this trend came to an end in early 2009 when unemployment began to rise. In the first half of 2009, the number of unemployed (according to LFS) rose year-on-year by 5.8% (or 15 900), largely due to the effect of rising unemployment in the 2nd quarter (up by 11.6%, compared with a rise of 0.2% in the first quarter).

The ranks of the unemployed were swelled mainly by those whose last job had been in manufacturing, and there was also a sharp rise in the number who had previously worked in the business and construction sectors. By contrast, the first half of 2009 saw a decline in the number of the unemployed who reported last having worked in the arts, entertainment and recreation sector, in information and communications, in education, in other activities, in public administration and social security, or in health care (Chart 2).

The unemployment rate as measured by the LFS stood at almost 15% at the beginning of 2006, and, under the effect of favourable macroeconomic conditions, it came down to 8.7% by the end of 2008 – the lowest level recorded since the establishment of the Slovak Republic. From the turn of 2009, the unemployment rate began to rise again, hitting 10.5% for the first quarter of 2009 and 11.3% for the next quarter. The average rate of unemployment for the first half of 2009 was 10.9%, representing an increase of 0.6 p.p. year-on-year (Chart 3).

Structure of labour demand

Labour demand by sector

Over the period 2004–2008, the average number of people employed in Slovakia rose by 249 600, according to the results of statistical reporting. The largest absolute increases in the number of employed people was recorded in the following sectors: public administration, defence and social security (a rise of 53 300 – partially due to a change in the methodology of reporting employment in this sector); trade (69 100); manufacturing (43 400); construction (46 900); and real estate, rental and business activities (38 000). As for the sectors that recorded a decline in employment over this period, they included: mining and quarrying; health care and social work; education;

production and distribution of electricity gas and water; and agriculture (Chart 4).

According to the Statistical Office of the Slovak Republic, the number of job vacancies in the Slovak economy rose over the five years under review by almost 14 000. An increase in job vacancies was reported in all sectors of the economy except for education, which, particularly in 2008, saw a decline in available jobs (Chart 5). The largest relative increase in the number of job vacancies between 2004 and 2008 occurred in the construction and manufacturing sectors (188% in each case). Marked rises in the number of job vacancies were also reported for the following sectors: public administration, defence, and compulsory social security (around 174%); hotels and restaurants (also around 174%); health care and social work (almost 142%); manufacturing (more than 163%); and trade (more than 117%).

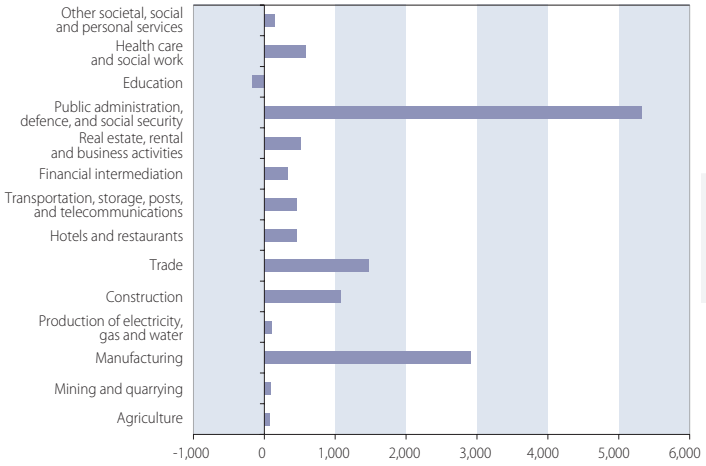
In absolute terms, the largest increases in the number of job vacancies for the period 2004–2008 were recorded in the sectors of public administration, defence and compulsory social security (5 300), manufacturing (2 900), trade (1 500) and construction (1 100).

The global financial and economic crisis had an almost immediate impact (in November 2008) in that labour demand in manufacturing stopped rising and started falling and that the decline in employment in the sector of motor vehicles sales and repairs became sharper. December saw manufacturing employment drop still further, and a slowdown in employment growth in retail trade. Manufacturing and trade are core sectors since they employ more than 40% of the workforce.

These tendencies carried on into the first half of 2009 when, according to statistical reporting, employment fell in several sectors as a consequence of the crisis, and probably fell the most in manufacturing, accommodation and food service activities, as well as in real estate activities and in administrative services. The generally negative situation in the labour market was, however, mitigated to some extent by the rise of employment in a few sectors, mainly: professional, scientific and technical activities; construction; public administration and social security; transportation and storage; and information and communication (Chart 6).

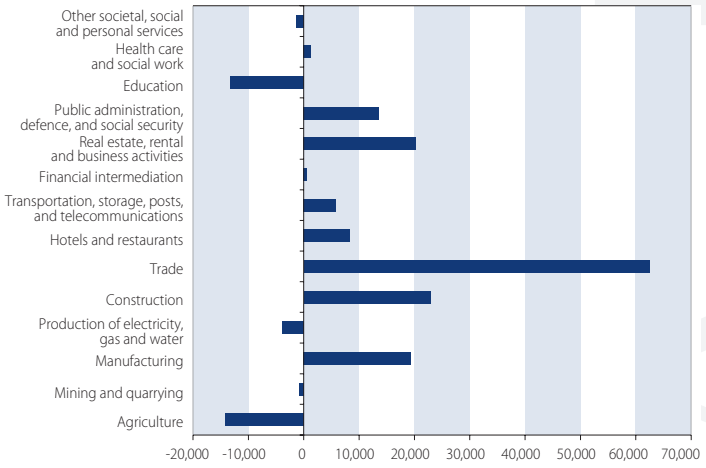
Looking at the development of job vacancies in the first half of 2009, the rise in employment in certain sectors seems to have stemmed from a higher interest in filling posts that had until then been vacant. According to SO SR data, there were around 7 000 fewer job vacancies in the first half of 2009 than in same period of the previous year (in the first quarter, the difference was around 7 500, and in the second quarter, 6 400), and the drop in vacancies in manufacturing accounted for more than 58% (4 100) of that total. Other sectors reporting a relatively high absolute decline in job vacancies were: wholesale trade (more than 700); construction; financial and insurance activities; professional, scientific and technical

Chart 4 Employment over the period 2004–2008 by sector (number of workers)



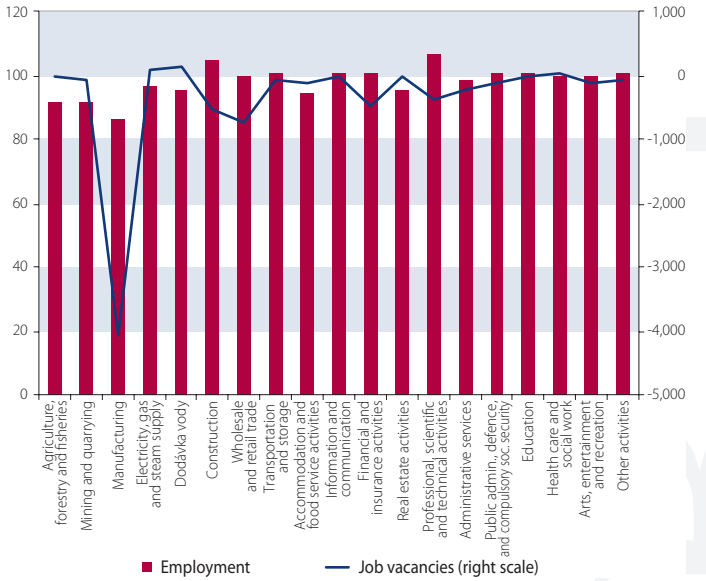
Source: SO SR, and calculations made by the Slovak MLSAF from SO SR data.

Chart 5 Job vacancies over the period 2004–2008 by sector (number of job vacancies)



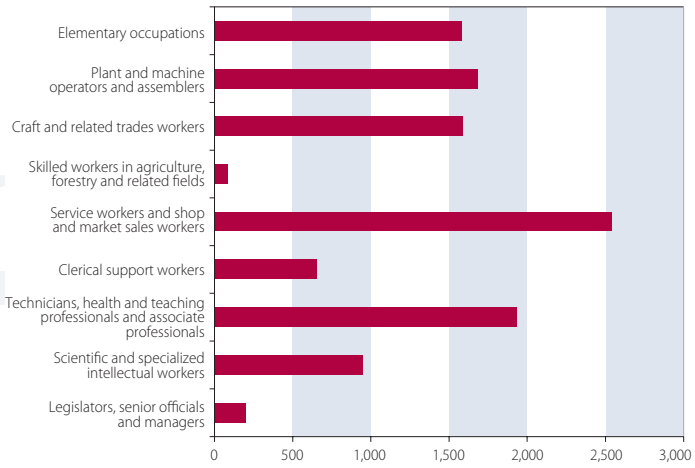
Source: SO SR, and calculations made by the Slovak MLSAF from SO SR data.

Chart 6 Employment and job vacancies in the first half of 2009 by sector



Source: SO SR, and calculations made by the Slovak MLSAF from SO SR data.

Chart 7 Employment over the period 2004–2008 by occupation (thousands of workers)

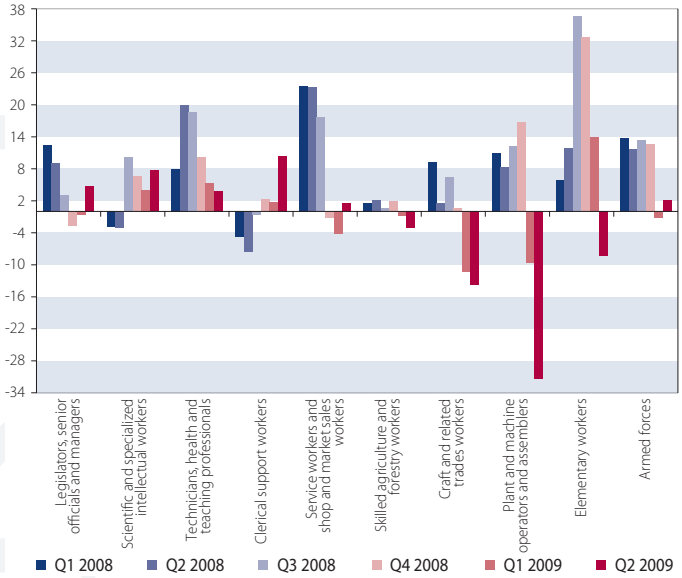


Source: SO SR, and calculations made by the Slovak MLSAF from SO SR data.

Chart 8 Job vacancies over the period 2004–2008 by occupation (number of job vacancies)

Source: SO SR, and calculations made by the Slovak MLSAF from SO SR data.

Chart 9 Employment broken down by occupation in the four quarters of 2008 and first two quarters of 2009 (year-on-year change in thousands of people)



Source: SO SR, and calculations made by the Slovak MLSAF from SO SR data.

activities; and administrative services (more than 200). A rise in the number of job vacancies was reported in water supply and waste management, in electricity, gas and steam supply, and in health care and social work.

Labour demand by occupational classification groups

As for the number of workers broken down according to the classification of occupations (CO), the period 2004–2008 saw an increase in almost all CO groups with the exception of CO 1 –legislators, senior officials and managers, and CO 6 – skilled workers in agriculture, forestry and related fields (LFS data).

The largest rise in employment was recorded in CO 8 – plant and machine operators and assemblers (up by 72 900 people) and in CO 3 – technicians, health and teaching professionals and associate professionals (66 000). These two groups accounted for around 53% of the total rise in the number of workers over the given period (Chart 7). Breaking down workers by their field of training, the majority in CO 3 fell in the categories of 'technology, processing industry and construction' and 'social sciences, economics and law', while a large majority of workers in CO 8 were trained in the field of 'technology, processing industry and construction'.

The largest absolute increase in job vacancies in the period 2004–2008 was recorded in CO 5 – service workers and shop and market sales workers (more than 2 600), CO 3 – technicians, health and teaching professionals and associate professionals (1 900), and CO 8 – plant and machine operators and assemblers (also 1 900), CO 7 – craft and related trades workers (1 600), and CO 9 – elementary occupations (also 1 600), i.e. among lower-skilled occupations. The number of job vacancies in these groups rose by two to three times, or in the case of CO 9 by almost five times.

The lowest rises in job vacancies were in groups CO 6 – skilled workers in agriculture, forestry and related fields, CO 1 – legislators, senior officials and managers, in the segment legislators, senior officials, senior, middle and lower management in enterprises and organizations, CO 4 – clerical support workers, and CO 2 – scientific and specialized intellectual workers (Chart 8).

In the first quarter of 2009, the largest absolute declines in employment in comparison with the end of 2008 were seen in the groups CO 8 – plant and machine operators and assemblers, CO 7 – craft and related trades workers, and CO 9 – elementary occupations, and they were largely related to the drop in manufacturing employment. For the first half of the year, the number of workers declined most sharply year-on-year in the groups plant and machine operators and assemblers (by 20 500) and craft and related trades workers (by 12 600). By contrast, there were year-on-year rises in employment in the groups CO 4 – clerical support workers, CO 2 – scientific and specialized

intellectual workers, CO 3 – technicians, health and teaching professionals and associate professionals, CO 9 – elementary occupations, and CO 1 – legislators, senior officials and managers. It may be concluded that, given the relative weight of each group, the crisis has been reflected mainly in the decline in lower-skilled positions (Chart 9).

Labour demand in the regions

As for the breakdown of employment by region, the period 2004–2008 was marked by sharp rises in the number of people employed in the regions of Bratislava (up by 83 700), Žilina (36 200), Trnava (35 100) and Košice (34 900), according to the results of statistical reporting. In the regions of Banská Bystrica and Trenčín, the number of employed people rose by between 4 000 and 12 000 (Chart 10).

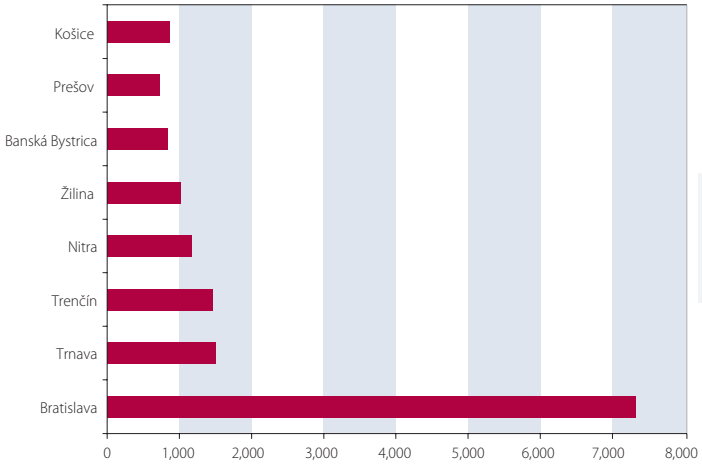
The number of job vacancies also showed considerable regional differences. In Bratislava region from 2005 to 2008, the number of available jobs rose by more than 7 300, whereas in Košice, Banská Bystrica and Prešov regions the additional vacancies numbered fewer than 900 (Chart 11). In 2008, one in every two of the total number of job vacancies in Slovakia were in Bratislava region, while in Prešov region the ratio was one in eight.

In year-on-year figures for first half of 2009, Bratislava region recorded the largest absolute decline in the number of job vacancies (a drop of 3 900 or 56% of the total decrease in Slovakia), which may be set against the fact that it still has the largest number of unoccupied posts (Chart 12). Žilina region, too, had an above-average decline in the number of job vacancies (down by 41.3% or almost 900).

Conclusion

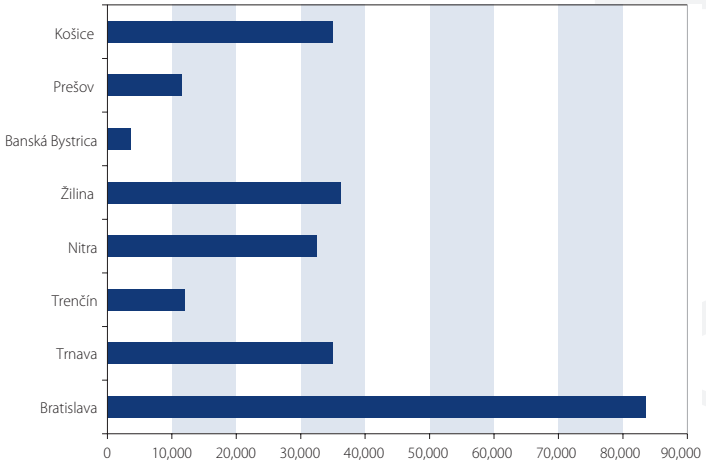
The analysis of labour demand is an essential precondition for anticipating the labour market's requirements. In order to ascertain the future needs of Slovakia's labour market and to ensure the greatest possible matching of labour needs and labour supply (through developing the skills to meet those needs), it is necessary to establish a system for predicting market needs and skills and to produce periodic forecasts of labour supply and demand. Comparing demand and supply helps to indicate future imbalances in the labour market or skills mismatches. Information about how skills needs will develop in coming years is important for employers, as well as for the designing of training programmes, the provision of careers advisory services, and the effective development of human resources and formulation of labour market policy at all levels: corporate, local, regional and national.

Chart 10 Employment over the period 2004–2008 by region (number of workers)



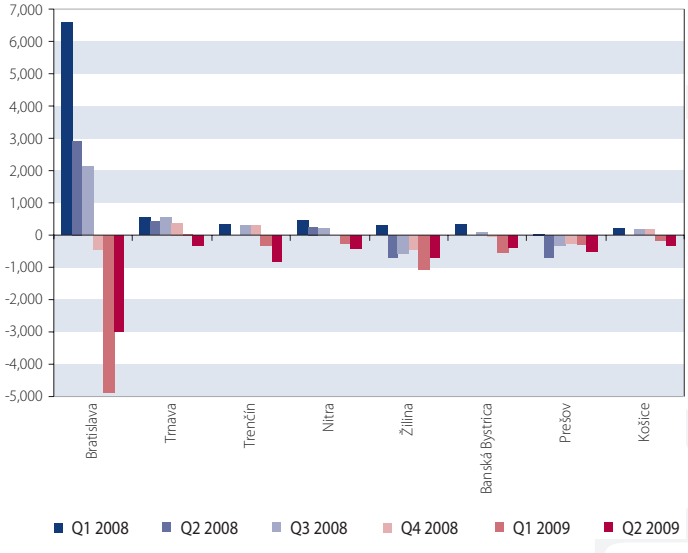
Source: SO SR, and calculations made by the Slovak MLSAF from SO SR data.

Chart 11 Job vacancies over the period 2004–2008 by region (number of job vacancies as at the year-end)



Source: SO SR, and calculations made by the Slovak MLSAF from SO SR data.

Chart 12 Job vacancies broken down by region in the four quarters of 2008 and first two quarters of 2009 (absolute year-on-year change)



Source: SO SR, and calculations made by the Slovak MLSAF from SO SR data.

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B I A T E C

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