NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

FINANCIAL STABILITY REPORT FOR THE FIRST HALF 2010

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Executive summary

During the first half of 2010, the conditions for domestic financial stability continued to improve moderately. The global economy and trade gained momentum, although their recovery from the deep recession was very unevenly spread across the countries and regions of the world. The countries of Asia (except for Japan) and Latin America, which had been less severely affected by the crisis, recorded the strongest recovery and their performance far exceeded pre-crisis levels. By contrast, economic output in the most advanced countries and regions of the world had still not returned to its pre-crisis level by the end of the first half of 2010. This was largely due to the persistently large balance-sheet imbalances of both the private sector (households, enterprises, banks) and public sector (countries), which are being repaired only very slowly. Global financial markets were less stable than at the end of 2009 owing to the heightened credit risk of euro area countries.

In Slovakia, the economy maintained its steady recovery, as industrial production increased amid improving conditions in external demand. The labour market stabilised in the first half of 2010. The improvement in Slovakia's macroeconomic situation in the first six months of the year was only slightly reflected in the financial sector. The banking sector, which is crucial from the point of view of financial stability, enhanced its financial and capital position, but it did so mainly by cutting costs. The banking sector thus strengthened its resilience to negative shocks. While the credit risk of households lessened somewhat, the credit risk of firms remained largely unchanged. The banking sector remained sensitive to corporate loans losses in particular.

Over the medium-term horizon, the slow upturn in conditions for domestic financial stability will most probably continue, accompanied by persisting risks on the downside stemming mainly from the external environment.

Global economic conditions picked up in the first half of 2010; nevertheless, they continue to be difficult due to increased sovereign credit risks, and key economies are expected to report slower growth in 2011. Over the medium term, too, risks will remain elevated and there is uncertainty about whether external conditions will keep improving to the benefit of domestic financial stability.

The global economy has been steadily recovering since the second quarter of 2009. This development is driven largely by government stimulus measures in the form of increased government consumption – which has at least to some extent compensated for the contraction in private consumption – and by the non-standard monetary measures taken by central banks. Over time, however, these stimuli waned, and their application even brought about serious new risks, namely sovereign credit risks of certain euro area countries. For this reason, the recovery period is accompanied by deep uncertainty about its sustainability. Striking a positive note in this regard are data for the first half of 2010 that show an upturn in private investment and gross fixed investments in advanced and emerging economies of the world. This solid basis for dynamic economic growth indicates that its development will be sustainable in the near term. At least in 2011, however, the pace of growth will decline again, owing both to the necessary consolidation of public budgets being planned in several advanced countries, and also to restrictive measures taken mainly in China, where signs of overheating have already begun to appear. In the United States, the traditional engine of global economic growth, the threat of deflation and a double-dip recession persists. The main reasons for this situation are subdued domestic demand – a natural reaction to the previous period of excessive indebtedness – and support policies that range from weakly effective to counterproductive.

Even in the medium-term, however, it is not possible to count on a higher rate of GDP growth, given the lack of a process aimed at restoring balance to global economic growth. A return to dynamic growth requires that in those countries which have a savings glut and a low share of private consumption for domestic output, reforms are implemented to boost domestic consumption and reduce dependence on external demand. Difficult reforms need to be undertaken in countries reporting low private savings. At the global level, coordinated efforts in this regard have emerged, but it will be several years until their actual benefit can be perceived. The new, far stricter inter-

national regulation of banks is expected to play a significant role here, as are plans for tightening the regulation of the so-called shadow banking system. The process of global economic recovery may also be threatened by a wave of protectionism if global talks on rebalancing the world economy's growth prove to be unsuccessful. Risks also lie in the undesirable effects of support policies which, in addition to the mentioned sovereign credit risks, include the fact that very loose monetary conditions over the long term may create undesirable incentives for financial markets.

Domestic macroeconomic conditions for financial stability in the first half of 2010 improved slightly on the previous period, but remained difficult.

The recovery in external demand was reflected in growth figures, particularly in the export-oriented sectors that are drivers of GDP growth. The adverse effect of tighter financing conditions in the euro area was partially offset by substantial weakening of the euro, which created conditions for net exports to increase. The upturn in external demand led to an improvement in the financial position of non-financial corporations, especially those focused on exports. Economic sentiment indicated a pick-up in confidence in both current and expected economic developments and an improvement in business conditions. For small and medium-sized enterprises, the environment still remains difficult, since they have limited scope to diversify their sources of financing and are therefore more heavily dependent on loan financing. The situation in the household sector was marked by weak labour market conditions, which adversely affected the ability of households to service their debts. Households reacted to the very low growth in their nominal income by restricting both consumption and investment and by building up savings to an increasing extent. The persistence of the adverse labour market situation poses risks for the period ahead, since conditions for the revival of consumption growth are not being created and this in turn is negatively affecting sectors and firms centred on the domestic economy.

On the domestic front, the main source of risks lies in fiscal policy developments.

Given the negative developments in the state budget – caused by overly optimistic budget plans, anti-crisis measures, and the activation of automatic stabilisers – and the widening of the budget deficit to well above the Maastricht reference value, the consolidation of public finances is essential for ensuring the sustainable funding of the fiscal sector. Consolidation measures will, however, at least in 2011, have an adverse effect on stagnating household income and lead to cost increases for firms. In the case of indebted entities, it represents a further drag on their financial position and on their debt-servicing ability.

Since Slovakia, in the context of euro area indebtedness, has a lower fiscal imbalance, it is one of the countries that have been less severely affected by the increasing lack of confidence among investors. A further risk would arise if the crisis of confidence in sovereign states deteriorated, with a negative effect on both debt-servicing costs and on the access of non-financial corporations to financing.

Banks in Slovakia maintained their highly cautious behaviour in the first half of 2010, and their aggregate performance figures lagged far behind those reported before the crisis. Developments in the sector remained heterogeneous in nature.

The net profit of the banking sector for the first half of 2010 saw a return to year-on-year growth (34%) and amounted to €240 million. This figure, however, fell far short of the pre-crisis level – the cause being not only the crisis, but also the fact that banks' foreign exchange income fell sharply after Slovakia adopted the euro currency in 2009. The banking sector's profit on retail operations increased, as did its net interest income from securities. Operating costs continued to decline, which supported an improvement in the cost-to-income ratio of banks. The amount of provisions and reserves in the banking sector remained largely unchanged in year-on-year terms. There was, however, a shift in the sectoral breakdown of provisioning, with a sharp rise in the proportion of provisions made for household loans. Provisions as a ratio of non-performing loans continued to decrease; nevertheless, this does not necessarily mean that banks are facing a heightened risk of losses.

The aggregate amount of loans to enterprises remained in decline, largely because of the relatively weak borrowing demand among firms

and the tight bank lending conditions applied to them. The utilisation of production capacities in the corporate sector – a determining factor in investment loan demand – remained low.

New housing loans to households increased sharply in the first half of 2010. The demand was driven mainly by low interest rates, the upturn in the economy (labour market stabilisation), and by falling property prices. The cost of real estate loans came down – reflecting declines in interbank rates and in the credit premium (taking account of the inherent risks in the Slovak economy) – and households heavily took advantage of this situation by refinancing old loans under more favourable conditions. This explained the particularly strong rise in new lending over the first six months of 2010, though it did not show up so much in the overall amount of outstanding loans to the economy. The aggressive market behaviour of certain banks supported the continuing changes in the market shares of banks – a trend that had started to be more pronounced at the beginning of 2009. Household demand for consumer loans rose only modestly. The tightness of bank lending standards did not change significantly in the first half of the year.

Lending to other sectors (except for the general government) kept on a downward course. As a way of compensating for the slump in lending activities, banks increased their investments in securities, especially government bonds. In the first half of 2010, some banks reported a marked rise in their investments in Greek government bonds, which declined in value over this period. Even so, the interest income from investments in government bonds was attractive for banks, given the steep interest rate curve.

The trend rise in the banking sector's capital adequacy ratio continued in the first half of 2010. Credit risk was more pronounced in the corporate sector than in the household sector. Although conditions for a reduction in credit risks may be expected slowly to improve, the sustainability of such a trend will require stable developments in the external environment.

The increase in own funds and drop in risk-weighted assets during the first half of 2010 was reflected in a higher capital adequacy ratio. The aggregate capital ratio for the sector ended the first six months of 2010 at 13.2%, and the Tier 1 capital ratio represented 12%. Several banks increased their Tier 1 capital mainly through retained earnings from previous years. Banks were therefore bolstering their capital buffers against a potential future increase in losses.

The rise in non-performing loans slowed towards the end of the first half of 2010, both in the corporate sector and among households. This reflected the improving economic conditions, and, in the case of households, particularly the increasing stability in the labour market. The reduction in household credit risk also resulted from the substantial decline in the proportion of household loans with interest rate fixation for up to one year, which meant that households were less sensitive to changes in short-term rates. Nevertheless, instalments for the majority of housing loans remain exposed to movements in short-term money market rates. The distribution of household loans by income group recorded a certain shift towards higher income groups, which are less risky in regard to loan repayments. Yet the situation remains unfavourable among lowest-income households, where the ratio between loan repayment liabilities and disposable income is running at around 60%. Credit risk remains stronger in the corporate sector than in the household sector. While export-oriented firms were the main beneficiaries of the revival in external demand, they account for a low share of the total borrowing from domestic banks. By contrast, sectors that the banks are heavily exposed to continued to face contracting markets (construction sector), or recorded only moderate sales growth, which falls far short of pre-crisis levels (wholesale trade, transportation). In the short-term horizon, the commercial real estate sector represents one of the most significant risks for the banking sector, since it is both a sector that banks have large exposures to and one that is in a difficult situation owing to increasing number of construction project failures.

Liquidity conditions in the banking sector remained favourable. The sector's exposure to market risks was relatively low.

The loan-to-deposit ratio ended the first half of 2010 at 81.3%, meaning that the Slovak banking sector has sufficient domestic funds to cover its lending activities. The ability of banks to cope

with negative developments in liquidity in a one-month horizon improved during the first half of 2010. This reflected banks' heavier investment activity in securities amid stagnating loans.

The sovereign credit risk of certain peripheral EU countries escalated in the first half of 2010. At the same time, several banks in Slovakia increased their investments in securities issued by these countries. Banks did not, however, report the price decline of these securities in their profit and loss statements, since most of these securities were accounted for in the financial instrument portfolios 'available for sale' and 'held to maturity'. Some banks also reported a mounting risk of banking book assets falling in value in the event of a rise in interest rates. As for interest rate risk exposure associated with financial assets in the trading book, it was negligible in most banks.

Among other financial institutions, those focusing on asset management performed relatively well.

The total profits of insurers fell by 6.7% year-on-year, to €65.3 million, and the profitability ratios also declined. The overall situation in the insurance sector was largely determined by the slow pace of recovery in the real economy.

The amount of customer assets managed by companies holding an investment firm licence increased slightly year-on-year. Trading in securities declined.

The net asset value managed by collective investment funds continued to rise during the first half of 2010, though the increase was concentrated in the first quarter. The distribution of assets by fund type remains conservative.

As regards funds managed under Pillar II of the pension saving system, their conservative asset structure remained largely unaltered in the first half of 2010. The asset structure of the different types of funds is almost identical to the aggregate structure for the whole of the Pillar II pension saving system. Although pension fund management companies are required by law to offer three types of fund, savers do not in fact have the option to choose a specific risk-return profile according to their requirements. The concentration risk associated with investments in bank deposits is rising. Exposure to peripheral EU countries fell by roughly a half during the first half of the year and at the mid-year point it represented 6% of total assets.

of macro stress testing imply that the resilience of the financial sector has increased since the end of 2009, largely due to the improvement in the banking sector's capital position over the first half of 2010.

The majority of banks in the sector should probably be able to cope with even a substantial worsening of the economic environment both at home and abroad. The banking sector reported higher sensitivity mainly under the scenario of a severe deterioration in the economic environment ('Double-Dip Recession II'). In this case, two banks would see their capital adequacy ratio drop to below the 8% minimum threshold. Other banks would be able to maintain their CAR at above 8% thanks to the profit they made in 2010 or 2011 and/or their higher share of own funds. As under testing at the end of 2009, banks reported their highest sensitivity to potential losses on corporate loans. Only certain banks would record higher losses on loans to households and on securities investments. The ability to generate profits is a key precondition for coping with potential adverse future developments. Interest income accounts for a substantial source of the rise in banks' profitability, since interest income is four time higher than income from fees and commissions.

In other sectors, the impact of macroeconomic sectors was largely dependent on the length of interest rate fixation periods or coupon rates and on the percentage share of equity investments in the assets of individual institutions or funds.

Since the structure of funds managed by Pension Fund Management Companies (PFMCs) has been substantially modified in favour of low-risk assets, the impact of macro stress scenarios on PFMC funds was low. The returns on these funds would even increase, as interest income is boosted by the rising interest rates assumed in the stress scenarios. As for funds managed by Supplementary Pension Asset Management Companies (SPMCs), the net asset value of the largest contributory fund (with

a market share of 35%) would, under the scenario 'Double-Dip Recession II', decline by 5% during the second half of 2010, largely owing to the depreciation of equity investments. Under the stress scenarios, collective investment funds would record a loss for the second half of the year representing, on average, 2.0% to 3.5% of the asset value (average weighted by the amount of the net asset value of individual funds). During 2011, however, the losses made in 2010 would be recovered under the given scenario (assuming stock markets rebounding and income from debt securities increasing). During the second half of 2010, approximately a half of the total losses would be caused by falling equity prices, but in 2011 these losses would be gradually recovered when the prices rebound. Insurance companies would, however, still report losses from the impairment of debt securities, owing to the gradual rise in interest rates or credit spreads.

CHAPTER 1

EXTERNAL CONDITIONS FOR FINANCIAL STABILITY

1

1 EXTERNAL CONDITIONS FOR FINANCIAL STABILITY

1.1 ASSUMPTIONS FOR FINANCIAL STABILITY IN SLOVAKIA BASED ON THE GLOBAL ECONOMY AND FINANCIAL MARKETS

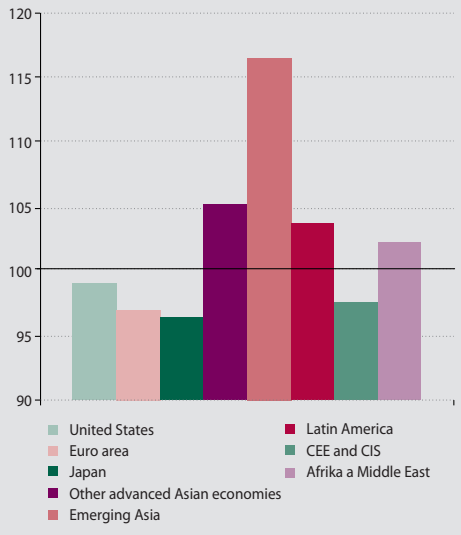
The highly uneven recovery of the global economy continued in the first half of 2010.

The International Monetary Fund (IMF) estimates[1] that the global economy grew during the first half of 2010 by a relatively sound 5.25%. The extent of economic recovery differed significantly across regions. The United States and Japan experienced a slowdown during the second quarter of 2010, while growth accelerated in Europe. The economies of advanced Asia (other than Japan) have benefited from the global rebound in trade and their GDP is already above pre-crisis levels (Chart 1). The recovery of emerging economies, especially in Asia and Latin America, stayed strong. East Asian countries are even confronted with overheating of their economies, a heavy inflow of foreign capital, and soaring equity prices. Globally, the economic recovery was driven by inventory accumulation. Fixed investment, particularly in machinery and equipment, also picked up (Chart 2), which may indicate that the economic recovery is on a sustainable footing. Private consumption rebounded strongly in emerging economies, but consumption in advanced economies was held down by high unemployment, stagnant incomes, and reduced household wealth.

Factors curbing a more vigorous recovery of the global economy, in both the near term and medium term, continue to prevail.

The pace of global output growth will be adversely affected in the near-term horizon by government austerity measures in advanced and emerging countries – where the capacity of fiscal stimulus to boost demand has reached, and in some places exceeded, its limits (Chart 3) – and by the slower accumulation of inventories.[2] The strength of the recovery in private demand will continue to be dampened by fragility of household balance sheets, persistently high unemployment, risks in financial markets (see below), and stagnating property markets. Although domestic demand in emerging countries will be relatively

Chart 1 Comparison of GDP in Q2 2010 with 2008 (index: Q2 2008=100)



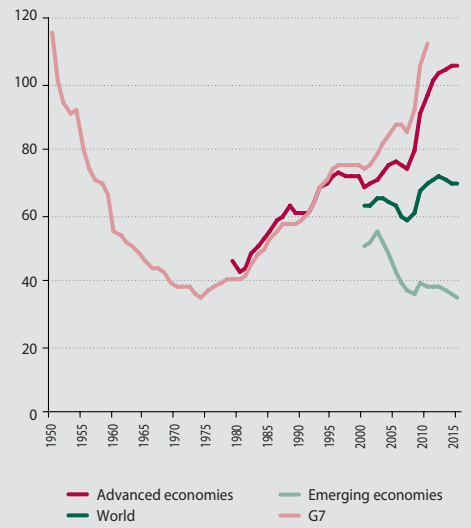
Source: IMF – World Economic Outlook, October 2010.
Note: CEE = central and eastern Europe, CIS = Commonwealth of Independent States.

Chart 2 Real gross fixed investment (annualised percent change from preceding quarter)

Source: IMF – World Economic Outlook, October 2010.
Note: Machinery and equipment = PPP-weighted averages for the euro area, the United States, Japan, and the United Kingdom.

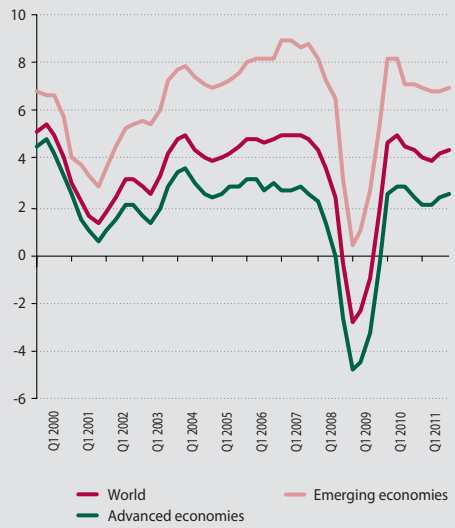
1 *IMF – World Economic Outlook, October 2010.*
2 *The global economic recovery was already beginning to slow in the third quarter of 2010.*

Chart 3 Public debt (% of GDP)



Source: IMF – World Economic Outlook, October 2010.
Note: Data for the years 2010 to 2015 are estimates.

Chart 4 Real GDP growth (annual percentage changes)



Source: IMF – World Economic Outlook, October 2010.
Note: Data for the years 2010 and 2011 are estimates.

robust, it is unlikely in the medium-term horizon to offset the weaker demand in advanced countries. This implies that the global economic recovery will be slow and protracted (Chart 4).

For economic growth to be sustainable in the medium and long-term horizons, it is essential that fundamental structural reforms are taken mainly in those countries where domestic consumption relative to output is low.

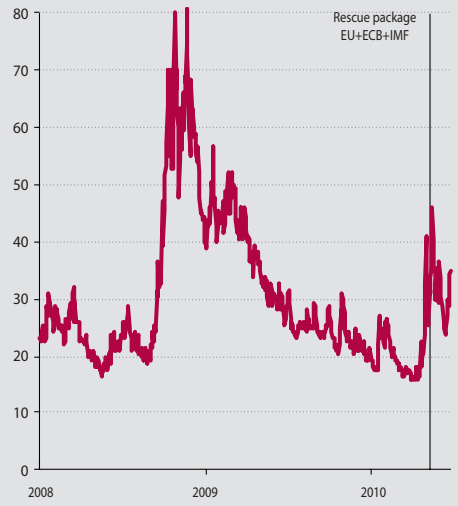
In order to achieve a soundly-based economic recovery and sustainable development, it is first of all necessary that countries with structurally weak demand and large foreign exchange reserves implement reforms to boost domestic consumption and investment in the non-tradables sector. Although steps in this regard are already being taken, it will be several years until their benefits can be perceived.[3] Reforms to support potential output growth, increase competitiveness, and make exports far more focused on high value added goods must be implemented as a matter of course in those countries where real estate bubbles have burst. To sum up, it means that a broad range of difficult reforms, both local and global in extent, need to be taken. These reforms, rather than short-sighted solutions, will require funded and globally coordinated political decisions. The failure of such efforts would in all probability lead to an escalation of protectionism and to trade wars, with adverse repercussions for the global economy.

Volatility in financial markets increased during the first half of 2010, and global financial stability came under serious threat from high sovereign credit risks. The rescue measures of governments and central banks have stabilised the situation only temporarily. Investor concerns have shifted to the sustainability of the economic recovery.

Sovereign risk started coming under closer investor scrutiny in November 2009. This was reflected in the widening of interest rate spreads on government bonds issued by Greece and by other financially weak euro-area countries. Investor fears about the ability of Greece to service its debts rose sharply at the end of April 2010, when Standard & Poor's downgraded Greek government debt to BB+ (speculative grade). Risk aversion in financial markets was further exacerbated by rating downgrades for Portugal and Spain. Nor was the continuing depreciation of Greek government paper stemmed by the announcement of an EU rescue package worth €110 billion (2 May 2010), or by the ECB's decision to suspend the application of the minimum credit rating threshold in the collateral eligibility requirements for the Eurosystem's credit operations. The price slump of the government

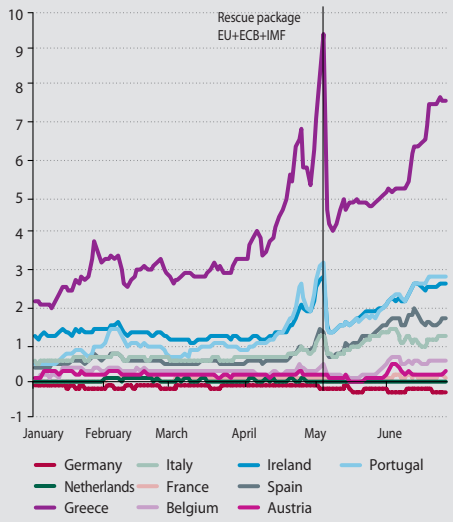
3 *For example, China's 12th Five-Year Plan, approved by the Central Committee of the ruling Communist Party in mid-October 2010, shows an intention to implement comprehensive and substantial measures and reforms aimed at transforming the economic model from one that is pro-export to one driven by domestic demand.*

Chart 5 Implied volatility in equity markets measured by the VIX index (daily data, %)



Source: CBOE.
Note: The VIX is an index of volatility that measures the implied volatility of equity markets from option prices on the S&P 500 index. The VIX expresses the size of investors' risk aversion – a value of more than 20 indicates a high aversion to risk and a value of more than 50 indicates that investors have very serious concerns.

Chart 6 CDS spreads on government bonds in the first half of 2010 (percentage points)



Source: IMF – Global Financial Stability Report, October 2010.
Note: CDS spread = the premium paid by the buyer of protection (against default) and the seller.

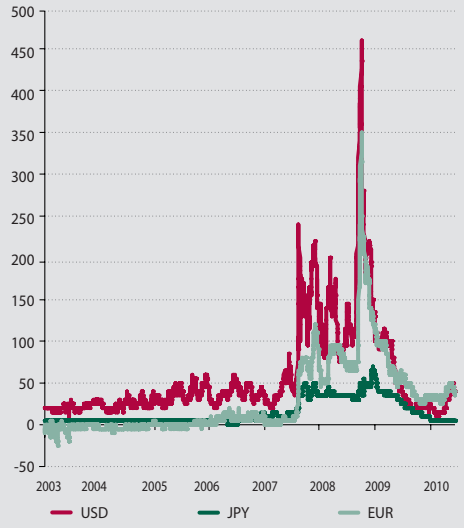
bonds issued by the affected countries resulted in many investors incurring mark-to-market losses on these assets. In May 2010, the crisis in the euro-area government bond market spread to global equity, foreign-exchange, and commodity markets (Charts 5, 6 and 7) – in the case of the foreign exchange markets, the euro depreciated against the major currencies. The lack of confidence also spilled over to interbank markets, again making it difficult for European banks to obtain dollar funding (Chart 8). Politicians, albeit at the cost of increasing moral hazard, avoided a situation similar to that seen in September 2008[4]. On 10 May 2010, EU representatives unveiled a rescue package worth €750 billion (comprising funds from the *European Financial Stability Facility*, the European Union, and the IMF). At the same time, the ECB announced a programme for purchasing public and private bonds in dysfunctional euro-area secondary markets in order to shore up liquidity in these markets. The ECB also expanded the long-term refinancing operations (LTROs) of the euro area banking sector, re-established US dollar swap lines with the Federal Reserve, and resumed US dollar liquidity-providing operations for the banking sector. These non-standard operations calmed the markets – credit spreads on euro area government bonds narrowed sharply, equity markets began to rebound, the euro appreciated, and conditions in the money markets improved. This upturn was only short-lived, however, as aversion to risky assets triggered a new wave of investor doubts

Chart 7 Commodity prices (USD)

Source: IMF – World Economic Outlook, October 2010.

4 *For further details, see the Národná banka Slovenska Financial Stability Report for 2009, Box 1, page 17. http://www.nbs.sk/_img/Documents/ZAKLNBS/PUBLIK/SFS/SFS2009A.pdf*

Chart 8 TED spreads (basis points)



Source: IMF – World Economic Outlook, October 2010.
Note: The TED spread represents the spread between the three-month LIBOR (the rate at which three-month funds in a given currency are borrowed in the London interbank market) and the three-month government bond rate. The wider the spread, the greater is the perception of counterparty risk in the interbank market.

about whether the economic recovery could be sustained amid the necessary consolidation of public budgets.

1.2 THE EURO AREA – ECONOMIC SITUATION AND FINANCIAL SECTOR STABILITY

Although growth in the euro area in the second quarter of 2010 was stronger than expected, the risks to the economy's sustainable recovery remain significant and the situation across euro area countries continues to be highly heterogeneous.

Economic activity in the euro area remained subdued in the first quarter of 2010 following a bad winter. In the second quarter, however, amid the relatively strong recovery of global trade and the global economy, GDP growth picked up significantly – driven by upturns in exports (especially in Germany) and, to a lesser extent, in domestic demand (Table 1). Although the labour market stabilised, the situation across countries showed wide disparities. By the end of the first half of 2010, euro area GDP had still not rebounded to its pre-crisis level (Chart 1); its growth is assumed to decelerate until the end of the year amid the expected slowdown in global activity, although conditions for domestic demand (investment and consumption) will remain favourable in certain countries. Looking ahead, however, the recovery in the euro area will remain slow, fragile, and highly unevenly spread among euro area countries. In the medium-term horizon, growth in the euro area will be adversely affected by the substantial dependence on exports, the persistently deep uncertainty in financial markets, the continuing fragility of the region's banking sector, and the fiscal consolidation that will have to be implemented. The possibility of the EU slipping back to recession can still not be ruled out.[5]

On the whole, euro area banks improved their financial and capital positions.

The financial position of large euro-area banks improved during the first half of 2010. Profitability was driven up by positive developments in net interest income, which benefited from high interest rate spreads and the steep yield curve. In some institutions, profits were boosted also by a marked decline in provisioning compared to 2009. The performance of certain banks declined because of lower income from trading. Across a sample of large banks, the improvement in their solvency continued during the first half of 2010. Banks bolstered their capital with profits from previous years, equity issues, and,

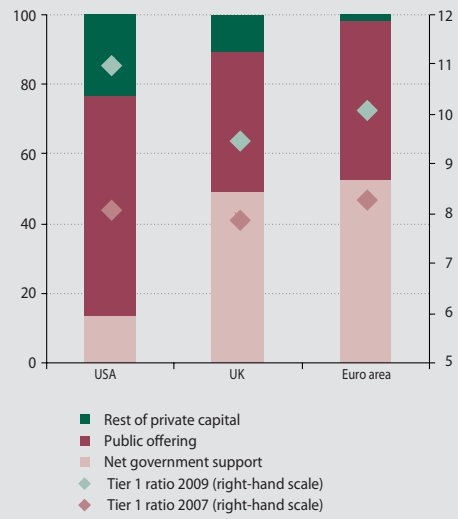
Table 1 Real GDP growth (%)

	Changes on the previous quarter						Year-on-year changes		
	2009		2010						
	Q3	Q4	Q1	Q2	*Q3*	*Q4*	2009	*2010*	*2011*
Euro area	0.4	0.2	0.3	1.0	*0.4*	*0.3*	-4.1	*1.7*	*1.5*
EU27	0.3	0.2	0.4	1.1	*0.5*	*0.4*	-4.2	*1.8*	*1.7*

Source: European Commission – European Economic Forecast, November 2010.
Note: The figures are based on seasonally adjusted data. Data in italics are estimates.

5 *In October 2012, the Markit Purchasing Managers' Index fell to a 12-month low of 53.4. An index value of less than 50 indicates an economic recession.*

Chart 9 Capital raised by banks and Tier 1 ratios (%)



Source: IMF: Global Financial Stability Report, October 2010.
Note: Capital raised between Q1 2008 and Q2 2010.

in certain cases, public funds (Chart 9). What is also clear from the results of Europe-wide stress testing (see below) is that some European banks still need to increase their own funds in response to the elevated risks and persistent uncertainty in the EU financial system. Many banks will have to raise capital also in order to meet the requirements arising under the new Basel III regulatory framework.

The largest risk to financial stability in the euro area is sovereign credit risk and the over-dependence of banks on short-term market funding. Euro area banks will continue to face elevated household credit risk. Although corporate credit risk has abated slightly, it remains high.

Sovereign credit risk in the euro area remains high, even after governments and central banks took robust measures in response to its escalation in May. The problem lies in high public debt burdens and deep uncertainty about the future pace of economic growth. Furthermore, the near-term need for substantial refinancing of sovereign and bank debt implies more intensive competition for funding, which, if sentiment deteriorates, means that weaker entities could easily end up facing a funding risk. Another cause for concern is the continuing strong dependence of certain banks on Eurosystem funding, which indicates that the restructuring of weaker banks will have to be stepped up. Household balance sheets in certain countries continue to be squeezed by stagnating income, high unemployment, and falling property prices. Further losses on the portfolio of household loans (especially consumer loans) can therefore be expected. Corporate profitability edged up and is assumed to continue improving. The default rate of speculative-grade European firms showed a downward trend during the first half of 2010 and stood at around 5% at the end of the period. Under the ECB's baseline scenario, this default rate will continue to fall in the third quarter of 2010 and then stabilise at around 2%. Signs of stabilisation have also appeared in the commercial real estate sector, but with property prices still far below pre-crisis levels, this sector remains one of the most vulnerable. Another risk factor is the situation in the US property market, to which EU banks are heavily exposed through complex financial instruments.

Stress testing at the EU level helped to ease fears of 'hidden losses' in the EU banking sector and demonstrated that its resilience to adverse developments is relatively sound.

Stress testing of 91 of the largest European banks (covering 65% of the total assets of the EU banking sector) showed[6] that under an adverse macroeconomic scenario (including an escalation of the crisis in the EU government bond market), the aggregate Tier 1 capital ratio of these banks would fall from 10.3% at the end of 2009 to 9.2% at the end of 2011. This figure includes also around €170 billion in capital received from public funds as at 1 July 2010. Under the adverse scenario, seven banks would have had Tier 1 capital ratios below 6% (the threshold for requiring additional capital) while 51 banks would have a Tier 1 ratio of more than 8%. The stress test results were published together with information on banks' sovereign exposures to different EU countries, broken down by banking book and trading book exposures. According to the ECB, these data imply that the adverse event (sovereign debt restructuring) in some of the riskiest EU countries would have a more moderate effect on banks in other Member States than was originally assumed.[7] It should be emphasised that 83% of these banks' sovereign exposures are held in the banking book, where they are not marked to market. Therefore only the banks' much smaller

6 *The results of the second EU-wide stress testing exercise were published on 23 July 2010. For further information, see www.c-ebs.org.*
7 *ECB: EU Banking Sector Stability, September 2010.*

trade portfolios were tested against a decline in the market value of government securities. The stress test results did not include any sovereign default of a Member State, given that European Financial Stability Facility – a three-year guarantee scheme – had been approved in May 2010 and the time horizon of the test ended in 2011. The immediate reaction of the markets to the published results and the overall transparency of the stress testing (the methodology was also published) was positive, judging from the movements in bank share prices and CDS spreads in the week following publication. However, the contribution of stress testing results to improving the ability of weaker banks to obtain market funding was questionable.[8]

1.3 THE VISEGRAD 4 REGION – DEVELOPMENTS AND RISKS

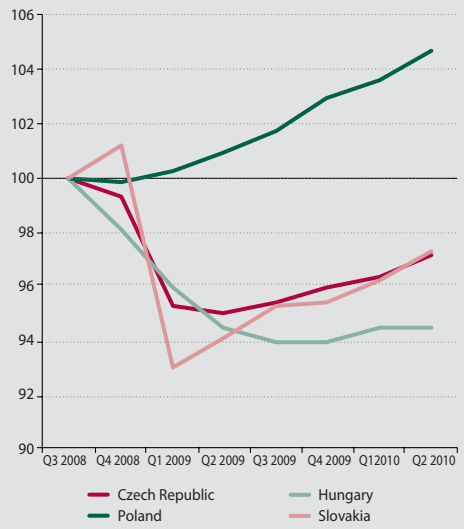
The uneven recovery across the Visegrad 4 countries continued during the first half of 2010. There is high uncertainty about the medium-term outlook for a sustainable recovery.

The economies of the V4 countries were affected by the global crisis to varying degrees of intensity, depending on the economy's structure, the size of the macroeconomic imbalances in the pre-crisis period, and the extent of dependence on short-term external financing. The same factors determined the strength of the recovery in these economies in the first half of 2010. Across the V4 region as a whole, the recovery was slow (Chart 10). Weak domestic demand made the entire region more dependent on exports, and individual V4 countries saw economic growth adversely affected by the downturn in euro area financial markets. The revival of Germany's output in the second quarter of the year proved to be the main engine of growth in the region. The main risks to the medium-term outlook are the high uncertainty in the global economy and in financial markets and the fiscal consolidation plans announced by governments.

The principle risk to the region's financial stability lies in the persisting difficulties of the euro area banking sector. Slovakia, as a member of the euro area, is to a greater extent protected from the repercussions of mounting risk aversion.

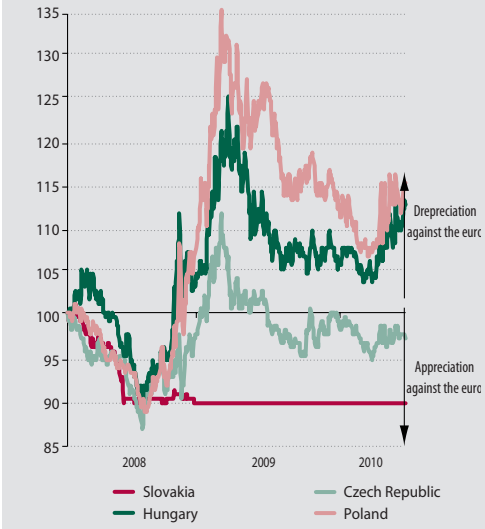
The crisis in the euro-area government bond market spilled over also to the V4 countries, since these countries' economies are strongly

Chart 10 GDP on a quarterly basis (index: Q3 2008=100)



Source: Eurostat.

Chart 11 Exchange rates of V4 countries' currencies against the euro (index: January 2008=100)



Source: Eurostat.
Note: Slovakia adopted the euro currency as from 1 January 2009 at the conversion rate set on 8 July 2008.

8 *For an interesting analysis of the results and benefits of the second EU-wide stress testing exercise, see Blundell-Wignall, A. and Slovik, P.: EU banks and sovereign debt exposures. www.voxeu.org, 14 September 2010.*

dependent on the euro area economy and their banking sectors have close cross-border financial ties with euro area banking sectors. Exchange rates plunged in value in May 2010 (Chart 11) and CDS spreads on sovereign debts widened, especially where the sovereign credit risk premia had already been at a higher level. During the first half of 2010, according to the IMF, bank funds continued to flow out from the broader region of central and eastern Europe to the external environment, particularly to parent banking institutions. This may have been caused by heightened uncertainty in financial markets, weaker demand for loans across the region, pressure to raise capital, and by the fact that parent banks were finding it difficult to obtain market funding (notably in the second quarter of 2010). It is highly likely that financial market turbulences in the countries of the region will recur if there is another wave of mistrust in financial markets in the euro area or elsewhere in the world. The most vulnerable of the V4 countries continues to be Hungary, where the situation may have been exacerbated by an unreliable fiscal policy and a lack of structural reforms. Slovakia, as a member of the euro area, is the V4 country most robustly protected against an increase in investor risk aversion.

SLOVAK ECONOMY DEVELOPMENTS AS THEY AFFECT FINANCIAL STABILITY

2

2 SLOVAK ECONOMY DEVELOPMENTS AS THEY AFFECT FINANCIAL STABILITY

2.1 OVERALL DEVELOPMENT OF THE SLOVAK ECONOMY

The internal macroeconomic conditions for financial stability were more benign than in the previous period. Nevertheless, only certain segments of the economy were benefiting from the gradual recovery, which first appeared in the second half of 2009. The increase in economic performance was related mainly to the gradual pick-up in external demand. While demand in the domestic private sector stagnated, consumption in the general government sector rose, owing to an overly optimistic budget and approaching elections.

The rise in economic sentiment indicators implied an upturn in confidence in both current and future economic developments. Among firms, the recovery showed up in a return to profitability growth. Given the lag in the labour market reaction to demand-side developments, the recovery recorded in the first half of 2010 has still not put downward pressure on unemployment.

On the negative side, the indebtedness of the general government sector increased, owing to excessively optimistic budget plans, to anti-crisis measures, and to the combination of declining tax receipts and rising social expenditure. The external macroeconomic imbalance continued to improve in 2010, largely due to the falling trade deficit. The upturn in capital flows was seen in the resumption of foreign direct investment inflows. In contrast to previous years, however, investments under other categories were predominantly made from the domestic to the external economy.

The ECB's loosened monetary policy, including historically low interest rates, made it easier for indebted entities to cut their debt-servicing costs, but it did not bring about the expected revival in the financing of real activity, which would have resulted in a rise in new investments.

During the crisis of confidence in other sovereign states, the markets retained their confidence in Slovakia and hence the spreads on Slovak government bonds were not markedly affected. According to the major credit rating agencies, Slovakia was rated at A+[9] with a stable outlook.

As a small and open economy, Slovakia is to a large extent dependent on external demand for its exports and on the economic condition of its trading partners. Demand and the quality of demand will be a determining factor in future developments. Whether euro area growth continues to be stable and sustainable after the effect of government stimulus measures has waned remains a question. Even in the case of optimistic outlooks, economies can be expected to report substantially lower growth than they did in the pre-crisis period. Depending on this, the potential growth of the Slovak economy may be assumed to accelerate in the medium-term horizon.

The Slovak economy returned to growth in the first half of 2010.

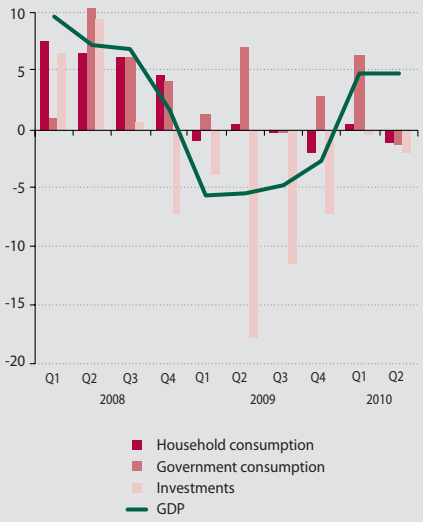
Real GDP rose in the first half of 2010 by 4.7% year-on-year, driven up mainly by external demand. Domestic demand increased largely as a result of a rise in general government final consumption. Consumer demand stagnated, and investment demand remained subdued, although the inventory cycle was growth-supportive. With GDP rising and employment falling, labour productivity surged in the first half of 2010. The increase in real labour productivity far exceeded the rise in real wages.

Low price inflation boosted competitiveness. The inflation rate was among the lowest in the euro area.

Inflationary pressures were curbed by the slowdown in domestic demand and lower wage growth. This was reflected in deceleration of the annual HICP inflation rate, which in June 2010 stood at the low level of 0.3%. Looking ahead, NBS expects price inflation to increase gradually, especially in the case of food and energy prices in the second half of 2010.

9 *S&P reported A+, Moody's A1, and Fitch A+ with a stable outlook.*

Chart 12 GDP – components (annual percentage changes)



Source: SO SR.

Chart 13 Labour productivity and wages (annual percentage changes)

Source: SO SR.

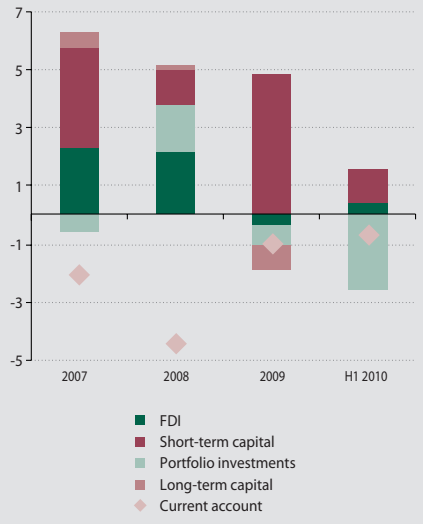
Euro weakening in the first half of 2010 helped maintain a relatively favourable position.

External performance did not deteriorate.

The price competitiveness of Slovak exporters, as measured by the index of the nominal effective exchange rate (NEER), has continued to improve since the second half of 2009. The depreciation of the NEER, combined with the effect of a relatively rapid decline in inflation and the low level of inflation compared to the situation in the majority of Slovakia's major trading partners, led also to a weakening of the real effective exchange rate.

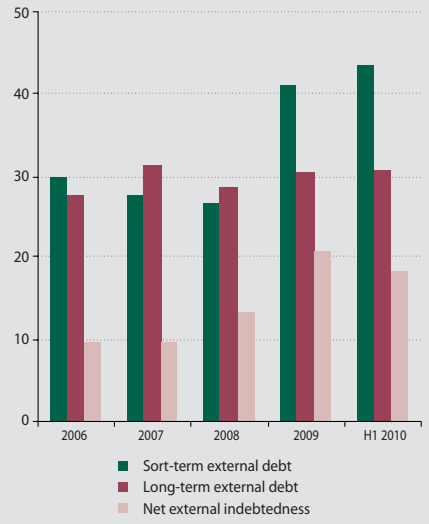
A positive development in the first half of 2010 was the decline in the current account deficit, to 2% of GDP. This result was accounted for largely

Chart 14 Current account deficit coverage (EUR billions)



Source: NBS.

Chart 15 External indebtedness (% of GDP)



Source: NBS.

by the trade balance surplus. The income balance deficit increased again, as higher corporate profits translated into higher dividends and interest payments to foreign investors. With capital movement in 2010 occurring mostly from the domestic economy to the external environment, the capital and financial account recorded a deficit of €572.8 million for the first six months of 2010. This development reflected mainly the rising interest among residents in foreign portfolio-investment securities and the decline in taken deposits under the balance of other investments.

The external debt rose to €47,908 million (74.3% of GDP). Short-term debt as a share of total gross external debt increased to 58.5%. As a result of Slovakia joining the euro area, the government and NBS's sector share of the external debt has risen.[10] Nevertheless, the country's net external debt (net external assets and liabilities) has declined relative to the size of the economy. The relationship between current account developments and the international investment position is discussed in Annex 2.

Fiscal policy requires a credible consolidation plan.

With general government revenue declining amid the downturn in economic output, and expenditure going up, the general government deficit has risen far above the Maastricht reference value and it is expected to reach 7.8% of GDP by the end of the year.

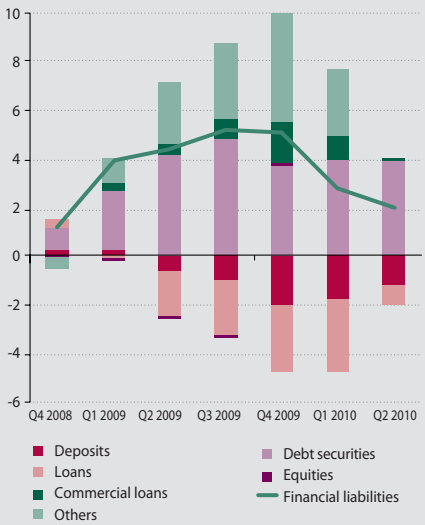
Despite the increasing lack of confidence among investors, credit risk premia on Slovak sovereign debt remained favourable in the first half of 2010 and the country was able to obtain financing without difficulty. The yield spread of government securities over German bunds was stable. Spreads widened towards the mid-point of 2010, as yields on German securities fell. In April 2010, Slovakia successfully issued 10-year bonds amounting to €1.5 billion and yielding 4.054%, the lowest ever rate for a Slovak bond issued in the European market. In the first half of the year, the Slovak government issued bonds worth €4.3 billion. Over the full year, according to the plans of the Debt and Liquidity Management Agency, the government will issue €7 billion worth of debt.

Although the general government sector obtained financing mainly through debt securities, its liabilities to other sectors increased, too. Repayments owed under loan financing were made.

Risks from the domestic macroeconomic environment show a persisting tendency.

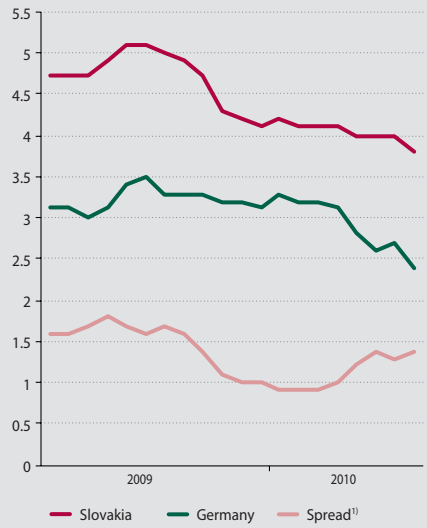
The public finances represent a source of risk to financial stability in the medium-term horizon.

Chart 16 Financial liabilities (EUR billions)[1)]



Source: NBS.
1) Cumulative transactions over four quarters.

Chart 17 10-year government bond yields (%)



Source: MF SR.
1) Spread in percentage points.

[10] *The increase in the NBS short-term debt was a result of the decision by NBS to transform its refinancing position vis-à-vis the banking sector to a loan from the Eurosystem after the euro area entry. External assets are the counterpart of that position.*

The situation in the near-term will be determined by the consolidation of public finances, which, at least in 2011, will cause a demand-side shock – with repercussions for household disposable income and firms' costs – and may therefore put upward pressure on unemployment. However, such step that must be taken in order to safeguard domestic financial stability. In the medium term, fiscal retrenchment will help mitigate the risks associated with the high deficit and debt in the general government sector and it should also support the stabilisation of capital acquisition costs.

If financial stability is to be maintained, the fiscal consolidation plan must be credible. If it is, the sustainability of the debt position will be undisputable. Otherwise, considering how strongly financial markets have reacted to the fiscal situation in other euro area countries, Slovakia could avoid the risk of a sudden deterioration in issuing conditions. Another risk that Slovakia, as a small economy, is exposed to is the risk of asymmetric market reactions to developments in smaller economies. Markets have a tendency to be more sensitive to budget deficits in small countries, even when the fundamentals are relatively sound.

The bank deposit insurance scheme saw a positive change. Under the new EU Directive on Deposit Insurance, which enters into force in 2011, Slovakia will no longer apply its unlimited guarantee for bank deposits. In contrast to the previous guarantee scheme (in force up to November 2008), which included some incentive elements (10% participation), a certain risk of moral hazard is included in the current scheme given its 100-percent compensation for deposits of up to €100,000.

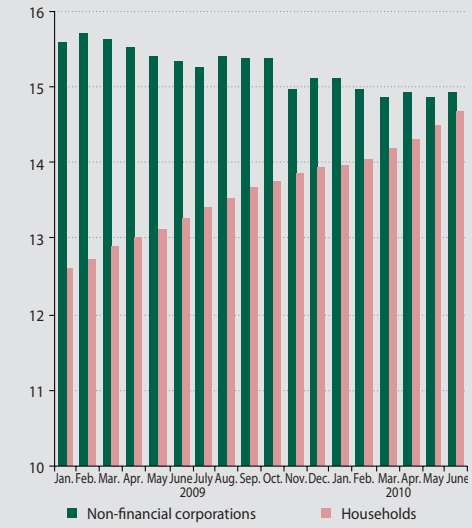
2.2 NON-FINANCIAL CORPORATE AND HOUSEHOLD SECTORS

Total outstanding loans to the private sector increased in the first half of 2010, although lending to households rose at a far slower pace than in the previous period. Lending to non-financial corporations continued to decline.

The developments of new loans to enterprises did not show a clear trend in the first half of the year; nevertheless, operating loans prevailed. As regards new lending to households, the most marked rise was recorded by housing loans, while consumer loan growth decelerated.

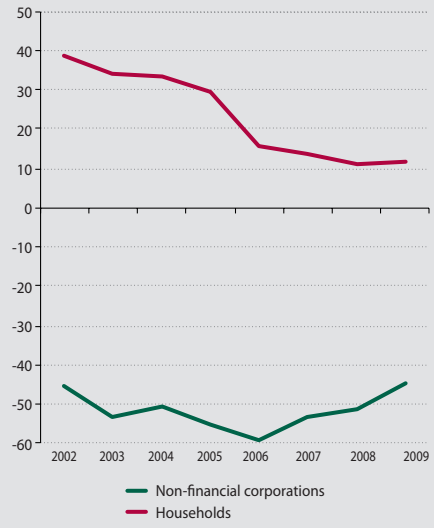
The balance-sheet item of net lending/borrowing measures the given sector's net borrowing requirement or net financial investment. In the case of the corporate sector, this item increased amid both a decline in exter-

Chart 18 Outstanding loans to non-financial corporations (EUR billions)



Source: NBS.

Chart 19 Net lending (+) / borrowing (-), (% of GDP)



Source: SO SR.

nal indebtedness and the relatively strong accumulation of financial assets. Firms have adjusted their balance sheets in reaction to the crisis. The creditor position of the household sector improved slightly compared to the previous year, as financial assets increased at a faster pace than liabilities.

Firms improved their financial position.

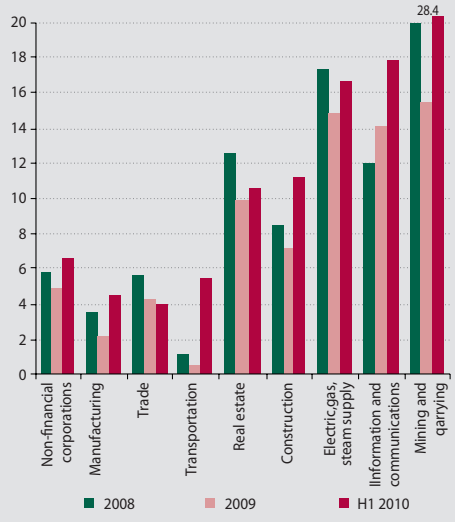
The economic recovery was reflected in profitability, which returned to growth. In the first half of 2010, the aggregate profits of non-financial enterprises increased by 38% in year-on-year terms, to €4,560 million. The largest share of the total profits was made by firms in the sectors of manufacturing, supply of gas and electricity, and trade. There remain wide differences in profitability across sectors.

With revenues under downward pressure in an environment of high uncertainty, enterprises took a cautious approach to investment and to taking on more debt. Repayment behaviour remains a drag on business activity, and the rising trend in insolvencies continued to increase in the first half of 2010.

Business confidence indicators recorded an improvement. Confidence in industry, services and retail trade maintained an upward trend. In the construction sector, too, there was a moderately more positive assessment of the business climate.

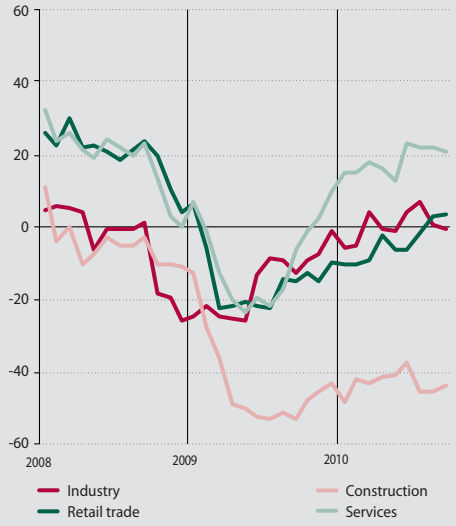
As a result of the economic crisis, corporate balance sheets had to undergo changes. Non-financial corporations faced increasing difficulty in ob-

Chart 20 Profitability of firms (%)



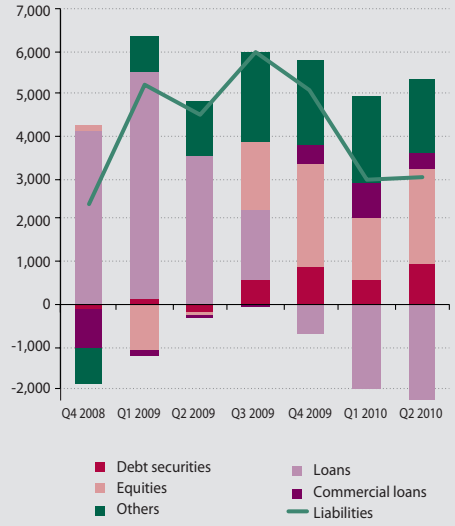
Source: SO SR.
Note: Profitability = net profit / income.

Chart 21 Business tendency indicators (balance)



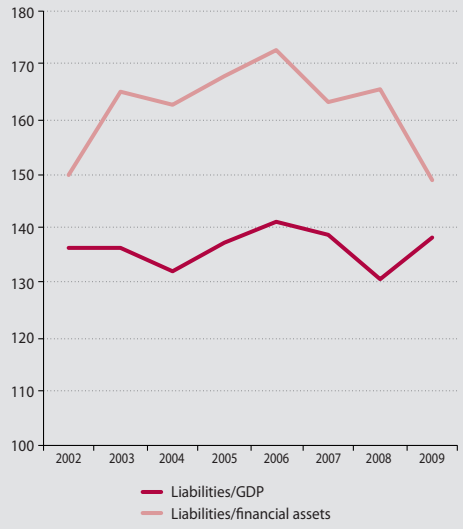
Source: SO SR.

Chart 22 Financing broken down by instrument (EUR millions)



Source: NBS
Cumulative transactions over four quarters.

Chart 23 Debt ratios of non-financial corporations (%)



Source: SO SR.

taining external financing, and this was reflected in a decline in the sector's indebtedness as measured by the ratio of liabilities to financial assets. The liabilities-to-GDP ratio was affected by the substantial downturn in GDP recorded in 2009.

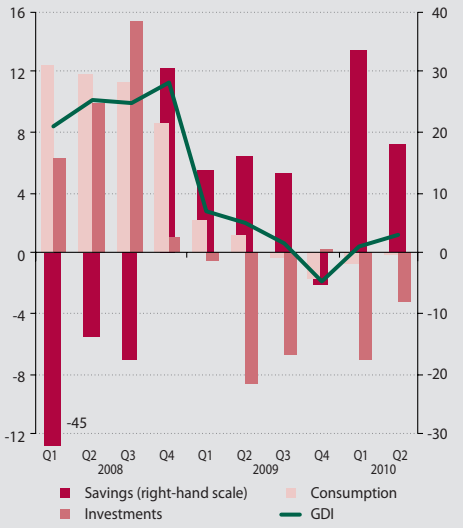
Non-financial enterprises obtained an increased proportion of their financing through the issuance of equity securities. Debt financing fell sharply compared to the past, as enterprises opted for debt security issues and commercial loans and reduced their loan liabilities. The possibility to diversify sources of financing is, however, mainly the preserve of firms that are larger and/or under international ownership. Small and medium-sized enterprises are dependent on bank loans to a greater extent.

The financial position of households in the first half of 2010 was affected by difficult conditions in the labour market and by stagnating income.

The labour market situation continued to deteriorate (albeit at a slower pace), and the unemployment rate increased. On the positive side, employment in the domestic economy returned to growth in the second quarter of 2010. At the same time, however, the supply of job vacancies declined.

Household gross disposable income stagnated and there was a marked decline in primary income, which is a crucial element in the repayment of household liabilities. The rising savings rate in the household sector implies that households feel a high degree of uncertainty and lower confidence in regard to the future economic development. Households also showed cautious

Chart 24 GDI, consumption, savings, investments (annual percentage changes)



Source: SO SR.
GDI – gross disposable income.

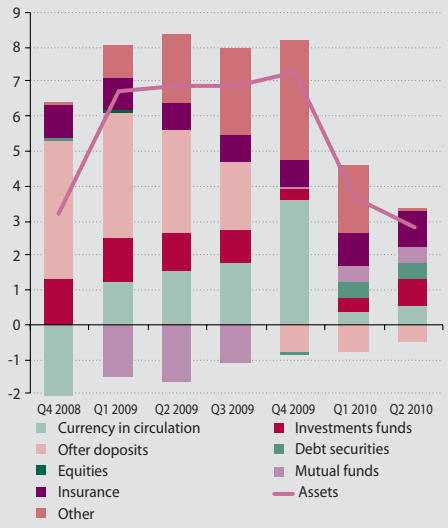
Chart 25 Labour market – unemployment and job vacancy rates

Source: SO SR.

Chart 26 Household debt ratios (%)

Source: SO SR.

Chart 27 Household financial assets (EUR millions)



Source: NBS.
Cumulative transactions over four quarters.

behaviour in their investment decisions, as the decline in the investment ratio indicated. Consumption stagnated, while the savings rate increased.

The composition of household financial assets showed that the more conservative approach to the allocation of savings was giving way to rising interest in riskier products (the returns on which were rebounding). Demand for products such as equities, investment funds, and debt securities increased, while investments in low-remunerated deposits declined.

A proportion of households took advantage of the low interest rates to refinance debts taken on in the past. In the case of housing loans, borrowers gravitated towards longer interest rate fixation periods. The downturn in consumption was accompanied by a drop in demand for consumer loans.

The ability of households to service their debts (liabilities) on a regular basis was satisfactory at the aggregate level, with the ratio of loan repayment liabilities to disposable income standing at 26%. Uncertainty about future income developments motivated households to build up savings and slowed the rise in their indebtedness measured as the ratio of liabilities to financial assets – which indicates the ability of households to repay their whole debt at once. Given, however, the slower growth in disposable income, the ratio of liabilities to gross disposable income showed a marked deterioration. With the amount of non-performing loans increasing, signs of household financial stress became more apparent.

Medium-term risks persist in the non-financial corporate and household sectors.

Risks to financial stability from the non-financial corporate sector are persisting, given that there is still uncertainty about the sustainability of the economic revival in the external and domestic environment. The scope for generating balance-sheet profits and reserves continues to be limited, which in turn is adversely affecting the ability of enterprises to service their debts.

Although household indebtedness continued to rise, household balance sheets were not a source of risks to financial stability. Assuming that the revival in economic activity is reflected in the labour market and that household income (especially primary income) stabilises, the sector's balance sheet may strengthen, thereby bolstering the ability of households to service their debts.

Besides the direct effect of household debt servicing ability on the financial sector, the indirect transmission through the real economy is also important, since low wages and low demand exert an adverse effect on the corporate sector. This will be a significant transmission channel even in near future.

It seems that the necessary adjustment of balance sheets is to some extent taking place through the refinancing of loans at lower interest rates. Given the trend towards longer interest rate fixation periods, the prospects for reducing the exposure of Slovak households to the risk of a rise in lending rates are solid.

CHAPTER 3

FINANCIAL SECTOR DEVELOPMENTS AND RISKS

3

3 FINANCIAL SECTOR DEVELOPMENTS AND RISKS

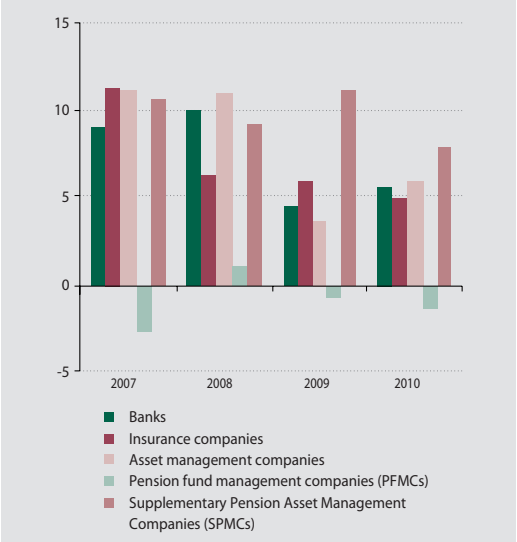
The continuing improvement in macroeconomic conditions in Slovakia during the first half of 2010 was reflected in the financial sector, too. Following a steep decline in 2009, the banking sector's total assets increased somewhat in that period. The majority of banks continued to pursue a highly conservative policy and managed to improve their financial and capital positions in year-on-year terms. Thus, they became more resilient to negative shocks. However, the banking sector remained sensitive to corporate loan losses. The best performers were sectors specialising in the management of financial assets, where asset growth was also supported by the improving situation in global financial markets (charts 28 and 29).

3.1 BANKING SECTOR PERFORMANCE

In the first half of 2010, the banking sector's net profit returned to growth in year-on-year terms, but remained well below the pre-crisis level. The sector achieved increased profit from retail operations and increased net interest income from securities. Operating expenses continued to fall, bringing about a notable improvement in the cost-to-income ratios of banks. The amount of provisions and reserves in the banking sector remained broadly unchanged in year-on-year terms.

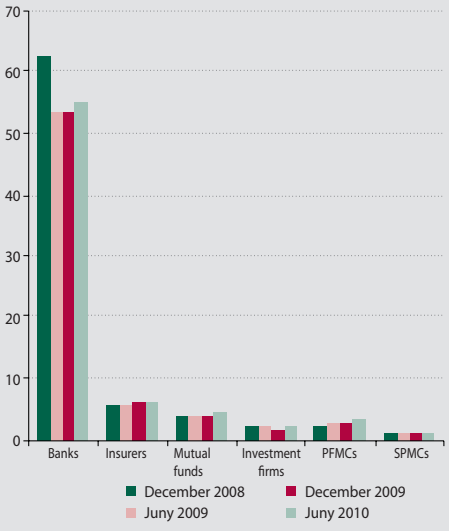
Over the first half of 2010, the banking sector generated a net profit of €240 million, representing a relatively significant increase in year-on-year terms (34%).[11] This profit, however, was still well below the pre-crisis level, owing to the effects of the waning crisis and the loss of income from foreign exchange transactions following the euro adoption in 2009. Net profit growth was caused mainly by an increase in profit from retail operations, an increase in net interest income from securities, and a further decrease in operating expenses (Chart 30). The increase in profit from retail operations and transactions in securities was still supported by the relatively large positive interest rate differential between long- and short-term interest rates (the steep yield curve). During the first half of 2010, the overall net interest rate spread widened on a year-on-year basis, mainly as a result of a sharp decrease (39%) in interest expenses on household deposits (Chart 31).[12] Net interest and

Chart 28 Average values of return on equity broken down by segment (as at 30 June; %)



Source: NBS.
Note: Return on equity (ROE) is defined as net income divided by total equity.

Chart 29 Amount of assets or managed assets by financial market segment (EUR billions)

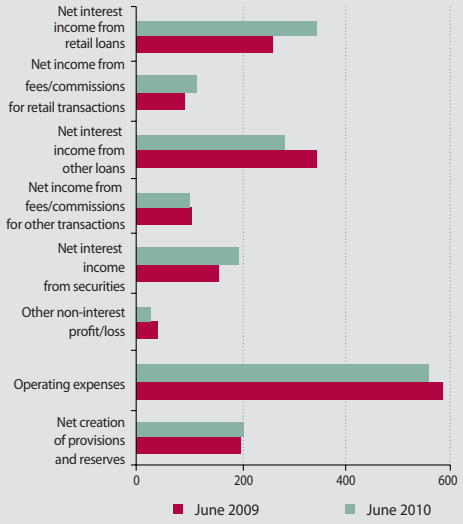


Source: NBS.

11 *The given year-on-year increase in net profit is, however, smaller if the overall financial result is taken into account. This reached a year-on-year increase of 16% over the first half of 2010. The smaller year-on-year increase in the overall financial result was due mainly to a relatively sharp fall in equity (approximately €33 million) as a result of a fall in the fair value of securities recorded in the portfolio of financial instruments for sale, especially in three banks.*

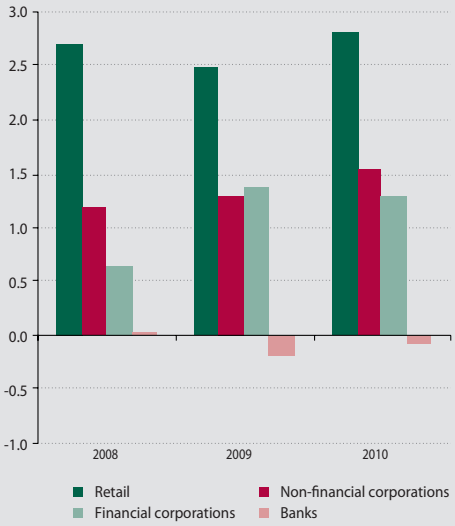
12 *Deposit rates in the first half of 2010 were lower than in the first half of 2009 (they fell from 1.5% to 1.2% in year-on-year terms), when interest rates were increased in an effort to obtain as much household deposits as possible before the euro changeover.*

Chart 30 Main revenue and cost items (EUR millions)



Source: NBS.
Note: Net creation of provisions and reserves includes net profit from the assignment of claims on customers to third parties.

Chart 31 Net interest rate spread (%)



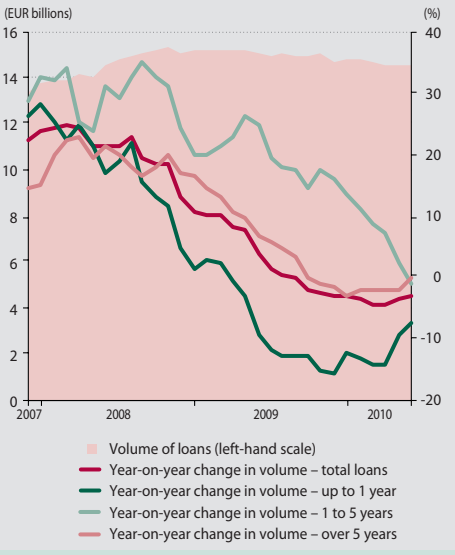
Source: NBS.
Note: Net interest rate spread represents the difference between returns on loans (the ratio of interest income from loans to total loans) and the cost of deposits (the ratio of interest expenses on deposits to total deposits).

non-interest incomes in other sectors decreased mainly as a result of a fall in the amount of loans. This was most apparent in the corporate sector. Owing to a year-on-year decrease in operating expenses coupled with an increase in gross revenues, the operating efficiency of banks improved. The share of operating expenses in revenues from banking activities reached 53% in June 2010, representing the lowest value in the last few years monitored on a semi-annual basis. The overall net creation of provisions and reserves (including losses from the write-off or sale of non-performing loans) increased only slightly in year-on-year terms, from €196 million to €202 million. However, the sectoral structure of provisions recorded a change: the net value of provisions created for household loans as a share of the total net value of created provisions increased from 37% in the first half of 2009 to 51% in the first half of 2010.

The total volume of corporate loans continued to fall. This was due mainly to the relatively weak demand for loans on the part of enterprises and the strict conditions under which banks provide such loans.

The moderate decrease in the total amount of loans provided to enterprises continued in the first half of 2010 (Chart 32). The most significant decrease took place in operating loans, the amount of which fell by 50% compared with the end-2008 level. The slowdown in the rate of growth gradually turned into a decline, even in the case of long-term investment loans. The

Chart 32 Lending to non-financial corporations (EUR billions)



Source: NBS.

amount of loans granted for commercial real estate financing, which had been growing in the previous period as a result of project financing, did not increase either. In this segment, only a minimal number of new projects have been launched since the beginning of 2010. Banks maintained their prudential approach to corporate sector financing; most banks left their lending standards unchanged in the first half of 2010 (Chart 33). The weak demand for loans among enterprises persisted, too. This situation in the supply of, and demand for, corporate loans was connected with the unfavourable conditions in the corporate sector and the uncertain outlook for the future. The utilisation of production capacities in the corporate sector was low, though it is one of the key factors determining the level of demand for investment loans. It was observed in numerous sectors that the sharper fall in activity was recorded in 2009, the sharper fall in lending activity occurred in the following period.

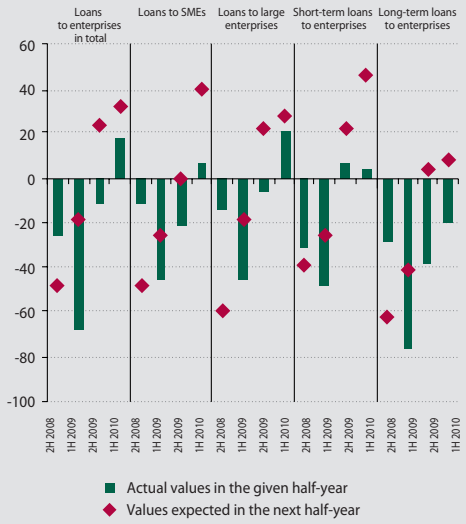
Corporate deposits were broadly stable.

The first half of 2010 saw no substantial changes in corporate deposits. Movements in deposits occurred almost exclusively as a result of corporate activity. The decline in term deposits came to a halt. This, together with the slightly increased current account balances, may be an indication of higher liquidity in the corporate sector. Corporate deposits remained an important source of financing for banking activities.

The amount of loans granted to households in the first half of 2010 exceeded the figures for both halves of 2009. Banks did not modify their credit standards and lending conditions too much. Demand for loans increased in the household sector as a result of improved expectations regarding economic development and reduced interest rates. New loans were granted in particular for the refinancing of old loans under more favourable conditions.

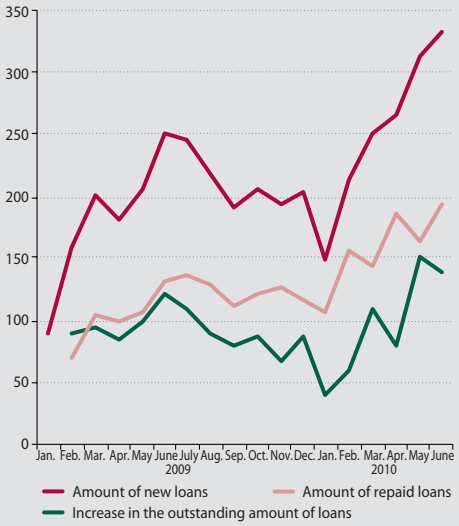
The growth in the outstanding amount of house purchase loans began to stabilise as early as the fourth quarter of 2009. Over the first half of 2010, the rate of growth hovered around the level of 11%. New housing loans, however, grew dynamically in the first half of 2010. In absolute terms, May and June exceeded even the months of 2008, which was a record year in the history of lending for house purchases. In May 2010, new housing

Chart 33 Credit standards for loans to non-financial corporations



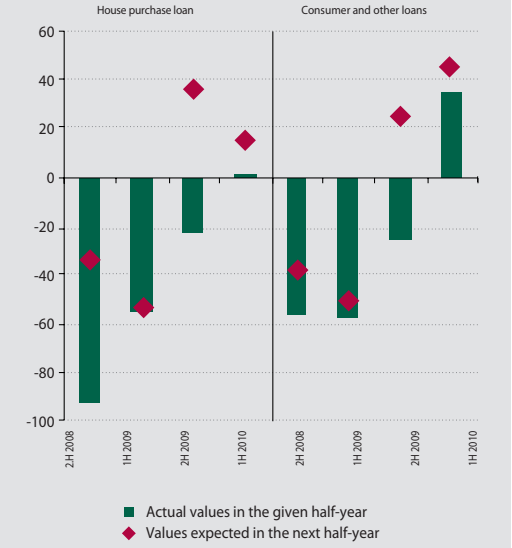
Source: NBS.
Note: The data are given as net percentages; a positive value indicates an easing of credit standards. Changes in the standards express the subjective views of banks. (SMEs = small and medium-sized enterprises).

Chart 34 Increases in the outstanding amount of household loans compared with the amount of new loans (EUR millions)



Source: NBS.
Note: Home savings bank loans are not included in the chart. Repaid loans are given by the difference between new loans and the increase in the outstanding amount of loans.

Chart 35 Credit standards for loans to households



Source: NBS.
Note: The data are given as net percentages; a positive value indicates an easing of credit standards. Changes in the standards express the subjective views of banks. Expectations in the given half-year express the values expected in the next half-year.

loans increased by 64% on a year-on-year basis. The reason why this rapid growth in new housing loans caused no increased inflow of loans into the economy was the effort of customers to make use of the low interest rates to refinance their old loans borrowed under less favourable conditions (Chart 34). Unlike demand for house purchase loans, demand for consumer loans increased only slightly in the household sector. A similar trend was recorded in short-term loans – current account overdrafts and credit cards, the outstanding amount of which continued to grow at a decelerating pace. Demand for new loans (mainly for housing loans) was stimulated by the favourable interest rates, which continued falling in the first half of 2010. This was mainly due to a decrease in credit premiums covering the risks inherent in the Slovak economy and in the interbank rates. The labour market stabilisation was also perceived positively by customers. As a result, they became more optimistic about their financial situation in the future. Demand for housing loans among households was also influenced by the continuing decline in residential property prices. The majority of new real estate market transactions concerned older apartments or newly built apartments at reasonable prices. The attitude of banks to the setting of credit standards or lending conditions remained broadly unchanged in the first half of 2010 (Chart 35). Banks gave preference to individual approach to customers over easing their lending conditions en masse.

Household deposits gradually returned to their long-term growing trend in the first half of 2010. The structure of term deposits changed in favour of deposits with longer maturities. Term deposits in some of the small and medium-sized banks increased.

After declining steadily during 2009 in reaction to the sharp increase before the euro adoption, household deposits held at banks returned to their long-term growing trend in the first half of 2010. The relatively low interest rates on bank deposits contributed greatly to the fall in the amount of term deposits. A significant decrease was recorded in term deposits with a maturity of up to one year, which ceased to be attractive for customers in terms of the interest they pay. Term deposits decreased in large banks in particular. In some of the small and medium-sized banks, however, their outstanding amount increased throughout the period. Demand deposits followed a growing trend in the first half of 2010.

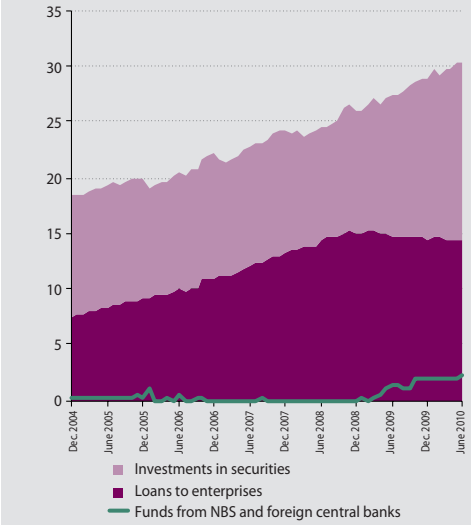
Lending to other sectors, except the general government sector, continued to decline.

The declining trend in financing provided to other sectors continued in the first half of 2010. In year-on-year terms, the amount of loans to financial intermediaries fell by 32.5%. Some of the banks recorded a modest increase in such loans. In most cases, however, the increase was caused by the gradual drawdown of old credit lines. A negative trend was also recorded in loans to non-residents, though they showed some signs of stabilisation. The general government sector recorded an increase in the outstanding amount of loans, which stabilised around 13% in the first quarter of 2010.

Banks tended to invest more in securities, mainly in government securities.

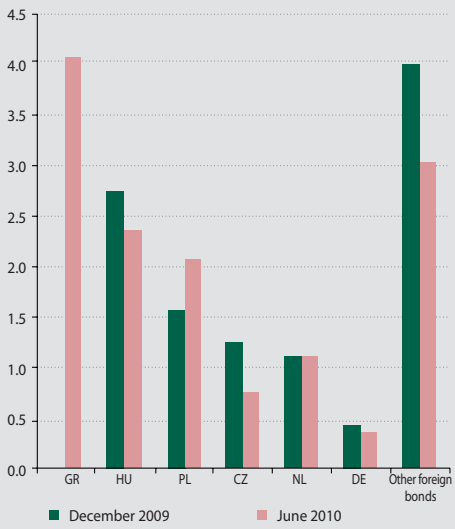
To compensate for the downturn in lending activity, banks made increased investments in securities (Chart 36). The trend of investment in high-yielding securities had begun in 2009. To purchase securities, banks also borrowed cheap funds from the Eurosystem. Increased investments

Chart 36 Investments in securities and loans to enterprises (EUR billions)



Source: NBS.

Chart 37 Foreign debt securities as a share of total bonds by country (%)



Source: NBS.
Note: The chart does not include bonds issued in Slovakia, which accounted for approximately 86% of the total amount of bonds (at end-June 2010).

were made, in particular, in domestic government bonds and Treasury bills. Since the beginning of 2010, some of the banks have also been investing more and more in foreign government bonds.[13] Exposure to the highly risky Greece has also increased substantially (Chart 37). The banks under review also invested significant amounts in bonds issued by foreign banks and financial institutions.

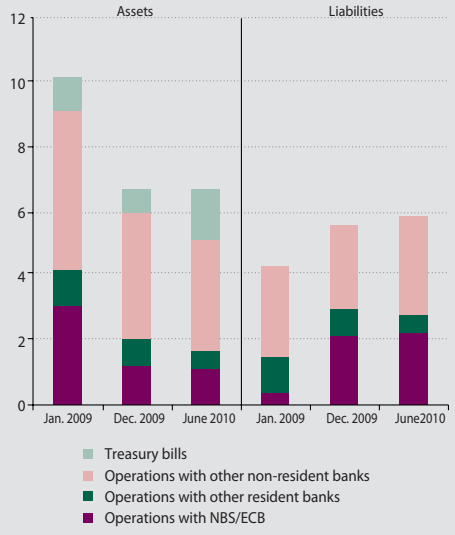
The amount of securities issued was stagnant.

The total amount of securities issued in the first half of 2010 remained broadly unchanged, at the level of end-2009. In the long term, mortgage bonds account for roughly 90% of all securities issued. Since mortgage loans grew over the first six months of 2010 only minimally,[14] the amount of new mortgage bond issues was influenced mainly by the maturity and replacement of old issues. Owing to the new issues, the coverage of mortgage loans with mortgage bonds was above the statutory 70%. At end-June 2010, this coverage reached 87%.

In interbank operations, a marked fall was recorded only in loans to foreign banks.

The total amount of interbank assets changed only minimally in the first half of 2010, despite a significant decline in operations with foreign banks (mainly in loans granted within their bank groups, Chart 38). The amount of funds that banks obtained from the interbank market increased somewhat. The highest proportions of interbank market funds to total liabilities were reported by branches of foreign banks. They were almost

Chart 38 Developments in selected interbank assets and liabilities (EUR billions)

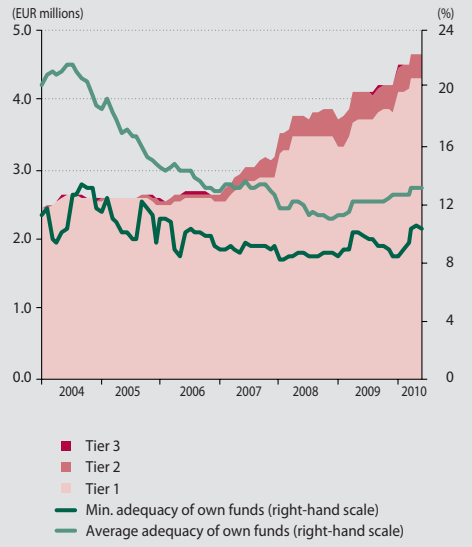


Source: NBS.

13 *At the end of the first half of 2010, government bonds accounted for approximately 92% of the total amount of debt securities.*

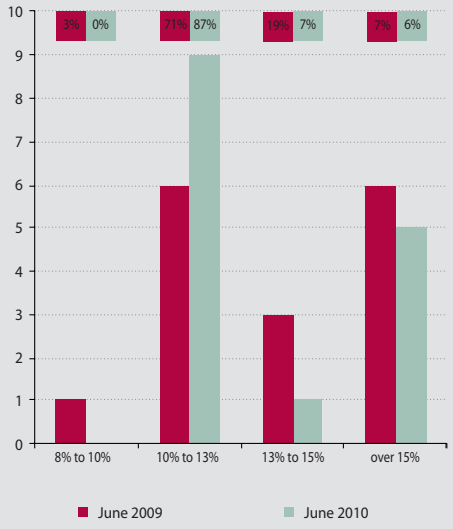
14 *In the first half of 2010, the tendency to replace mortgage loans by other housing loans increased. Such loans have grown by an average of 30% year-on-year since January, while traditional mortgage loans (covered with mortgage bonds and eligible for a government bonus) grew at a decelerating pace, from 4% in January to 1% in June. The result of this trend is that the outstanding amount of other house purchase loans exceeded that of mortgage loans in March.*

Chart 39 Components of own funds in the banking sector



Source: NBS.

Chart 40 Distribution of capital adequacy in the banking sector



Source NBS.
Note: The vertical axis shows the number of banks. The percentage above each bar represents the assets of banks in that bar as a share of the sector's total assets.

exclusively funds received from members of the same group. Funds obtained from the Eurosystem during 2009 ceased to increase in the first half of 2010. A substantial part of these funds were used for investment in securities or for interbank market transactions. With the gradual maturing of these funds, the structure of assets is likely to change, too.

3.2 BANKING SECTOR RISKS AND THEIR CAPITAL COVERAGE

Banks continued to strengthen their capital positions.

The capital adequacy ratios of banks rose during the first half of 2010, owing to an increase in their own funds accompanied by a fall in risk-weighted assets (charts 39 and 40). Thus, banks built up a stronger a capital cushion for the coverage of a possible increase in losses in the period ahead. The banking sector's total own funds had increased by 6.3% year-on-year by the end of June 2010. Although the rate of growth in own funds was slower than in 2009, a total of eleven banks managed to increase their own funds. Only four banks recorded a year-on-year fall in their own funds. The moderating growth in own funds was connected with the decline in the sector's profitability in 2009, and with the more moderate view of banks on risks in general. In June 2010, the highest quality component of capital (i.e. Tier 1) accounted for 91.4% of banks' own funds. Numerous banks increased their Tier 1 capital from retained earnings from previous years. Approximately 42% of the sector's own funds were created in 2009.

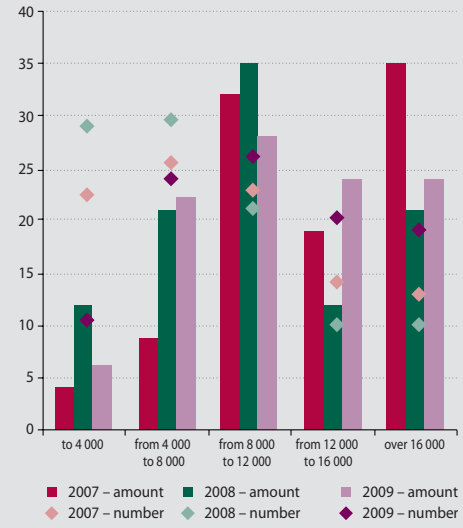
CREDIT RISK

Conditions in the labour market eased slightly and stabilized in the first half of 2010 compared to 2009, reducing the banking sector's exposure to household credit risk.

The decline in employment slowed in the first half of the year, and the expectations regarding its further development improved (except in construction). The rate of registered unemployment fell during the first six months.[15] The month-on-month changes in hours worked were positive but their number was still below the pre-crisis level, especially in industry. The second quarter of 2010 saw a year-on-year increase in wage income in most sectors, and the year-on-year decline in average wage income in the economy came to a halt.

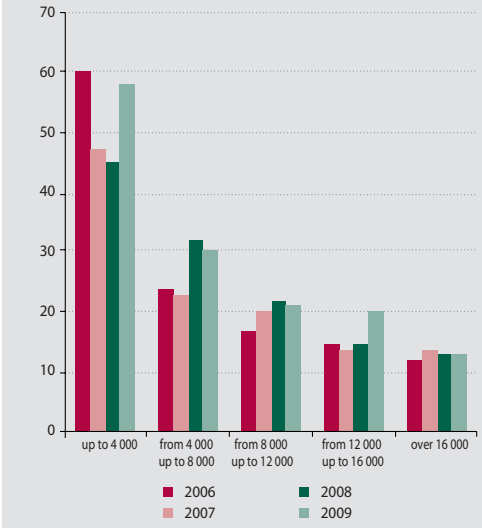
15 *The unemployment rate according to a labour force sample survey, however, recorded one of the steepest increases in comparison with the neighbouring countries.*

Chart 41Distribution of the ratio of amount and number of loans to the total amount and total number of loans to households by income group (%)



Source: Statistical Office SR, EU SILC 2009, NBS.
Note: The horizontal axis shows the decomposition of households by annual disposable income in euros diminished by unavoidable costs assessed against houshold size.

Chart 42 Loan repayments by households as a share of disposable income, broken down by income group (%)



Source: Statistical Office SR, EU SILC 2009, NBS.
Note: The horizontal axis showsdecomposition of households by annual disposable income in euros diminished by unavoidable costs assessed against houshold size

The dependence of households on developments in short-term financial market rates continued to decrease.

In the banking sector, new loans with interest rate fixation for a period of up to one year are gradually replaced by loans with longer fixation periods. This trend has been observed since the beginning of 2009. The share of such loans in total loans gradually decreased from 61% in March 2009 to 30% at end-June 2010. This can be explained by a change in the policy of banks, which began to realise the risk to which households are exposed in the event of a rise in interest rates. At present, the dominant fixation period is over one year and up to five years.

The proportion of housing loans provided to households with higher incomes increased. The loan repayment burden of households remained virtually unchanged.

The breakdown of loans provided to households by income group points to a shift in lending towards higher income groups, which are regarded as less risky in terms of loan repayment. This is indicated not only by the amount of loans but also by their number (Chart 41).[16] Only in the case of the lowest income group was a marked increase recorded in the proportion of loan repayments to disposable income (Chart 42).

Table 2 Share of non-performing loans in the household sector

	June 2009	December 2009	June 2010
Loans in total	4.54	5.08	5.56
Current account overdrafts	8.77	9.05	9.70
Consumer loans	11.42	11.69	12.76
Mortgage loans	1.92	2.52	3.14
Housing loans	1.43	1.56	1.61
Intermediate loans	5.82	6.34	6.07
Other house purchase loans	3.03	3.38	3.59

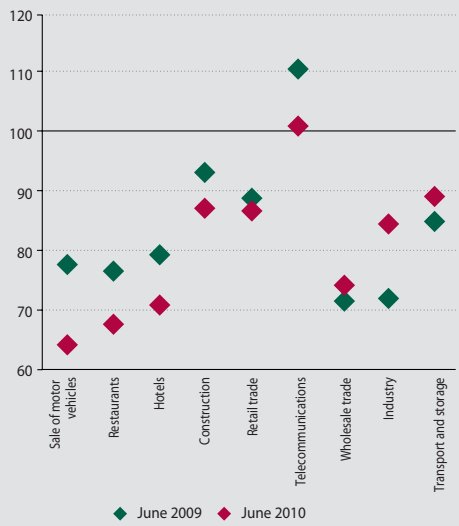
Source: NBS.

16 *Based on data obtained from the Statistical Office of the SR and EU SILC 2007-2009.*

Chart 43 Non-performing loans in the household sector (%)

Source: NBS.

Chart 44 Comparison of revenues in selected sectors in 2008 (June 2008 = 100%)



Zdroj: NBS.

The proportion of non-performing loans increased in the household sector, albeit to a lesser extent.

Compared with the end of 2009, the portfolios of all types of loans deteriorated in terms of quality. A marked increase was recorded in the share of non-performing consumer loans in particular (Table 2). The overall improvement in the economic and financial position of households was also reflected in the growth rate of non-performing loans in the first half of 2010 (Chart 43). Stabilising growth in non-performing loans was observed in virtually all banks and in the case of most loan products. This was also supported by the sale of loans in the first half of 2010. The amount of non-performing loans was positively influenced by the active approach of banks to the restructuring of risky loans, mainly through a temporary reduction in loan instalments.

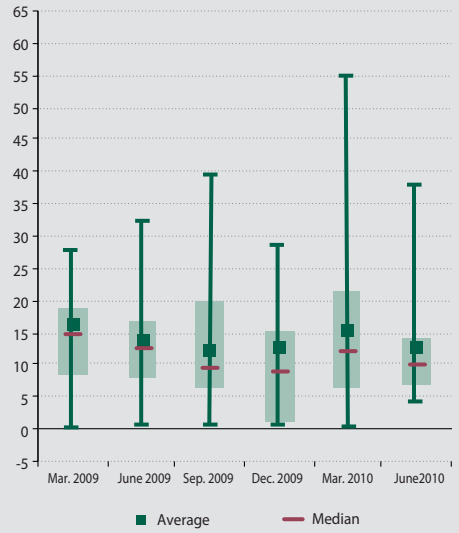
The improving conditions during the first half of 2010, in terms of household credit risk, should be viewed together with the persistent high uncertainty regarding the future course of economic development.

The expected improvement in economic performance involves numerous risks, which may relatively quickly materialise in a similar extent as at the beginning of 2009. It is also important to note that, although some of the indicators concerning households improved in the first half of 2010, their values are still far from the figures recorded before the crisis.

Some of the preconditions for credit risk reduction in the corporate sector improved.

The continuing improvement in the economic situation abroad in the first half of 2010 was

Chart 45 Loan performance as measured by Loans at Risk (LAR) (%)



Source: NBS.
Note: The chart shows the following LAR values: maximum, minimum, upper quartile, lower quartile, median and average.

positively reflected in sentiment in the corporate sector. The confidence indicator, however, did not improve en masse; it improved first and foremost in services and export-oriented industries. Apart from export growth, some of the industrial sectors recorded a revenue increase, too. The decline of revenues slowed in numerous sectors. However, revenues were still at a low level (Chart 44). The low level of corporate revenues compared with 2008 was also reflected in the Loans at Risk (LAR) indicator.[17] Its course indicated no marked improvement in the situation (Chart 45).

The lower sensitivity of enterprises to interest rate increases can be explained by the shorter maturities of corporate loans, compared with those of household loans.

Profitable enterprises are naturally more resilient to interest rate increases for loans. The degree of negative impact of an interest rate rise is determined primarily by two factors. The first one is loan maturity, which is, on average, seven years in the corporate sector. Compared with housing loans with a maturity of 30 years, a change in interest rates has a small effect on the amount of loan instalment. The second factor is the ratio between the amount of loan and the amount of profit, which, in the case of shorter maturities, does not allow a much larger amount to be lent than that corresponding to the financial strength of the borrower. The situation varies from sector to sector mainly as a result of these factors. Owing to its need for long-term financing, the real estate sector is deemed to be the most vulnerable.

The risk arising from commercial real estate financing increased.

The improvement in some of the economic indicators was not yet reflected in the commercial real estate sector. The amount of non-performing loans in this sector increased by 20% over the first six months of 2010. Supply and demand in the market for office space stabilised to some extent in Bratislava. This was reflected in the relatively stable price levels and vacancy rates, which even fell somewhat in the last quarter. A positive factor in this market was the smaller number of incomplete projects. Irrespective of the differences between the individual projects, the residential segment appeared to be somewhat more problematic. This was mainly due to the relatively large number of completed projects, with the apartments not yet being sold. Problems were posed mainly by projects, which had inappropriately designed layouts and incorrectly set budgets.

The share of non-performing corporate loans continued to grow, albeit at a more moderate pace.

Most sectors recorded increases in both the amount and share of non-performing loans. In terms of the amount of loans provided and the outstanding amount/dynamics of non-performing loans, the most significant deterioration in loan portfolio quality in the first half of 2010 was recorded in retail trade and construction. The amount of non-performing loans also increased considerably in the real estate sector. With economic growth accelerating gradually over the first half of 2010, the increasing trend in the growth dynamics of non-performing loans came to a halt (Chart 46).

Liquidity risk

Domestic funds continued to exceed the amount of loans in the banking sector.

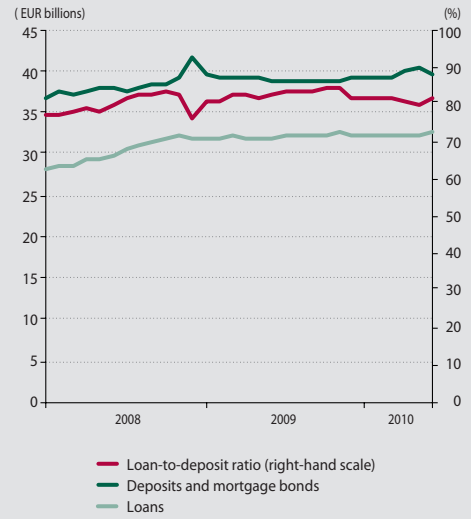
The gradually growing deposits and the stagnating corporate loan portfolio caused a slight

Chart 46 Non-performing loans in the corporate sector (%)

Source: NBS.

17 *Loans at Risk (LAR) – corporate loans that recorded a loss in the given quarter, as well as a fall in revenues of more than 30% in the same quarter of 2008. Loans at Risk are expressed as the share of loans at risk in total loans provided to enterprises that have data on revenues and profits.*

Chart 47 Loan-to-deposit ratio in the banking sector



Source: NBS.

fall in the *loan-to-deposit ratio* in the first half of 2010 (Chart 47). The amount of loans exceeded that of deposits at end-June 2010 only in three banks and seven smaller branches of foreign banks.

The short-term liquidity position of the banking sector improved, too.

The ability of banks to deal with the unfavourable trend in liquidity over a horizon of one month improved during the first half of 2010.[18] This was connected with their increased investments in securities, compensating for the stagnating lending activity. Banks also invested in Slovak government bonds. At present, their liquidity position is supported mainly by the ECB's monetary operations, but the absence of a deep secondary market for Slovak government bonds is an unfavourable factor in the management of bank liquidity over the long-term horizon.

Market risks

In some of the banks, the risk of depreciation in securities investments increased to a significant extent.

Credit risk in some of the EU countries increased in the first half of 2010. At the same time, the amount of investments in securities issued in these countries grew in several banks in Slovakia. At the end of June 2010, banks owned securities issued in Greece, Hungary, Spain, Portugal, Italy and Ireland, in the total amount of €1.3 billion (Chart 37). This amount increased by €0.8 billion during the first half of 2010. Decreases in the prices of these securities, however, were not recorded in the profit and loss accounts of banks, because the majority of these securities were accounted for in the portfolios of financial instruments for sale or held to maturity. If we take into account the risks involved in debt securities that are revalued to fair value (through profit and loss or equity), the decrease in fair value during 10 working days should not exceed 0.2% to 0.3% of the amount of these securities in most banks, with a probability of 99%. Only a small number of banks are exposed to the risk of change in the credit spread, which is broadly unchanged.

A small number of banks recorded an increase in the degree of exposure to overall credit risk in the banking book.

Although the negative impact of change in the economic value, accompanied by a rise of 200 basis points in interest rates, would not materialise immediately in the financial statements of banks,[19] it would adversely affect the amount of net interest income over the long-term horizon. In the case of such change in interest rates, the net economic value of the portfolios of banks (except for branches of foreign banks) would fall by 25.6% of their own funds by 30 June 2010, compared with 21.6% of the own funds recorded at the end of 2009. The degree of exposure to overall credit risk increased in the banking sector, but this increase was concentrated in a small number of banks.

Exposure to interest rate risk through financial instruments in the banking book was negligible in the majority of banks.

The fall in the value of financial instruments in the banking book (including interest rate derivatives), accompanied by a rise in interest rates, should not exceed 2% of the own funds. Bonds recorded in the banking book were also exposed to the risk of changes in credit spreads in Central European countries.[20] This risk has never been perceived as significant.

18 *Short-term liquidity is monitored in terms of the liquid assets indicator. This is defined as the proportion of liquid assets to volatile liabilities over a horizon of one month. Its value should not fall below 1.0.*

19 *Under the Banking Act (No. 483/2001 Coll.), a bank's economic value must not fall below a certain prescribed level as a result of a sudden and unexpected change in the market interest rates. According to NBS Decree No. 15/2006, a sudden and unexpected change in the market rates is defined as a parallel upward shift in the yield curve of 200 basis points.*

20 *This refers mainly to government bonds or Treasury bills issued in Slovakia (84%), Poland (11%) and the Czech Republic (4%).*

3.3 THE INSURANCE SECTOR

The financial position of the insurance sector in the first half of 2010 worsened in comparison with the same period of the previous year.

The profit on insurance activities fell and the profit on financial operations rose more moderately than in the previous year. The total profits of insurers fell by 6.7% year-on-year, to €65.3 million, and the profitability ratios also declined. The overall situation in the insurance sector was largely determined by the slow pace of recovery in the real economy. In the non-life insurance sector, the deterioration in the technical result was attributable to a combination of a downturn in premiums and a rise in claims. Consequently, the profit on this sector's technical account fell by almost 40%. The life insurance sector reported a loss on insurance activities, largely because the rise in premiums was lower than the increase in claims cost. Other factors included the drop in 'other technical provisions', which included, for example, commissions from reinsurers and a rise in liabilities to insured persons (the technical provision for life insurance). After taking into account expenses and income related to the financial investment of technical provisions, the life insurance sector recorded a profit that was almost one-third lower in year-on-year terms. In order to compensate for their worse results, insurance companies reduced operating expenses.

Chart 48 Net asset value of mutual funds sold in Slovakia (EUR billions)

Source: NBS.
Note: From 2006, the figures include also closed-end and special funds.

The available solvency margin[21] increased in 2009.

The available solvency margin (i.e. own funds) must be higher than the required solvency margin and the value of the guarantee fund. As at the end of 2009, all insurance companies met these requirements. The available solvency margin rose by 18.7% in comparison with the previous year, largely due to the rise in retained earnings from previous years. Its ratio to the higher value of the required solvency margin and guarantee fund stood at 3.3 (the solvency ratio), which represents a rise of 42 p.p. compared with the previous period.

3.4 INVESTMENT FIRMS

The amount of customer assets managed by companies holding an investment firm licence increased slightly year-on-year. Trading in securities declined.

The volume of securities trading in the first half of 2010 declined by an average of 33% in comparison with the same period of the previous year; the sharpest fall was recorded by transactions in financial derivatives (34%) and in money market instruments. Trading in securities issued by foreign collective investment undertakings increased. The amount of customer assets managed by companies licensed to manage a customer portfolio (investment firms, banks and certain asset management companies) rose by 4.3% year-on-year, to €2.13 billion.

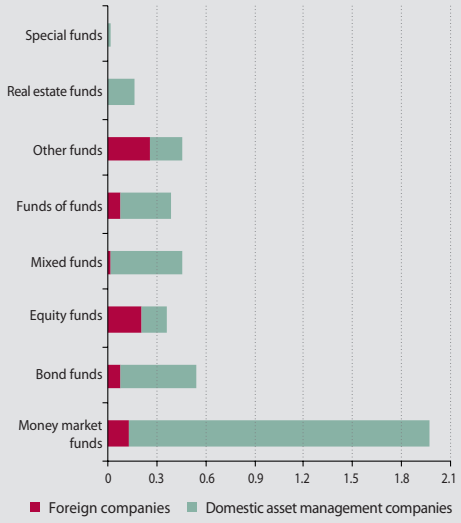
3.5 COLLECTIVE INVESTMENT

The net asset value of mutual funds continued to rise in the first half of 2010, though its development went through two phases. The distribution of assets by fund type remains conservative.

The amount of assets in mutual funds continued to rise in the first four months of 2010, driven up by both investment fund sales and the positive performance of funds. Asset value had been rebounding since the second quarter of 2009.

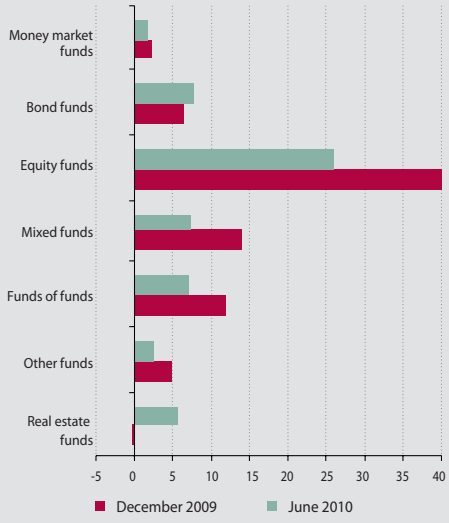
21 *Each insurance company once a year submits a report on its solvency to Národná banka Slovenska. The solvency assessment is therefore based on audited data as at 31 December 2009.*

Chart 49 Net asset value by category of mutual fund, as at June 2010 (EUR billions)



Source: NBS.

Chart 50 Average annual performance of open-end mutual funds by category (% per annum)



Source: NBS.
Note: Funds are weighted by net asset value.

In May and July, the aggregate net asset value again declined, mainly due to a deterioration in performance, but over the whole six months it reported growth (Chart 48). In terms of amount of assets, money market funds have long been the most significant category of funds in the Slovak collective investment sector, with a share hovering around 45% (Chart 49).

The performance of most mutual funds declined in year-on-year terms.

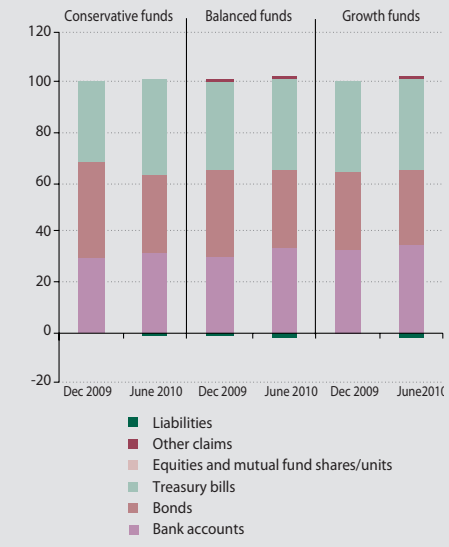
Mutual funds reported a downturn in performance in the first half of 2010, as asset prices failed to maintain the rising trend seen in 2009. This was particularly true for equity prices. The year-on-year performance of mutual funds therefore combined the growth effects from the second half of 2009 with the relatively weak performance of the first half of 2010. As a consequence, all mutual fund categories except for bond funds and real estate funds recorded an annual decline in performance as at 30 June 2010 (Chart 50).

3.6 PILLAR II OF THE PENSION SAVING SYSTEM

The structure of assets in Pillar II funds remain conservative and did not undergo any substantial changes in the first half of 2010. There was, however, an increase in concentration risk.

The total net asset value of funds managed under Pillar II of the pension saving system increased to €3.3 billion. The distribution of managed assets between conservative, balanced and growth funds remained at the long-term ratio of 4.5%

Chart 51 Comparison of the asset structure in individual types of PFMC funds (%)



Source: NBS.

- 29% - 66%, respectively. The allocation of assets into major asset classes corresponds to the new, more conservative investment strategy that PFMCs switched over to in mid-2009 (Chart 51). However, the rising amount and share of assets in the form of bank accounts also has a downside, namely the mounting concentration risk. Since a given fund's deposit investments are spread among only a few banks, a substantial proportion of the fund's total assets are exposed to individual institutions.[22] Although the risk of default and breach of obligations is deemed to be minimal in the case of each bank, the occurrence of any such event could cause a huge loss to the funds affected. The asset structure of the different types of funds is almost identical to the aggregate structure for the whole of the Pillar II system. Although pension fund management companies are required by law to offer three types of fund, savers do not in fact have the option to choose a specific risk-return profile according to their requirements. If PFMCs are to be more successful in fulfilling their purpose, the inappropriate incentives brought into the system by the new Act on Retirement Pension Saving (No. 137/2009 Coll. of 11 March 2009) will have to be corrected. The new law significantly changed the structure and amount of management fees in such a way that gives managers an incentive to select investment strategies that are very secure and, at the same time, not cost intensive. Under the new statutory provisions, management companies are obligated to top up the assets of a fund from their own capital if the fund in question has a negative yield during the designated period. The key issue here is the time horizon over which the performance of funds is assessed, and which is defined as six months.[23] In order to minimise the risk of having to top up assets, PFMCs reduced the volatility of their portfolios by adjusting the portfolio structures. In the long term, such an investment strategy for pension funds will have an adverse effect on savers by substantially reducing the expected returns on their pension savings.

Table 3 Annual returns on pension funds as at 30.6.2010 (%)

Type of fund	Weighted average
Conservative funds	1.3
Balanced funds	1.3
Growth funds	1.2

Source: NBS.

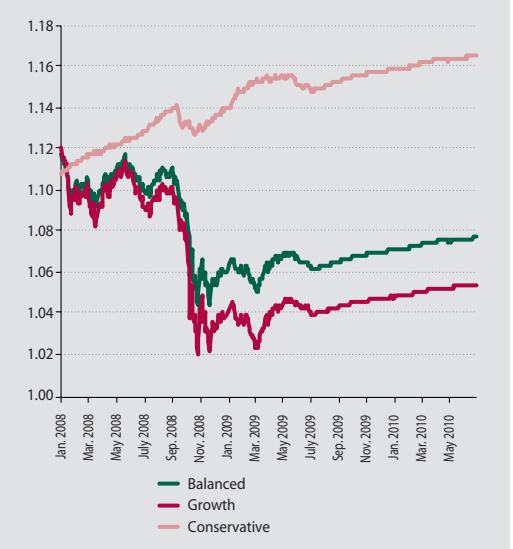
Exposure to 'peripheral' EU countries declined.

Exposure to the five so-called "peripheral" euro-area countries fell by roughly a half during the first half of 2010 and at the mid-year point it represented 6% of total assets. This correction in the share of government securities of certain countries was largely the result of equivalent positions not being restored following the maturity of existing instruments in the portfolio.

The year-on-year returns on growth and balanced funds showed volatility, owing to the development of the pension unit value back in the first half of 2009.

Annual returns on conservative, growth and balanced pension funds remained in positive territory throughout the first half of 2010. By the end of this period, the annual returns on all three types of fund had converged to a considerable degree (Table 3).[24] The year-on-year performance during the period under review did, however, include fluctuations related to the volatility of pension unit value over the first six months of 2009 (Chart 52). The current value of the pension unit in all three types of fund remained steady in the first half of 2010, maintaining the linear trend established in

Chart 52 Current value of the pension unit by type of fund



Source: NBS.

22 *The ratio between, on one hand, the amount that a fund deposits with the three banks that hold the largest proportion of its deposits and, on the other hand, the fund's total assets ranges between 5% and 30%, depending on the specific fund in the sector; the median of these values is 23%.*

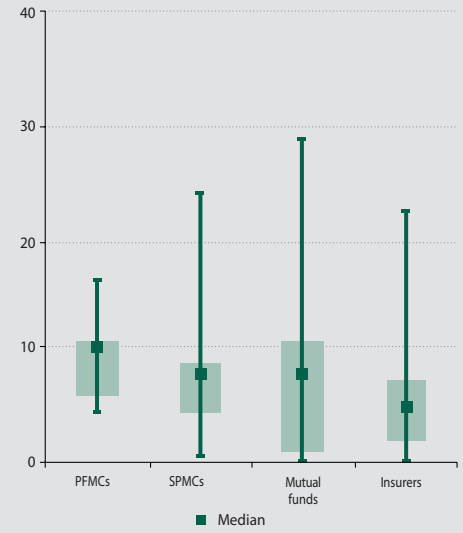
23 *This legally stipulated assessment period is exceptionally short in the context of the underlying philosophy of long-term pension saving in pension funds.*

24 *The average annual return on the given type of pension fund is calculated as a weighted average of the year-on-year percentage changes in the daily values of pension fund units of the respective pension funds. The year-on-year percentage changes in the daily values of pension units are calculated as at 30.6.2010 ($PMZDHDJ_{30.6.2010}$) according to the following formula:*

$$PMZDHDJ_{30.06.2010} = \left(\frac{DJ_{30.06.2010.}}{DJ_{30.06.2009}} - 1\right) * 100\%$$

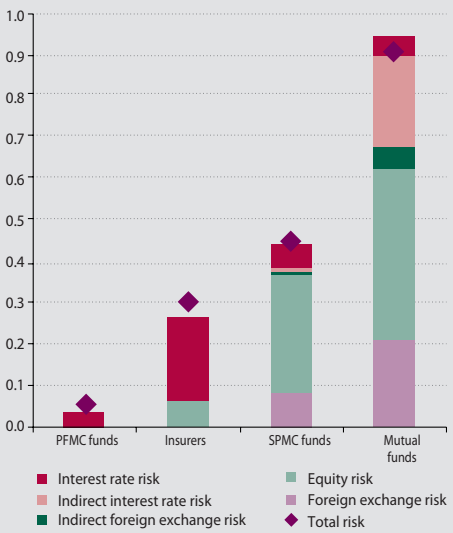
where DJ is the value of a pension unit on the given day. The weight applied is the ratio of the respective fund's net asset value (NAV) to the sum of NAVs of funds of the same type. The return is given in nominal terms (not taking inflation into account). This return, however, is not identical to the return in the saver's personal pension account, which is determined on an individual basis. The input data were the values of pension units from the individual pension funds reported to Národná banka Slovenska by pension fund management companies for the days 30 June 2009 and 30 June 2010, which are available on the website of Národná banka Slovenska. http://www.nbs.sk/en/financial-market-supervision/pension-saving-supervision

Chart 53 Distribution of institutions by each institution's exposure to its most significant counterparty as a share of its overall exposure (%)



Source: NBS.
Note: The Chart shows the distribution (minimum value, lower quartile, median, upper quartile, and maximum value) of each financial institution by its exposure to its most significant counterparty (through funds held in current accounts and term accounts, and through investments in securities, equities, and mutual fund shares/units) as a share of its total assets or NAV. Only exposure to non-sovereign counterparties was taken into account.

Chart 54 VaR in individual sectors (%)



Source: NBS.
Note: Data on the left-hand scale represent percentage shares of total assets or NAV. The figure for insurers does not include assets covering unit-linked insurance policies and risks arising from the revaluation of reserves. The VaR values were calculated as the potential loss that would not be exceeded in 99% of cases over a period of 10 working days.

the second half of 2009. The all but zero volatility of pension fund units stemmed from the absence of the equity component and from the very low duration of portfolio debt instruments.

3.7 MARKET RISKS IN THE NON-BANK FINANCIAL SECTOR

Certain PFMC funds and mutual funds are exposed to a higher degree of concentration risk.

Certain institutions or funds have a relatively significant concentration of exposure to a single specific counterparty (exposure to sovereign counterparties was not taken into account). The sector with the highest aggregate risk in this regard is the PFMC fund sector. At the same time, however, no sector has a median value of more than 9% (Chart 53).

Mutual funds and insurance companies increased their investments in EU sovereign bonds that are tending to decline in value. Overall, however, bond investments are conservative.

The risk of impairment in the value of securities issued by certain EU countries may adversely affect also some pension funds, mutual funds, or insurance companies. During the first half of the year, the amount invested by these institutions in securities issued by Greece, Hungary, Ireland, Italy, Spain and Portugal rose from €0.8 billion to €1.3 billion. On the whole, however, the investments of individual sectors in debt securities are relatively conservative as regards their movements resulting from credit risk. A-rated securities constitute the largest share of securities, and they include also Slovak government bonds.

The assessment of market risks using Value at Risk (Chart 54) shows a relatively low risk of impairment in the asset value of PFMC funds. The exposure of SPMC funds to equity risk increased sharply, and the main exposure of mutual funds was to a decline in the value of equity invest-

ments. Among insurance companies, interest rate movements represent the most significant risk.

Over a horizon of several days, the risk of substantial impairment in the value of assets held in PFMC funds is low. The only risk factor in this time horizon is an increase in interest rates or credit spreads. Over a horizon of several months, the most significant risks to which investments in PFMC funds are exposed are the (improbable) risk of a fall in interest rates (fall in interest income), the risk of counterparty concentration in the case of bank deposits, and sovereign credit risk.

The most marked change in Pillar III of the pension saving system during the first half of 2010 was in the amount of pension fund investments in equities and mutual fund shares/units. The amount of these investments surged by 165%. SPMC funds therefore became more exposed to stock market turbulences. In the case of several funds, their foreign exchange position became somewhat more open as a result of equity investments. In this regard, funds are exposed mainly to devaluation of the US dollar or Japanese Yen.

The most significant risk for the value of assets in mutual funds is the risk of a decline in prices of equities and mutual fund shares/units. Given that a relatively large part of these investments are denominated in foreign currency and that, in several cases, the respective foreign exchange risk is not hedged, some of these funds face a relatively significant foreign exchange risk. Funds also, however, have indirect exposure to foreign exchange

Table 4 Stress testing parameters

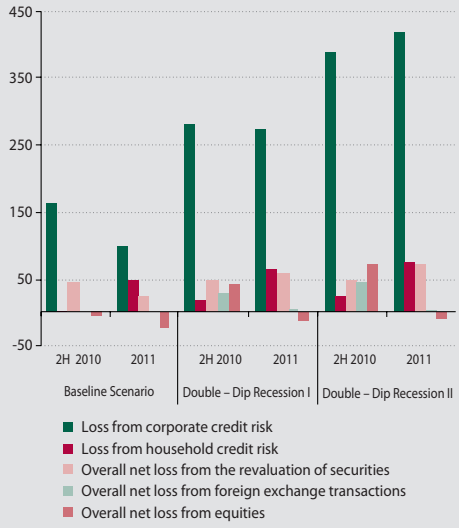
			Baseline scenario		Double-Dip Recession I		Double-Dip Recession II	
			2010 Q4	2011 Q4	2010 Q4	2011 Q4	2010 Q4	2011 Q4
Base assumptions	External demand (year-on-year change)		2.67 %	4.36 %	-6.65 %	11.94 %	-11.16 %	16.52 %
	USD/EUR exchange rate (year-on-year change)		0 %	0 %	-20 %	10 %	-30 %	20 %
	Exchange rates of CHF, JPY, GBP, DKK, CAD, HRK, and LVL against EUR (year-on-year change)		0 %	0 %	10 %	-10 %	15 %	-10 %
	Exchange rates of other currencies against EUR (year-on-year change)		0 %	0 %	20 %	-10 %	30 %	-20 %
	Equity prices (year-on-year change)		5 %	10 %	-30 %	57 %	-50 %	115 %
	ECB base rate (year-on-year change)		0 b.p.	0 b.p.	0 b.p.	0 b.p.	0 b.p.	0 b.p.
	3-month Euribor (year-on-year change)		26 b.p.	28 b.p.	103 b.p.	50 b.p.	121 b.p.	72 b.p.
	iTraxx index (year-on-year change)		0 b.p.	0 b.p.	123 b.p.	0 b.p.	165 b.p.	0 b.p.
	Rise in credit spreads on debt issued by GR, IE, ES, IT and PT		0 b.p.	0 b.p.	150 b.p.	0 b.p.	200 b.p.	0 b.p.
Macroeconomic variables estimated using a model	GDP growth (year-on-year change)		1.60 %	4.51 %	-2.60 %	7.10 %	-4.59 %	8.47 %
	Inflation (HICP)		1.24 %	3.38 %	0.86 %	2.10 %	0.66 %	1.42 %
	Unemployment		14.43 %	14.29 %	14.90 %	15.00 %	15.13 %	15.34 %
Variables for credit risk estimated using macroeconomic variables	Annual probability of default	Non-sensitive sectors	3.13%	2.26%	7.13%	8.14%	10.13%	12.12%
		Less sensitive sectors	3.90 %	2.99%	7.94%	8.49%	10.91 %	12.19%
		Sensitive sectors	4.90 %	4.31 %	8.88 %	9.37 %	11.89 %	12.88 %
	Ratio of non-performing household loans		5.08 %	4.86 %	5.30 %	5.75 %	5.35 %	6.16 %

Source: NBS.

risk through investments in other investment funds.

Estimated values based on projected financial flows indicate a relatively large mismatch between the interest rate fixation periods for assets and liabilities (the average expected maturity period for life insurance provisions on the liabilities side is higher than the average duration of assets that cover life insurance technical provisions on the assets side). Insurance companies should therefore be adversely sensitive to a fall in interest rates. However, the income of insurance companies rose at a time of declining long-term interest rates in 2009 and 2010, supported by the relatively long duration of assets and the high share of assets revalued at fair value.

Chart 55 Stressed losses from credit risk and market risks (EUR millions)



Source: NBS.

3.8 MACRO STRESS TESTING[25]

The resilience of the financial sector increased in comparison with the end of 2009, largely due to the banking sector strengthening its capital buffers during the first half of 2010.

The majority of banks in the sector would probably be able to cope with a substantial worsening of the economic environment both at home and abroad. Compared with the results of the stress testing of banks at the end of 2009, the sector did not report any notable changes.

All banks in the sector would cope with the worsening of the external environment simulated in the 'baseline scenario' (corresponding to the official NBS medium-term forecast / MTF 2010Q2) and in the stress scenario 'Double-Dip Recession I' (the more moderate version of the scenario, which assumes an unwinding of government anti-crisis and support measures). Under such scenarios, not one bank in the sector would report a capital adequacy ratio below the minimum regulatory capital requirement. In both scenarios, banks would take advantage of a rise in profitability. The banking sector reported higher sensitivity mainly under the scenario of a severe deterioration in the economic environment ('Double-Dip Recession II' – the more severe version of the stress scenario). In this case, two banks would see their capital adequacy ratio drop to below the 8% minimum threshold. Other banks would be able to maintain their CAR at above 8% thanks to the profit they made in 2010 or 2011 and/or their higher share of own funds.

Under stress testing at the end of the first half of 2010, banks reported their highest sensitivity to potential losses on corporate loans, as they had done under testing at the end of 2009.

Firms reported a lower ability to service their bank debts, especially in the case of stress scenarios (Chart 55). Under the baseline scenario, we assume a gradual easing of credit risk. Loans to households reported a stronger resilience under stress testing. Not even a substantial worsening of the economic environment is likely to cause significant impairment of household loan portfolios. On the other hand, some banks reported a higher sensitivity to this segment.

Profit-making ability is a key precondition for coping with potential, adverse economic developments in the future. Interest income accounts for a substantial share of the rise in banks' profitability.

In the case of most banks, losses arising from credit risk and market risk were mitigated by overall profitability. Under the baseline scenario, the profit-making ability of banks is expected to be sound. This scenario would see only three banks reporting a loss for 2010 or 2011. In the

25 *Stress testing is a tool for determining the sensitivity of the financial sector to potential adverse developments. Such testing does not make a prediction about the future situation and it employs several assumptions and simplifications. Further information about the models used in the stress testing, including their assumptions and scenarios, is given in the Analysis of the Slovak Financial Sector for the First Half of 2010, which is published at http://www.nbs.sk/_img/Documents/_Dohlad/ORM/Analyzy/2010-1a.pdf.*

Table 5 Impact of macroeconomic scenarios (% of assets, % of NAV)

	Baseline scenario				Double-Dip Recession I				Double-Dip Recession II			
	Asset-weighted average	Lower quartile	Median	Upper quartile	Asset-weighted average	Lower quartile	Median	Upper quartile	Asset-weighted average	Lower quartile	Median	Upper quartile
Banks	0.3	0.0	0.2	0.3	0.2	0.1	0.2	0.4	0.2	0.0	0.2	0.4
Insurers	0.3	0.1	0.3	0.8	-0.4	-0.8	0.3	0.5	-0.8	-1.4	0.1	0.6
Insurers' assets – unit-linked	1.4	0.7	2.2	3.1	-19.0	-27.5	-19.1	-10.2	-28.7	-45.8	-31.1	-15.6
Pension funds	0.3	0.2	0.3	0.6	0.3	0.2	0.4	0.6	0.5	0.2	0.4	0.6
of which: conservative	0.3	0.2	0.3	0.5	0.3	0.2	0.4	0.5	0.6	0.2	0.4	0.5
balanced	0.3	0.2	0.4	0.5	0.3	0.2	0.4	0.5	0.5	0.2	0.4	0.5
growth	0.3	0.2	0.3	0.5	0.3	0.2	0.3	0.5	0.4	0.3	0.3	0.6
Supplementary pension funds	1.0	0.2	0.6	1.0	-1.0	-3.5	0.2	0.5	-1.9	-5.7	0.2	0.6
Mutual funds	0.8	0.2	0.7	1.6	-1.8	-11.7	-1.1	0.4	-2.3	-17.9	-1.0	0.6
of which: equity funds	2.2	0.9	2.5	6.6	-3.8	-23.0	-13.3	-3.7	-3.2	-38.2	-22.1	-6.1
money market funds	0.3	0.3	0.3	0.6	0.4	0.2	0.4	0.6	0.7	0.2	0.4	0.6
bond funds	0.7	0.4	0.9	1.2	-1.6	-2.8	0.3	1.4	-2.1	-4.1	0.2	1.6
mixed funds	2.2	0.8	1.2	1.8	-4.1	-10.5	-2.3	0.3	-4.2	-16.3	-3.8	0.5
funds of funds	2.6	0.4	2.5	2.9	-15.0	-18.4	-16.8	-0.9	-22.1	-30.3	-27.6	-1.3

Source: NBS.
Note: The Table shows quartiles of the profit/loss-to-asset ratio resulting from the application of the respective scenario. The data for insurance companies includes only the change in the fair value of assets, not the change in the fair value of liabilities.

case of the more moderate version, seven banks would report a loss for at least one of the two years under review, while under the more severe version at least eight banks would do so. The main components of the gross income through which banks would be able to reduce their losses on non-performing loans would be net interest income from the customer loans and deposits portfolio and coupon yields from the securities portfolio.

The impact of stress scenarios on the performance of PFMC funds was slightly positive. Investments in SPMC funds were affected mainly by equity price movements. In the case of investment funds, a relatively large part of their investments proved to be conservative. As for insurance companies under the stress scenarios, their assets declined in value mainly as a result of interest rate risk.

Since the structure of PFMC funds has been substantially modified in favour of low-risk assets, the impact of macro stress scenarios on PFMC funds was low. The returns on these funds would even increase, with interest income boosted by the rising interest rates assumed in the stress scenarios.

As for SPMC funds, the net asset value of the largest contributory fund (with a market share of 35%) would, under the scenario 'Double-Dip Recession II', decline by 5% during the second half of 2010, largely owing to the depreciation of equity investments. The asset value of payout funds would not be significantly affected by the stress scenarios.

Under stress scenarios, mutual funds would record a loss for the second half of 2010 representing, on average, 2.0% to 3.5% of the asset value (average weighted by the amount of the net asset value of individual funds). Under the Double-Dip Recession I scenario, the market share of funds that would record a loss of more than 5% of the asset value would be 14%. The largest diversity in the impact of stress scenarios appears in equity funds, where the degree of the impact depends on the share of the equity component. During 2011, however, the losses

made in 2010 would be recovered, due partly to stock markets rebounding and partly to the rising net interest income from the coupons of debt securities (since the average duration of bond investments in mutual funds is relatively short).

During the second half of 2010, approximately a half of the total losses would be caused by falling equity prices, but in 2011 these losses would be gradually recovered when the prices rebound.

Insurance companies would, however, still report losses from the impairment of debt securities, owing to the gradual rise in interest rates or credit spreads. This situation is caused by the high share of securities revalued at fair value. Because of the long duration of these securities, their value would fail to return to its original level within the time horizon of the stress scenarios. This analysis does not, however, take into account the overall impact on insurance companies, since it does not cover any revaluation of liabilities.

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EUROSYSTÉM

ANNEXES

1 A NEW EUROPEAN FRAMEWORK FOR SAFEGUARDING FINANCIAL STABILITY

INTRODUCTION

After lengthy negotiations among EU Member States, the European Parliament and the European Commission (EC), a new European framework for financial supervision was finally approved in November 2010. It will be effective from January 2011. This article examines the design, functions and objectives of the framework and assesses both its strengths and weaknesses.

In November 2008, shortly after the global financial system had been on the brink of total collapse, the EC commissioned a High-Level Group of experts – the so-called de Larosière Group – to provide advice on a more efficient system of financial supervision in the European Union. The resulting de Larosière Report of February 2009 identified the most serious failures of the current system to be as follows:[26]

- the lack of an early warning system and effective macro-prudential supervision at the EU level;
- insufficient cooperation and communication between home and host authorities supervising financial institutions operating in more than one EU Member State;
- substantial differences among national supervisory authorities in terms of their supervisory and sanctioning powers;
- low effectiveness of the Level 3 committees owing to shortages of staff and financial resources and to limited powers (to adopt binding decisions);
- different interpretation and implementation of the common regulatory framework at the national level;
- the ineffective EU-level mechanism for crisis resolution (e.g., there is no pan-European mechanism for resolving the failure of an internationally operating financial institution).

In order to overcome weaknesses of European financial supervision, the de Larosière Report proposes the introduction of macro-prudential supervision at the EU level and the establishment of new European financial supervisory authorities for banking, insurance and securities markets (the so-called European Supervisory Authorities, ESAs). The de Larosière Report was approved by the European Commission and the Council of the EU in March 2009.

THE ESTABLISHMENT OF A NEW EUROPEAN FRAMEWORK FOR FINANCIAL SUPERVISION

In May 2009, following a public consultation on the de Larosière Report, the European Commission Communication on 'European Financial Supervision' introduced a detailed proposal for a new supervisory framework, including tasks, responsibilities, and the organisation of new institutions – the European Systemic Risk Board (ESRB) and the European System of Financial Supervisors (ESFS).[27] This was followed by public consultations. Many comments addressed to the European Commission mentioned certain details missing in the proposal, while assenting opinions were given on condition that further details would be supplied. For example, Česká národní banka, gave a highly critical expert opinion that did not support the establishment of the ESRB in the proposed form.[28]

On 9 June 2009, a meeting of the ECOFIN Council (Finance Ministers of the EU Member States) approved the proposal of the European Commission. The Council's conclusions, however, included a reservation about the EU authorities' powers to interfere with fiscal responsibilities of Member States. A smaller group of countries headed by the United Kingdom voiced disagreement with the possible application of the proposed powers of the new European supervisory authorities, arguing that they could lead to blurring of Member States' fiscal sovereignty. They opposed the proposed power to issue, in certain circumstances (e.g., where a dispute between two Member States' national supervisory authorities could not be settled, or in the case of a national supervisor's inaction when a prompt decision is needed), a binding decision vis-à-vis a financial institution involving the use of national public funds (e.g., a decision to raise the capital of that institution). Such a situation could

26 *The group was chaired by Jacques de Larosière, a former Governor of Banque de France and Managing Director of the IMF.*

27 *These were only the first proposals of the institutions whose form and name were later changed. The final setup of the European supervisory system in accordance with the proposal of Regulations of the European Parliament and the Council of November 2010 is shown in the text below.*

28 *ČNB: Pozice České národní banky ke zprávě skupiny vedené Jacquesem de Larisièrem k dohledu nad finančním trhem v EU, March 2009.*

theoretically have arisen when the crisis caused by the Belgian-Dutch financial group Fortis was addressed in the autumn of 2008.[29] In fact, the competent supervisory authorities of the Netherlands, Belgium and Luxembourg relatively quickly stabilised the situation by deciding to raise the company's capital with an injection of public funds. Instead of supporting the financial group as a whole, each government, in line with its responsibilities for national financial stability, provided public funds to the member of the group operating in its respective territory. The group was thus split along the borders of the countries of its operation, which later led to legal disputes between original owners and the governments. At present, however, it is difficult to think of any decision by a European supervisory authority which would force national governments to use their taxpayers' money for interests outside their national borders. This would presumably make the crisis resolution even more complicated.

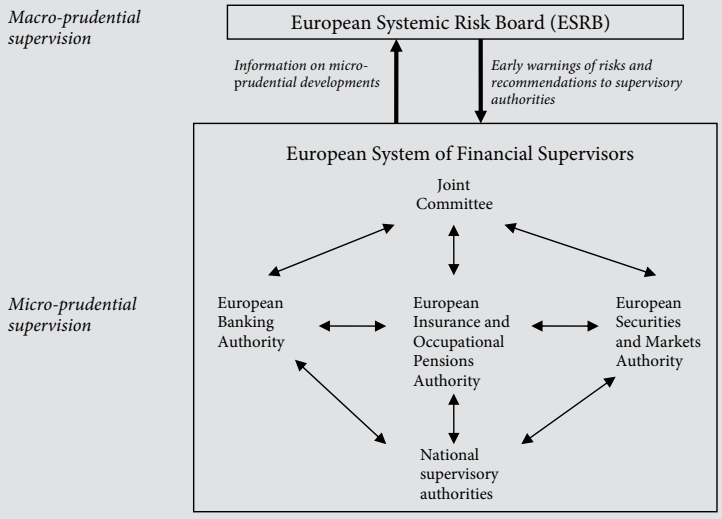
The EU Council supported the establishment of the new European framework for financial supervision at its meeting on 18–19 June 2009. The statement from the Council meeting reiterated the disagreement with the European supervisory authorities interfering in the Member States' fiscal responsibilities. The Council at the same time agreed on a reasonable scope of the ESAs' responsibilities involving the issuance of binding decisions, even in the event of disputes between home and host supervisors.

In September 2009, the European Commission published its proposals for legislation on which basis the European Systemic Risk Board and the European System of Financial Supervisors should be established by the end of 2010. The proposed legislation, after being approved by the Council, was submitted for comments to the European Parliament. As late as at the beginning of September 2010, a political agreement was finally reached among the Parliament and the Member States as to the final form of the new European framework for financial supervision.[30] The European Parliament and the Council formally approved the new system of European financial supervision in November 2010 (see the scheme below). The new financial supervisory institutions will start to operate from 1 January 2011.

Tasks, powers and composition of the new European supervisory authorities

The ESRB's main task will be to identify systemic risks and issue early warnings in order to preserve the stability of the EU financial system. It will assess the soundness of the financial system from the macro-prudential perspective, i.e., it will take account of the interlinkages between financial institutions and credit cycle stages. The ESRB will

Scheme: European framework for financial supervision



Source: European Commission.

29 *For more details, see the NBS Financial Stability Report for 2008, Box 3. http://www.nbs.sk/_img/Documents/ZAKLNBS/PUBLIK/SFS/SFS2008A.pdf*

30 *The European Parliament called for, inter alia, extended powers for the new ESAs, which the Member States were reluctant to accept.*

not be authorised to issue binding decisions vis-à-vis the Member States. It is expected, however, given the ESRB's prestigious position and staff structure, that the ESRB's warnings and recommendations (based on independent assessment and high-quality analyses) will carry due weight and that the addressees will follow them. If the addressee does not follow an ESRB recommendation, it will have to explain the reasons for its stance. The publication of these recommendations will not be automatic, but will be subject to approval by two-thirds of the votes cast by the General Board. The General Board (composed mainly of the governors of the EU national central banks) will be the main decision-making body of the ESRB.[31] The Secretariat, ensured by the ECB, will provide logistical and analytical support to the new institution. The ESRB will be chaired by the ECB President for its first five years, and then its organisational structure will be reviewed.

The new European Supervisory Authorities – the European Banking Authority, the European Securities and Markets Authority, and the European Insurance and Occupational Pensions Authority – will be successors to the three existing European committees.[32] Along with the powers of the former committees, the ESAs will also assume the following new responsibilities:

- prepare draft technical standards aimed at the establishment of the single rule book for the EU financial sector;
- take binding decisions in the event that national supervisory authorities (or colleges of supervisors) fall into disputes over matters defined by law (disagreement with an action; failure to act when required by a relevant law), and thereby jeopardise the protected interests of depositors, investors, recipients of services, or financial stability in any Member State;
- provide consistent implementation of European standards (there is a legally-enacted three-tier mechanism for proceeding against any national supervisor that breaches European legislation, including technical standards);
- directly supervise credit rating agencies (a responsibility of the European Securities and Markets Authority);
- take legally binding decisions vis-à-vis national authorities (in terms of the strict implementation of laws), where the EU Council judges the situation to be an emergency.

The ESAs' decisions in emergency situations cannot, however, be in contradiction with fiscal responsibilities of the Member States. For example, the European Banking Authority cannot instruct a Member State to use public funds to save a failing bank, but it could, say, impose a temporary ban on trading in certain financial instruments during a financial crisis. The highest decision-making body of each ESA will be the Board of Supervisors consisting of a high-level representative of the relevant national supervisory authority in each Member State.[33] Each Board's decision will be passed by a simple majority of votes, and in certain cases (e.g., the approval of draft technical standards) by a qualified majority of votes. Each ESA will be represented by a Chairperson.

The new system may bring benefits in the long term, but realistically not in the short term

Time will tell whether the new European financial supervisory framework meets expectations. Its legislative basis should be reviewed after the framework has been in place for three years. Moreover, the European Commission will each year prepare a report on whether to extend the responsibilities of the ESAs in regard to the direct supervision of institutions and infrastructures with a pan-European reach. The real test of the system's effectiveness, however, will be the next boom and the associated accumulation of risks to financial stability.

The European Commission believes that the further integration of financial markets (and thus overall economic integration) in the EU is being hampered by differences in the way that EU financial legislation is transposed into national legal systems, by the many national derogations from Community legislation, and by the different institutional structures and variable quality of national supervision. The question remains, however, whether possible improvements resulting from the new framework for financial supervision contribute substantially to financial integration in the EU. At present, financial stability objectives are firmly enshrined in national legislation, and the responsibility for financial stability in each country lies with its national institutions. Národná banka Slovenska considers this to be a sensible state of affairs, given the multitude of national specifics – ranging from language barriers and consumer behaviour, to local differences in legal systems

31 *Additional voting members of the ESRB General Board will be: the ECB President and Vice-President, a member of the European Commission and the three Chairs of the ESAs. Non-voting members will be: one representative per Member State of the competent national supervisory authorities and the President of the Economic and Financial Committee.*

32 *These committees have mainly advisory responsibilities and powers to issue non-binding instructions and recommendations.*

33 *Non-voting members will be the Chair of the respective ESA, one representative from the European Commission, the ESRB and from each of the other two ESAs.*

and in legislation governing areas important to financial stability. It is the existence of these national specifics (creating barriers to further integration of financial markets) which makes it necessary to ensure financial stability at the national level. Thus the financial stability of the EU or the euro area should be viewed as the aggregate of the financial stability found at national levels.

The current problems with financial stability in the EU/euro area have arisen either from the fiscal irresponsibility of governments (Greece and, to some extent, Portugal) or from uncontrolled growth in bank lending to the private sector, leading to asset price bubbles (Ireland, Spain). Giavazzi and Spaventa (2010) reason that the most effective tool for preventing an excessive credit boom and for ensuring the timely enforcement of remedial measures under conditions of monetary union and free movement of capital is the exercise of specific regulatory and supervisory powers over financial institutions. The authors further argue that these powers are ineffective in the hands of national authorities owing to the recognised problems of close links between domestic companies and competent authorities, the excessive leniency shown by these authorities, and their reluctance to disrupt a boom and introduce adequate preventive measures. Thus, according to Giavazzi and Spaventa, the right solution is to entrust these powers to a supranational authority. Here, details are important, and since the design of the new European financial supervisory architecture is the result of compromises, it is prone to various shortcomings. The decision-making procedure of the ESA's Board of Supervisors seems to be an issue, since neither its Chair nor any other representative of the EU interests has voting rights. In exceptional cases, and only if it is in the interest of the Community, the European Commission may change or even reject the ESA's technical standards and implementing rules. On one hand, this may help ensure that the interests of the EU as a whole are taken into account; on the other hand, however, such a decision-making framework slows and hampers regulation. At a time of significant interlinking and blurring of the banking, insurance and securities markets segments, the splitting of the supervision of these segments into separate authorities (residing in three different European cities) seems to be a cumbersome solution. The preventive effect of supervision is further limited by the non-binding nature of the ESRB's decisions and the (understandable) safeguard against any ESA decisions that would involve the use of public funds at a national level. This safeguard may in reality lead to complications because, theoretically, any ESA decision that later proves to be wrong may need to be corrected with an injection of public funds from a Member State. A problem will therefore arise if the ESA and a national supervisor differ in their opinion on the fiscal effects of the ESA's decision, and it is not yet clear how such a problem would be solved. A further difficulty is the brevity of the periods for demonstrating the fiscal effects of the ESAs' decisions and the complexity of the proof required. All in all, the ability of the European financial supervisory framework to act seems curtailed.

The major benefit of the framework could be stronger pressure for harmonised implementation of the European legislation (abrogation of national derogations) and the creation of common minimum standards. At the same time, the possibility of ensuring more coordinated behaviour of national regulators has been (theoretically) improved by limiting the undesirable effects that the decision of one national supervisor has on the situation in another EU country, especially at a time of crisis. The daily supervision of financial institutions continues to be conducted at the national level, while at the EU level it should be coordinated through existing mechanisms, in particular the colleges of supervisors. The primary responsibility for financial stability still rests with national authorities, which must be supported by adequate powers. Národná banka Slovenska believes this setup should be preserved in future and considers efforts to excessively centralise regulatory powers as risky. Regulatory centralisation could lead to the centralised management of financial groups and strengthening of powers of the so-called home (group) supervisors: the easing of capital and liquidity requirements for subsidiaries may speed up the spread of a crisis across the whole financial group. This was proved in the latest financial crisis, when subsidiaries remained sound and stable thanks to the exercise of strict regulation and supervision by the so-called host supervisors.

Conclusion

The new European framework for financial supervision is the outcome of an agreement of 27

countries representing various stages of development and a heterogeneous financial sector structure. One can understand why, for example, smaller countries whose financial sectors are mostly owned by foreign investors are concerned that under certain, not unrealistic, conditions their financial stability may be sacrificed for the financial stability of the EU. It is also well-known that London fears attempts to increase the powers of the ESAs by means of prepared legislation on derivative transactions. At the present stage of the Union's development, the shape of the new framework for financial supervision in the EU is a very complex compromise. While it definitely offers great potential for future progress in creating conditions for EU-wide stability, it also seems at present to have the potential to complicate matters. The credibility that the ESAs and ESRB require can be earned only if they take correct and high-quality decisions and exercise their limited powers in a responsible and efficient way. Furthermore, the activities of these institutions must be based on acceptance of the idea that the EU financial stability can be ensured only if financial stability of its Member States is ensured. The primary responsibility for stability is still in the hands of the relevant national institutions.

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2 THE EXTERNAL POSITION OF SLOVAKIA AND CURRENT ACCOUNT SUSTAINABILITY

Slovakia, like other new EU Member States from central and eastern Europe, has long been reporting a relatively high current account deficit. The recurring deficits generate a considerable accumulation of external liabilities. Given the character of the country's converging economy, the academic literature was judging this development to be equilibrating and beneficial for convergence. Since the economy's links with the external environment were in the past limited, this state of affairs was also seen as naturally reflecting the deepening process of financial integration. As regards, however, some of the region's most deeply indebted countries, the outbreak of the financial and economic crisis has brought about a change of outlook on the sustainability of their external positions and on the need for measures to reduce borrowing.

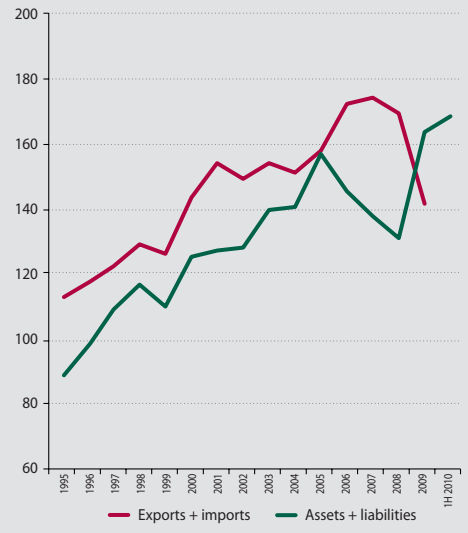
By joining the euro area, Slovakia eliminated several risks associated with external financing of the economy. The developments seen in the euro area's most indebted economies also supported the need to have sound fundamentals – in particular, a competitive economy and an adequate real exchange rate – and their importance for the sustainability of the external position.

In the first part of this paper, we focus on certain aspects of Slovakia's international financial integration, especially on the changes brought about by the country's entry into the euro area. In the second part, we examine whether, given the economy's external debt position, the current level of indebtedness could potentially lead to problematic developments in the balance of payments current account.

INTERNATIONAL FINANCIAL INTEGRATION OF SLOVAKIA

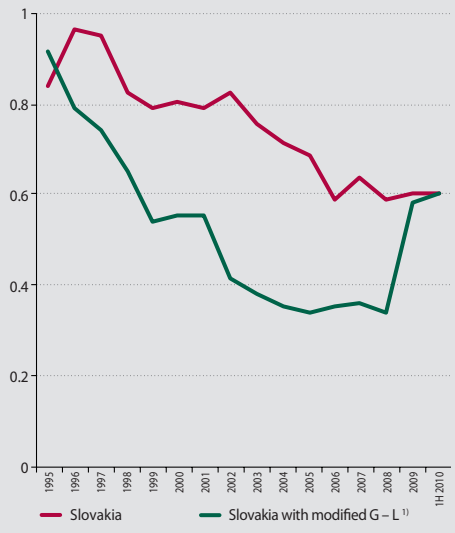
In the case of Slovakia, integration has been driven more by trade in goods and services than by financial links, represented by the international investment position (IIP). On the other hand, joining the euro area was accompanied by a deepening of integration through financial links. After a certain degree of integration and capital accumulation had been achieved, financial activities became more international in scope in order to diversify portfolios.

Chart 56 Financial and trade integration of Slovakia, % of GDP



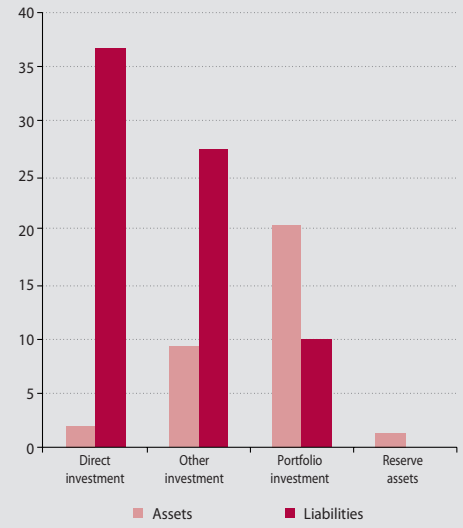
Source: NBS.

Chart 57 Grubel -Lloyd index



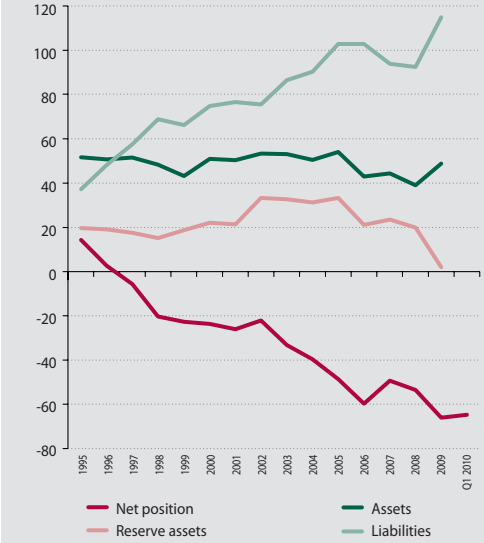
Source: NBS.
1) Index adjusted for official foreign reserves.

Chart 58 International investment position, Q1 2010 (EUR billions)



Source: NBS.

Chart 59 Net investment position of Slovakia (% of GDP)



Source: NBS.

The growth in Slovakia's financial integration has been further supported by the high openness of its economy (expressed as the volume of exported and imported goods and services relative to GDP, see Chart 56).

The rate of international financial integration can be measured using the Grubel-Lloyd index[34], which compares the extent of the net investment position (assets minus liabilities) with the size of overall financial flows, i.e. the gross investment position (assets plus liabilities). The index value has been fluctuating in the range of 1 (the net position is balanced and only overall gross flows play a role) to 0 (the net position comprises mainly 'development' or 'diversification' financing). In Slovakia, this ratio has declined, reflecting the prevailing need to finance the current account more through the deepening of financial integration via increased diversification of financing.

Another perspective is provided by the modified G-L index. This excludes the official foreign reserves on the asset side, since a high level of foreign reserves may ,mask' a possible higher debtor position of the private sector. In the past, given the nature of its exchange rate regime, Slovakia had a high proportion of reserve assets in its asset structure. After joining the euro area, Slovakia lost its autonomous monetary policy and reported a substantial change in the significance of foreign reserves, which in the international investment position was reflected in their sharp decline.

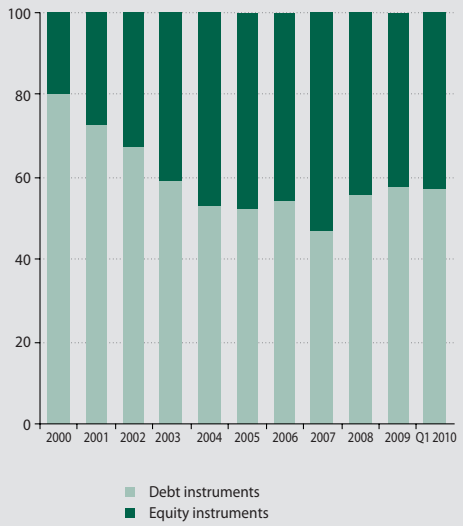
The net investment position (assets minus liabilities relative to GDP) is negative with a rising tendency. At the beginning of the 1990s, Slovakia had a creditor position, but this turned into a debtor position within a relatively short time. The debtor position has been increasing also in relation to the size of the economy.

Chart 60 Structure of assets (%)

Source: NBS.

34 *1-(A-L) / (A+L), where A – IIP assets L – IIP liabilities*

Chart 61 Structure of liabilities (%)



Source: NBS.

The changes in the international investment position in 2009 were influenced by Slovakia's entry into the euro area. A significant proportion of the assets and liabilities originally denominated in euro as a foreign currency were automatically redenominated into euro as the domestic currency, thereby largely eliminating exchange rate risk. The interest-rate risk also declined owing to the lower credit risk premia on externally issued debt.

The structure of assets and liabilities in terms of their share of debt and non-debt instruments also underwent certain changes following Slovakia's entry into the euro area. On the assets side, the change in significance of NBS's foreign reserves was reflected in the formal reporting, in which claims on non-euro area residents denominated in foreign currency (other than the euro) were treated as NBS's foreign reserves. Since a high proportion of assets were denominated in euro, the amount of foreign reserves declined sharply when these assets were reclassified as portfolio investment (which increased as a result).

On the liabilities side, the share of debt instruments increased and it was closely related to NBS's decision to use loans from the Eurosystem to meet liabilities to the banking sector following Slovakia's entry into the euro area.

Box 1

INTERNATIONAL INVESTMENT POSITION

The international investment position represents the balance of the economy's external financial assets and liabilities vis-à-vis the rest of the world. Investment position data are monitored on a gross basis – assets and liabilities are therefore identified separately. External assets include direct investment abroad, portfolio investment, other investment (distinguishing between equity and debt securities) and reserve assets. External liabilities include direct investment in the reporting economy, portfolio investment, and other investment.

The data are compiled in accordance with the methodology defined in the fifth edition of the IMF's Balance of Payments Manual, and they are reported in the domestic currency. Data on stocks denominated in foreign currency are converted into the domestic currency using the exchange rate applicable as at the period end. In general, transactions and stocks are reported at market prices or, if the market price is not available, at book value.

Debt instruments	Investment position	Non-debt instruments
Other capital	**Direct investment**	Equity capital, reinvested earnings
Debt securities	**Portfolio investment**	Equity securities
Trade credits	**Other investment**	
Loans		
Cash and deposits		
Other assets		
Reserve assets	**Reserve assets**	

Correcting the external imbalance

A persistently high current account deficit or negative net position entails the potentially destabilising risk of a sudden reversal of capital flows or a shock in the form of a rise in interest rates. It was assumed that monetary union membership would eliminate these risks, but the crisis of confidence in sovereign states revealed that even in the monetary union, the external imbalance represented by the current account deficit and the accumulation of debts has economic importance.

Consequently, the significance of a current account deficit for a monetary union member country is now being reassessed. The increasing economic and financial integration of EU countries has affected the behaviour of economic entities. Since the beginning of the 1990s, financing conditions and the availability of funding have improved dramatically. The prospects of an increase in income (and productivity) intensified the preference for current consumption. Expectations became excessively optimistic, and in several countries this led to an unsustainable current account deficit and accumulation of external debt.

The necessary adjustment may take place through several channels. The changes are taking place mostly through the reduction of consumption and through structural changes necessary for ensuring the country's export competitiveness (the trade channel). Part of the correction may be made through adjustments to returns on, and the valuation of, financial assets and liabilities (the so-called financial channel). A number of studies[35] have estimated that in advanced economies with an extensive IIP, around 30% of the external imbalance correction is implemented through the financial channel. This channel's reaction to a shock appears in the short-term horizon. Therefore, a substantial part of the correction takes place through the trade channel and has an effect over the long run.

The IMF has estimated that in the case of emerging economies, the financial channel effect is lower, and that in certain cases – depending on the currency composition of assets and liabilities and on the nature of the net position – it could also have a negative effect on the correction of imbalances.

In the case of Slovakia, relative asset weights have a negative effect on net returns (i.e. costs related to liabilities exceed returns on assets), which in turn affects the direction of the financial channel effect. This adversely affects the external imbalance – as in the case of emerging economies that have a debtor position. Thus, in order to stabilise the net investment position, the economy must produce a higher current account surplus.

One way of evaluating the sustainability of the net position is to use accounting identities of relationships between developments in the balance of payments and in the net position, through which the current account benchmark can be derived; at a certain level, this benchmark stabilises the net investment position relative to GDP. In papers[36] that have analysed the current account benchmark for countries in central and eastern Europe, Slovakia was not found to have a substantial imbalance.

The problem with this approach lies in the normative choice of the level at which the external position is expected to stabilise. One option is to make it the current level of the net position, or a level that is considered consistent with the willingness of foreign investors to lend to the country (IMF 2005).

We proceed in accordance with equation (1) where, on the basis of the accounting identity, changes in the net investment position (stocks of financial assets and liabilities) are defined by flows of the current account balance and capital account balance. The disaggregated effects on the net international investment position can be divided as follows (according to Lane, Milesi-Ferreti[37]):

$$B_t - B_{t-1} = CA_t + KG_t + E_t \qquad (1)$$

where

B_t is the net investment position,
CA_t is the current account balance,
KG_t is the capital gain or loss, expressed as the change in IIP stocks minus the underlying balance of payment flows,
E_t is capital account[38] transfers and net errors and omissions.

Indicating ratios to GDP with lower-case letters, we can express (1) as follows:

$$b_t - b_{t-1} \equiv ca_t + kg_t - \frac{g_t + \pi_t}{(1+g_t)(1+\pi_t)} b_{t-1} + e_t \qquad (2)$$

where gt is the growth rate of real GDP and πt is the inflation rate.

35 *For example, Gourichas and Rey (2005), IMF (2005).*
36 *Ca Zorzi , Chudik, Dieppe (2009); Lane, Milesi–Ferreti (2006).*
37 *Lane, Milesi–Ferreti: Capital Flows to Central and Eastern Europe, IMF 2006.*
38 *The capital account includes investment-related foreign aid flowing from foreign governments and non-governmental entities and the purchase and sale of patents, licences and copyrights.*

The dynamics of the external position are affected by the rate of growth of the economy, the effect of currency exchange rate movements, and returns on individual investment instruments. The capital gain/loss *kg* includes the effects of the exchange rate movements (against the euro) of the currencies in which the individual financial instruments are denominated, the effects of changes in the market valuation of instruments, as well as other changes in amount. The component b_{t-1} of (2) captures the effect of the country's GDP growth on the change in its relative investment position.

The balance of the current account *ca* may be further broken down into the effects of investment returns that have a direct relationship with capital flows and into other effects (balance of goods and services; compensation of employees; balance of current transfers), which includes *bgstt*.

The income balance is a significant component of the current account and it makes a substantial negative contribution to the increase in Slovakia's balance of payments current account deficit[39] (Chart 62). The relations between the net investment position and the current account balance are affected by returns on investment portfolio instruments. We assume a different real rate of return on assets and liabilities *rt* as follows:

$$b_t - b_{t-1} \equiv bgst_t + \frac{r_t^A - g_t}{1+g_t} a_{t-1} - \frac{r_t^L - g_t}{1+g_t} l_{t-1} + e_t \qquad (3)$$

We can further decompose assets and liabilities into 'debt' and 'equity' investment instruments, assuming at the same time that they have different rates of return. In the case of equity investment instruments (FDI and portfolio investment), the country can share the risk with foreign investors. The rate of return on equity investments is linked to the performance of the economy, and so at times of weaker performance, the rate typically falls. Consequently, however, the rate of return on investments may in fact be higher than in the case of debt financing. With debt financing, the debt servicing payments are usually constant, regardless of the current (debtor) position of the economy, and this could heighten tensions in the event that the country (the debtor) is adversely affected by shocks.

$$b_t - b_{t-1} \equiv bgst_t + \frac{r_t^{EQA} - g_t}{1+g_t} a_{t-1}^{EQ} + \frac{r_t^{DA} - g_t}{1+g_t} a_{t-1}^{D} - \\ - \frac{r_t^{EQL} - g_t}{1+g_t} l_{t-1}^{EQ} - \frac{r_t^{DL} - g_t}{1+g_t} l_{t-1}^{D} + e_t \qquad (4)$$

Where

$b_t - b_{t-1}$ is the change in the net position

$bgst_t$ is the sum of the balance on goods, services, current transfers, and compensation of employees,

r_t is the real return on investment broken down into equity and debt assets (a^{EQ}, a^{D}) and into equity and debt liabilities (l^{EQ}, l^{D}),

g_t is the real rate of growth of the economy.

The portfolio structure is important, since the relative shares of the different instruments determine the effect exerted by the rate of return of individual investment instruments. Table 6 shows Slovakia's IIP structure in recent years, and we will proceed on the basis of the 2009 structure.

Equation (4) can be used to calculate the level of the current account balance that would stabilise the net investment position in the medium-term horizon, for a given structure of the assets and liabilities portfolio.

Since the rate of return of the individual financial instruments constituting IIP assets and liabilities cannot be determined directly, we adopted the following simplifying assumptions:

Table 6 International investment position of Slovakia (in % of GDP)

	Net position (assets minus liabilities)	Assets		Liabilities	
		Debt assets	Equity assets	Debt liabilities	Equity liabilities
2008	-53.5	36.2	2.7	51.7	40.8
2009	-66.1	45.0	3.7	66.4	48.4
2010 Q1	-64.8	47.4	4.1	66.5	47.4

Source: NBS.

39 *The effect of the income balance on the net position of Slovakia was discussed in Annex 2 of the Financial Stability Report for 2008.*

Table 7 The current account balance stabilising the net position (in % of GDP)

	Baseline scenario	Low growth	Widening spreads	Low growth + widening spreads
$bgst_t$ [1)]	0.66	0.84	1.29	1.47

Source: NBS.
1) i.e. the balance of trade, the balance of services, the balance of current transfers, and the balance of employee compensation.

- For foreign direct investment and portfolio equity investment by Slovak residents abroad, the rate of return is assumed to exceed the world GDP growth rate by 100 basis points.
- For debt investments by Slovak residents abroad, the rate of return is assumed to be equal to the projected interest rate on long-term euro bonds, given the substantial orientation of domestic investors to the European region.
- For foreign direct investment and portfolio equity investment in the domestic economy, it is assumed that the rate of return will move together with the growth rate of the Slovak economy plus a spread of 100 basis points.
- For debt investment instruments in the domestic economy, the rate of return is derived from the yields on ten-year governments bonds in the euro area plus a spread of 100 basis points.

For the parameters, we made the following assumptions:

- real growth of the world economy of 4.6%,
- growth of the domestic economy of 5.7%,
- average yields on ten-year government bonds in the euro area of 3.6%.

Alongside the baseline scenario, we consider three alterative scenarios: the domestic economy's growth slowing by 1 percentage point; the risk premium on debt liabilities rising by 100 basis points; and a combination of both shocks.

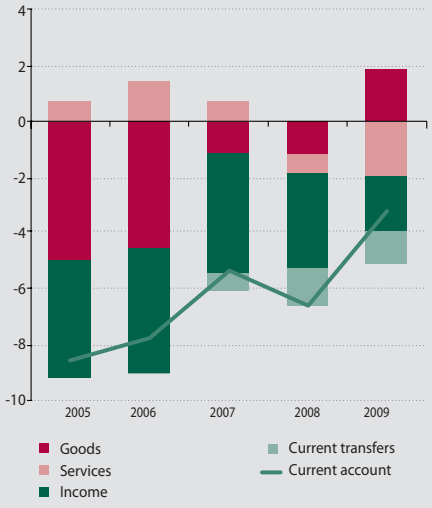
The outcomes in Table 7 indicate that the benchmark balance of the current account *bgstt* did not differ significantly from the actual level recorded in 2009 (0.58% of GDP).

The outcomes are, of course, highly sensitive to the assumptions, which at the same time are substantially simplified (for example, short-term and long-term instruments could be differentiated).

The dynamics of the current account benchmark is influenced by the differential in the returns on assets and liabilities. The rate of return on assets of Slovak residents held abroad (based on the accepted assumptions) was relatively lower, which in turn contributed to the creation of the income balance deficit. The resulting differential implies that other items of the current account balance have to be in surplus if the net position is to be stable.

According to the selected assumption, the rate of return in the case of equity investment instruments is determined by the difference in the domestic economy's growth vis-à-vis the rest of the world. As a fast-growing economy, Slovakia in the past was reporting relatively high income on equity liabilities (reflecting the growth of the domestic economy and its strong productivity growth). When the domestic economy's growth declines, the rate of return on equity liabilities falls.

Chart 62 Current account balance (% of GDP)



Source: NBS.

An increase in the risk premium is reflected in a rise in returns on debt liabilities, which contributes to a substantial widening of the income balance deficit. Hence, the adjustment of other current account components needs to be more substantial.

With deepening financial integration through the increasing size of the gross investment position, the importance of the valuation channel is increasing.

The current account is, of course, affected by developments in the real economy, in addition to the valuation channel. These developments, however, are not captured by the selected approach. In the past two years, we have seen the current account deficit come down as a result of substantial improvement in the trade balance – the decline in imports to the Slovak economy (as a reaction to the downturn in global trade) exceeded the fall in exports, thereby resulting in an increase in the trade balance surplus.

Conclusion

The financial integration of Slovakia has deepened as a result of the country's entry into the euro area. This is a factor that, in helping to reduce and diversify investment risk, supports economic growth and the maintenance of financial stability. Amid the uncertainty in international financial markets, the introduction of the euro has brought the advantages of a stronger and more stable currency.

The financial crisis, however, shows that financial globalisation is accelerating and that under certain conditions it is also amplifying the transmission of external shocks to the domestic economy. This in turn is reducing the benefits of growth and consumption-smoothing, which were supported by the inflow of financial resources from abroad. The crisis of confidence in sovereign states (a feature of the first half of 2010) revealed that even in the monetary union, the external imbalance represented by the current account deficit and the accumulation of debts to foreign investors has economic importance.

The contraction of economic growth in Slovakia beneficially brought about a reduction in the external imbalance. The level of external liabilities relative to the size of the economy is not so high that it would represent a risk to financial stability. However, the sustainability of the current position assumes that the trade balance remains in surplus also over the medium-term horizon. The current account benchmark could represent an additional instrument among financial stability indicators for the assessment of the external economic imbalance and the possible need for a correction.

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IMF: "Globalization and External Imbalances", World Economic Outlook, Chapter III, 2005

3 DEFICIT AND DEBT IN EU27 FISCAL POLICIES

Given the ongoing discussions about fiscal policy tightening in euro area countries, it is worth analysing fiscal policy in the euro area and the European Union. In this annex, we will analyse fiscal policy in the EU27 from the view of whether and how EU27 governments take account of the outcomes of complying with Maastricht deficit and debt criteria when implementing budgets (revenue and expenditure). Our analysis is based on establishing whether changes in budget expenditure and revenue are affected by the level of the previous year's budget deficit and debt.

3.1 STARTING ANALYSIS

Starting hypothesis

A government's decisions on expenditure levels are based largely on assumptions for economic development. At times of economic boom, budget revenue often grows more quickly than the economy. During a cyclical downturn, by contrast, budgetary revenue contracts and results in pressure to curb budgetary spending. The higher the tax and non-tax revenue during the boom, the greater the government's scope to raise expenditure without increasing the budget deficit or debt. Where, on the other hand, budgetary revenue records slower growth or a decline, the government will be forced to react with expenditure-side measures in order to prevent the deficit and debt from increasing. High (inappropriate) borrowing in previous periods creates pressure for fiscal consolidation. This stems partly from the costs and risks of debt servicing, but also from the need to observe and comply with the debt threshold set by the Maastricht criteria. By contrast, a low debt ratio provides fiscal policy with a certain leeway in allowing an increase in debt and the debt ratio. Where a high deficit has recently been run up, a correction of fiscal policy will be necessary, but a low deficit corroborates the assumption that the fiscal policy is correctly set and that higher expenditure or lower revenues do not necessarily represent a problem in terms of meeting the Maastricht deficit and debt criteria.

Model and expected parameter values

We will first test this hypothesis using a model for budget revenue and expenditure in the following specification:

for budget expenditure –

$$\Delta(E) = \alpha_E * Gap + \beta_E * \Delta(X) + \gamma_E * (D(-1) - D0_E) + \delta_E * (B - (-3)) \quad (1)$$

and for budget revenue –

$$\Delta(X) = \alpha_X * Gap + \beta_X * \Delta(E) + \gamma_X * (D(-1) - D0_X) + \delta_X * (B - (-3)) \quad (2)$$

In these equations, *E* is the ratio of budget expenditure to GDP; *X* is the ratio of budget revenue to GDP; *D* is the budget debt – ratio of the public debt to GDP; *B* is the budget balance (all in percentages of GDP); α_E, α_X, β_E, β_X, γ_E, γ_X, δ_E, and δ_X are the parameters; *Gap* is the estimated output gap – the difference between actual real GDP and potential GDP – in percentages of potential GDP; and $D0_E$ and $D0_X$ are the level of debt above which the government will take measures to reduce expenditure and/or increase revenue. The model assumes that once the deficit exceeds 3% of GDP and begins to widen further, the government will take measures to bring it down. There is no intercept in the equations. We therefore assume that budget expenditure (revenue) is not changing when (simultaneously) the economy is currently running at potential, when revenue (expenditure) is not changing,[40] indebtedness is at the threshold point (critical threshold), and the deficit stands at 3% of GDP.[41] Where the sign of the output gap changes and the critical threshold for the deficit and debt is exceeded, the changes in revenue and expenditure are symmetrical and continuous.[42]

The parameter signs we expect in the equation (1) for a change in (the share of) expenditure are as follows:

For the parameter α_E, we expect a negative sign in the interval (0,-1). This means that during a cyclical upturn in the economy, the government is not

40 *The other side of the budget does not change.*
41 *Another method of identification is discussed briefly in the conclusion.*
42 *In the conclusion, we also discuss the possibility of modelling non-linear (asymmetric and discontinuous) reactions.*

increasing expenditure to the extent enabled by the economic growth; on the other hand, during a downturn, the government is not able to reduce the expenditure-to-GDP ratio in proportion to the depth of the cyclical contraction. We expect parameter β_E to be positive – higher revenue creates room for increasing expenditure, and vice versa. Parameter γ_E is assumed to express mainly the reaction of fiscal policy and, on that basis, it should be negative. In other words, once the 'critical' threshold for debt has been exceeded, the government should curb expenditure. Expenditure is also affected by interest cost of debt – a higher debt implies higher interest cost, which in turn causes a lowering of the absolute value of the parameter γ_E.[43] Parameter δ_X should be positive, meaning that if the deficit is lower (better) than 3%, then expenditure may, ceteris paribus, be increased.

Parameter α_X is expected to have a positive sign in the interval (0,1). This means that during a cyclical upturn in the economy, economic growth creates scope to increase budget revenue, while, during a downturn, the revenue-to-GDP ratio declines, albeit only partially. We expect parameter β_X to be positive – higher expenditure supports economic activity and the generation of tax receipts, and vice versa. In some cases, the (anticipated) higher expenditure (relative to GDP) may prompt the adoption of (additional) revenue-increasing measures. Parameter γ_X is assumed to be positive, meaning that once the 'critical' threshold for debt has been exceeded, the government should adopt revenue-increasing measures. Over the past ten years, the fiscal policies of EU governments have sought mainly to lower the tax burden, an approach that in some cases has even shown signs of tax competition. Besides, raising taxes represents a problem for government policy and it should therefore be a less significant way of servicing debts. This is why the value of parameter γ_X is assumed to be rather low, indeed close to zero. Parameter δ_X should be negative – if the deficit is lower (better) than 3%, then revenue may, ceteris paribus, be reduced. By contrast, parameter δ_E should be positive – when the debt exceeds the specified threshold, the government should react by raising expenditure.

The data used and how they are modified before the model is estimated

The source of data for the estimation of the model is the EUROSTAT database. From it, we obtained ratios of revenue and expenditure in percentages of GDP, levels of indebtedness (gross debt in percentages of GDP), and general government budget deficits (net borrowings in percentages of GDP), in the ESA95 methodology. This database is also the source of data on (real) GDP – i.e. the base indices (the base being the year 2000). We analysed annual time series for the period 1995-2009 for the 27 countries of the European Union.[44]

The output gap was estimated using an HP filter. We realise that such an estimate of potential GDP and the cyclical output gap may not be sufficiently precise in specific case (especially for new EU Member States), mainly due to the shift in potential GDP arising from a larger (foreign) investment, but we assume that this will not have a significant impact on the overall conclusions for the EU27. This shortcoming is partially mitigated by the annual frequency of the data and the long period of the analysis.

The estimation form and method of estimation

Our analysis was based on a panel estimate of the above mentioned equations. In order to estimate different debt values at which governments of individual countries curb expenditure or increase revenue, we included the fixed effects for countries in the panel estimates for budget revenue and expenditure. Having in mind possible interdependence of the model variables, we used two-stage least-squares method with the time-lagged model variables as the instrumental variables[45]. Thus, the budget expenditure equation for a given country (i) got the estimation form:

$$\Delta(E_i) = C0_E + \alpha_E * Gap_i + \beta_E * \Delta(X_i) + \gamma_E * D_i(-1) + \delta_E * B_i(-1) + FE_{i,E} \quad (1a)$$

and for budget revenue:

$$\Delta(X_i) = C0_X + \alpha_X * Gap_i + \beta_X * \Delta(E_i) + \gamma_X * D_i(-1) + \delta_X * B_i(-1) + FE_{i,X} \quad (2a)$$

The basic specification of the model (1), (2) implies that the fixed effects are related to the 'critical' level of debt, i.e. the level which, if exceeded, requires the government to curb expenditure and/or increase revenue. If $D0_E$ were equal to $D0_X$, the government would react by changing both rev-

43 *The model does not take account of the possible non-linear effects of indebtedness on interest rates and debt costs. We comment on them in the conclusion.*

44 *Data were available for most of the 27 countries. In some cases, data at the beginning of the analysed period were missing.*

45 *(Instruments).*

enue and expenditure at the same level of debt. In practice, it may not be like this. In deciding the revenue-side and the expenditure-side measures, the government reactions to the debt may be different. The difference reflects the level of public opposition to income-side measures compared to expenditure-side measures.[46] The relationships between critical values of debt and the fixed effects for the given country are as follows:[47]

$$D0_{i,E} = - (C0_E + FE_{i,E} - \delta_E * 3) / \gamma_E \quad (3)$$

$$D0_{i,X} = - (C0_X + FE_{i,X} - \delta_X * 3) / \gamma_X \quad (4)$$

If the reduction in expenditure starts already for the deficit lower than 3% – for example, 0%, that's for the case of a balanced budget – it would mean that fiscal policy was being tightened. The relationships (3) and (4) imply, that such tightening than allows, that the threshold at which the government reacts to the debt by reducing expenditure has been set at a less tight level – so that it is higher. Likewise, where revenue-side reactions to the deficit are tightened, the government may raise revenue in response to the debt after the higher critical level for debt has been exceeded. The budget reactions to the deficit and debt complement each other.

3.2 RESULTS OF THE ESTIMATION AND THEIR INTERPRETATION

The panel estimate based on data for EU27 countries confirmed the starting hypothesis. The parameter estimates have expected signs, and statistically they are highly significant on a significance level of 0.01% (except for the estimates of the intercept and parameter for debt in the equation for a change in revenue). This also confirms our expectation – a change in revenue as reaction to the debt ratio is (also statistically) a less significant.

Table 8 Estimate results

	D(E)	D(X)
C0	4.806446	-1.095270
α	-0.275790	0.102662
β	0.629512	0.217443
χ	-0.078760	0.012983
δ	0.461512	-0.196050

Source: NBS.

It should be noted and stressed, however, that by 'changes in revenue and expenditure' we mean changes in revenue and expenditure relative to GDP.

In the conclusion of this paper,[48] we briefly discuss the graphical assessment of the model fit of revenue and expenditure development in selected EU27 countries (Germany, Ireland, Finland, and Slovakia). We provide a brief interpretation of the differences (model residues).

Reaction of revenue and expenditure to the business cycle

The results of the estimate imply that there is a direct reaction to the business cycle (output gap) on both the expenditure and revenue side. When assessing this reaction, however, it is necessary to note that, in the model, we explicitly consider the interaction of budget revenue and expenditure. Besides, the reaction of governments on the revenue and expenditure sides may not always be exclusively affected by developments in the economy (the business cycle). As mentioned above, we estimated the model using the two-stage least-squares method in order to take account of the interdependence of revenue and expenditure and the output gap.

Mutual reactions of revenue and expenditure

The equations for the expenditure level imply that expenditure (relative to GDP) reacts in a non-proportional way to the cyclical rise in output – parameter α_E has a negative value (-0.28). By contrast, the level of revenue (relative to GDP) rises during a cyclical upturn, and parameter α_X has a positive value of 0.10. If we sum these effects arising from the economy's cyclical movement, it becomes clear that, when not counting for the autonomous change in revenue and expenditure levels, cyclical upturn of the economy improves the budget balance. An interpretation of this finding is that the favourable state of the economy itself gives rise to the conditions for reduction of expenditure and increase of revenue. When the output gap widens by 1%, then, ceteris paribus, the deficit will improve by 0.38% of GDP.

In line with expectations, the estimation results confirm that a higher level of expenditure in-

46 *A similar problem arises in the reaction to the high deficit. We therefore discuss other ways of identifying model parameters within the conclusion.*
47 *The sum of the model intercept and fixed effect is divided by the parameter for debt with negative sign.*
48 *Addendum P1 and P2.*

creases budget revenue even in the given year and that a higher level of revenue is reflected in higher expenditure. The reaction of revenue to expenditure (parameter 0.22) is probably to a predominant extent the result of the transmission 'expenditure – taxes – revenue'. Where the level of revenue rises, the reaction of expenditure to revenue (parameter 0.63) is an expression of tensions in the budget and an expression of the easing of these tensions. The consequence of a decline in the revenue level is a reduction in expenditure, but also a deterioration in the budget management (deepening of the deficit). The relatively high value of this parameter confirms that revenue shocks have a considerable effect on government expenditure policy.[49] This fact corresponds to the conclusion from analysis of the Growth and Stability Pact: in 'good times', when budget revenue rises, governments fail to remember the 'bad times' and the effect of budgets on stabilising demand is insufficient.

Reaction of revenue and expenditure to the previous year's deficit

Parameters δ_E and δ_X express the reaction of budget expenditure and revenue to a situation in which the previous year's deficit was lower than 3%. As expected, the level of expenditure has a tendency to rise when the deficit criteria are satisfied. Parameter δ_E is a positive and relatively high value (0.46). This implies that almost one half of the better result in fulfilment of deficit criterion is lost by expenditure increase reaction of governments. On the positive side, when the Maastricht deficit criteria are not satisfied, the EU27 governments react in the subsequent year by lowering the expenditure level, albeit by only one-half of the shortfall. By contrast, the reaction on the revenue side to the deficit criteria not having been met in a given year is to raise revenue in the subsequent year. The reaction is, however, in line with the general expectation, weaker – compared to the expenditure-side reaction it is less than half as much (the respective parameter value is -0.19).

Reaction of revenue and expenditure to the debt ratio

Government react to the debt ratio predominantly by the level of expenditure. This is confirmed by the values of the parameters γ_E and γ_X, which expresses the reaction of budget expenditure and/or revenue to debt level exceeding the critical debt level. The reaction of expenditure is, as expected, negative – a high debt leads to a reduction in the expenditure level. If the critical debt level is exceeded by 10%, it creates pressure to reduce expenditure by 0.7%. The revenue-side reaction is the opposite: as expected, exceeding the critical debt level caused an increase in the revenue level. This increase is, however, small – the revenue-side reaction is substantially (around six times) weaker. This corresponds to the general view that debt consolidation should primarily be focused on containing expenditure, instead of increasing revenue. Apart from that, the revenue-side reactions probably vary in different countries and at different periods, and generally they are less significant. On aggregate, however, the reaction of both revenue and expenditure to an exceeding the critical debt level is aimed at reducing the debt ratio.

Thresholds for the EU27's revenue and expenditure reactions to the debt ratio

Parameter $C0_E$ (an intercept) in the panel estimate determines the debt level that in the EU27[50] is critical to a government's decision on the expenditure level. According to (3), its value is:

$$D0_{EU27,E} = 43.4\%$$

The value of the parameter $C0_X$ in the equation for EU27 revenue implies for the critical debt level:

$$D0_{EU27,X} = 39{,}1\ \%,$$

therefore the value is very close to $D0_{EU27,E}$ (although, as we have mentioned, these threshold estimates need not be equal).[51]

When the debt ratio for the EU27 (as a whole) is less than 43.4%, the expenditure level is not reduced. A reduction of expenditure in reaction to the debt ratio occurs only after the debt exceeds the threshold of 43.4%. Under the Maastricht debt criteria, governments are expected to react while the debt ratio is below 60%, mainly by decelerating expenditure. It appears that the budgets of the EU27 countries (as a whole) are behaving in this way. It is probable that EU27 budget policy has contributed to debt consolidation across the

49 *The so-called 'expenditure smoothing' is weak.*
50 *The fixed effect for the EU27 is equal to zero.*
51 *As we mentioned, the estimate of the critical debt value from the revenue equation is less reliable. In addition, the effect of public debt on revenue is small.*

EU27, not only in countries that are highly indebted (where the tightening of expenditure may be justified), but also in less indebted countries (where the debt ratio is less than 60%).

As regards debt consolidation, the reaction on the revenue side is specific. The low value of the critical threshold for a revenue-side reaction in the EU27 as a whole – 39.1% of GDP – confirms that revenue-increasing measures are taken in the EU27 as a whole even when the debt level is relatively low. Nevertheless, this consolidation reaction was weak – as the value of parameter γ_X implies – as well as having little statistical significance.

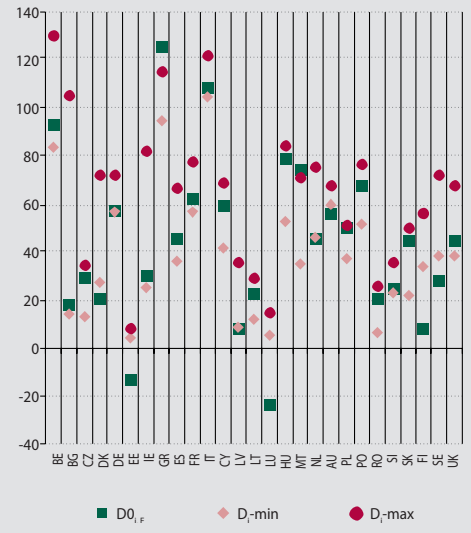
Looking at developments of the level of revenue in several countries, however, it seems that the reaction of revenue to the debt ratio during the period under review was rather the opposite – revenue and their ratio to GDP tended to decline owing to, among other reasons, the assumption that the optimal way of implementing debt consolidation is to support economic growth by reducing the tax and levy burden, and hence also by bringing down the level of budget revenue. In recent years, this assumption has been frequently applied in economic policy. Tax cutting has often shown signs of tax competition.

Table 9 Debt ratios (% of GDP) critical for changes in revenue and expenditure, and the average, maximum, minimum, and current (2009) debt ratio

	$D0_{i,E}$	$D0_{i,X}$	D_i-avg	D_i-min	D_i-max	D_i2009
BE	93	77	105	84	130	97
BG	19	23	49	14	105	15
CZ	29	31	24	13	35	35
DK	21	-17	50	27	73	42
DE	58	57	63	56	73	73
EE	-13	-67	6	4	9	7
IE	31	25	45	25	82	64
GR	126	185	100	94	115	115
ES	46	49	53	36	67	53
FR	63	74	62	56	78	78
IT	109	104	111	104	122	116
CY	60	16	56	41	70	56
LV	9	6	15	9	36	36
LT	23	16	19	12	29	29
LU	-24	-71	8	6	15	15
HU	79	109	64	52	85	78
MT	75	49	59	35	72	69
NL	46	25	58	46	76	61
AT	56	62	65	60	68	67
PL	50	105	44	37	51	51
PO	68	67	59	51	77	77
RO	21	37	18	7	26	24
SI	25	10	27	23	36	36
SK	45	114	37	22	50	36
FI	9	-28	45	34	57	44
SE	28	14	55	38	73	42
UK	45	25	46	38	68	68

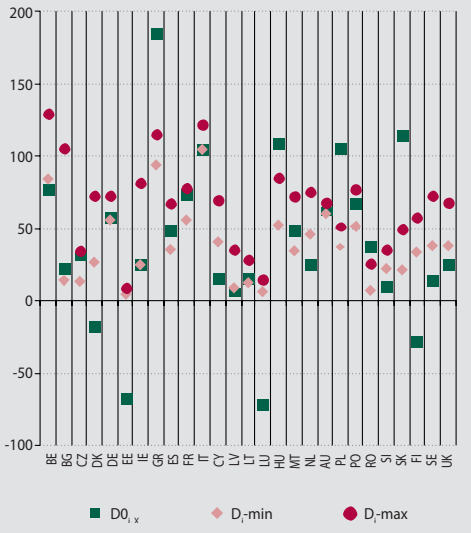
Source: NBS.

Chart 63 Critical threshold at which the debt ratio triggers a change in expenditure. Comparison with the minimum and maximum debt ratios for EU27 countries (% of GDP)



Source: NBS.

Chart 64 Critical threshold at which the debt ratio triggers a change in revenue. Comparison with the minimum and maximum debt ratios for EU27 countries (% of GDP)



Source: NBS.

That the level of revenue in the EU27 was driven up by the debt ratio, but at the same time declined in several EU27 countries, is only an apparent contradiction. The interpretation is that the reduction in levels of revenue was encouraged by attempts to accelerate economic growth. At the same time, governments did not consider the implications of a potential high debt – upward pressure on the revenue level. They assumed that strong growth would enable debt consolidation.

Since the reaction of expenditure to the debt ratio is approximately six times stronger than the reaction of revenue (which reaction was not proved even to a statistically persuasive extent), and since thresholds for debt at which revenue and expenditure change course are around the same, it may be said, that even when the debt ratio was relatively low, debt was a factor that supported consolidation by putting downward pressure on the expenditure level.

The critical debt value for individual EU27 countries

The mentioned characteristic of the debt ratio's role in the fiscal policy of the EU27 as a whole does not necessarily apply to each of the EU27 countries. The difference between individual countries in term of fiscal policy reactions is relatively substantial.

To determine the results of the critical thresholds for debt in the 27 countries of the EU27, we use the relationships (3) and (4), i.e. with the fixed effects taken into account. These are shown in Table 9.[52]

In the majority (16) of countries, the critical threshold at which expenditure reacts to the debt ratio lies between the minimum and maximum of debt ratio in the given period. This means that during the period under review, budgets reacted to the high debt ratio at the beginning of the period or to an increase in the debt ratio prior to the end of the period. Even among these countries, however, differences appear. In Bulgaria, for example, the low level of the critical threshold contributed to a reduction in the debt ratio, while in Italy, by contrast, the high critical threshold gave hardly rise to any pressure to reduce the debt ratio by cutting expenditure. In Hungary, too, it seems that only in recent years did the high critical threshold cause expenditure to contract in reaction to the increasing debt ratio. In Slovakia, the threshold of 45% of GDP contributed to only a brief re-

52 *The critical debt values for individual countries will differ from those for the EU27, depending on the size and direction of the fixed effect in the panel estimates (1a) and (2a).*

duction in expenditure (in the period prior to the crisis in 1998). In eight countries, (Denmark, Estonia, Latvia, Luxembourg, the Netherlands, Austria, Finland, Sweden), this critical threshold is even below the minimum debt ratio, meaning that the debt ratio was putting downward pressure on expenditure for the whole period under review. In only two countries – Greece and Malta – was this critical threshold higher than the maximum debt ratio.

If we compare the debt ratio values that are critical for a change in the revenue level, we find that in half (13) of the EU27 countries, the consolidation reaction on the revenue side – an increase in the budget revenue-to-GDP ratio – was present throughout the period under review, since, in these countries, the respective critical threshold for the debt ratio was lower than the minimum debt ratio. Therefore, the debt ratio in these countries was putting upward pressure on the revenue level, although, as we have noted, the reaction on the revenue side was weak. There are, however, differences among these countries – according to the level of the critical threshold. In Denmark, Estonia, Luxembourg, Latvia, Slovenia, Finland and Sweden, the low threshold contributed to keeping the debt ratio low during the period under review. It was a different situation in Italy and Austria, where the critical value and debt ratio were higher and revenue made practically no contribution to consolidation.

In another group of countries, the consolidation role of revenue changed over the course of the period under review – the critical threshold for increasing the revenue level lies between the minimum and maximum debt ratio. However, revenue as a contributing factor was largely insignificant.

In the third group of countries, including Slovakia, the reaction of revenue had a counter consolidation effect throughout the period. The critical threshold for the reaction of revenue to the debt ratio was higher than the maximum debt ratio. Even in 2009, Slovakia did not have a problem with the level of its public debt. Greece and Hungary, by contrast, found themselves in difficulties after their debt ratios had risen sharply in preceding years (and also due to the inadequate reaction of revenue). This group also includes Poland.

Overall reaction to the debt ratio and the current level of the debt ratio

The list of countries in which the debt ratio had a pro-consolidation effect throughout the period comprises almost all of the countries that have been reporting sound developments in public finances and currently have a relatively low debt ratio.[53] Certain countries, such as Greece, did not react to their public debt either on the expenditure or on the revenue side – rather than embark on consolidation, they reacted throughout the period by loosening fiscal policy, even though the debt ratio was high and rising. As the results of the estimate imply, Greece simply 'postponed' consolidation measures – the critical threshold at which the debt ratio triggers a reduction in expenditure or an increase in revenue is set very high. Hungary, too, has the critical threshold set relatively high. Only in recent years did it report an expenditure-side reaction to the high debt ratio, but no reaction at all on the revenue side. On the whole, it seems that having a low implicit threshold at which the expenditure side of the budget reacts to the debt ratio was the key not only to bringing down the debt ratio, but also to maintaining a low debt ratio.

As regards Slovakia, the estimates show that the low debt ratio tended to support the loosening of fiscal policy, except during one brief period. The estimate of the debt ratio level that is critical for a change on the expenditure side is only just higher than the possible debt ratio in the coming period. The debt ratio level has not as yet put any downward pressure on expenditure. The critical debt ratio at which Slovakia would react on the revenue side is very high. The better interpretation in this case is that the debt ratio in Slovakia is not (has not been) putting upward pressure on revenues.

It is questionable whether the new situation – particularly the high deficit resulting from the crisis in 2008-2009 and in 2010 – should not be an impulse for changing the current budget policy. One possibility is to lower the debt ratio threshold at which the budget reacts through the reduction of expenditure. The problem with Slovakia's budget however, is that the ratio of expenditure to GDP is relatively low and therefore the reduction of redistribution on the expenditure side faces resistance. It will probably be nec-

53 *Except for the current crisis period.*

essary to change the revenue-side reaction – to lower the critical threshold at which there is debt consolidation through an increase in revenue, and therefore where debt consolidation contributes to a higher level of revenue. Certain signs of such a change may be discerned in the current government's draft consolidation programme.

Limits on changes in revenue and expenditure

With the results of the analysis, further questions can be answered. One question, for example, that may be asked is: under which conditions will there be a deterioration in the budget position of the EU27 and individual EU27 countries? The general government budget deficit will deteriorate when the revenue level rises by less than the expenditure level, i.e. where:

$$\Delta(E_i) > \Delta(X_i) \qquad (5)$$

From (3) and (4), we get:

$$C0_X + \alpha_X * Gap_i + \beta_X * \Delta(E_i) + \gamma_X * D_i(-1) + \delta_X * B_i(-1) + FE_{i,X} <$$

$$C0_E + \alpha_E * Gap_i + \beta_E * \Delta(X_i) + \gamma_E * D_i(-1) + \delta_E * B_i(-1) + FE_{i,E}$$

and after arangements:

$$(\gamma_X - \gamma_E)*D_i(-1) - (FE_{i,X} + FE_{i,E}) + (C0_X - C0_E) + (\alpha_X - \alpha_E)*Gap_i + (\delta_X - \delta_E)*B_i(-1) <$$

$$< \beta_X*\Delta(X_i) - \beta_X*\Delta(E_i)$$

For the EU27 as a whole ($FE_{i,X} = FE_{i,E} = 0$), it follows that:

$$0.092*D_{EU27}(-1) - 5{,}90 + 0.38*Gap_{EU27} - 0.66*B_{EU27}(-1) < 0.22*\Delta(X) - 0.63*\Delta(E)$$

For example, with a debt ratio of 60% and a balanced budget (B(-1)=0) at the level of potential GDP (Gap = 0), it would have to hold:

$$\Delta(E) < 0.60+0.35*\Delta(X) \qquad (6)$$

The inequality (6) together with the assumption (5) of a deterioration in budget management ($\Delta(E) > \Delta(X)$) determines the range in which a change in revenue and expenditure could occur.

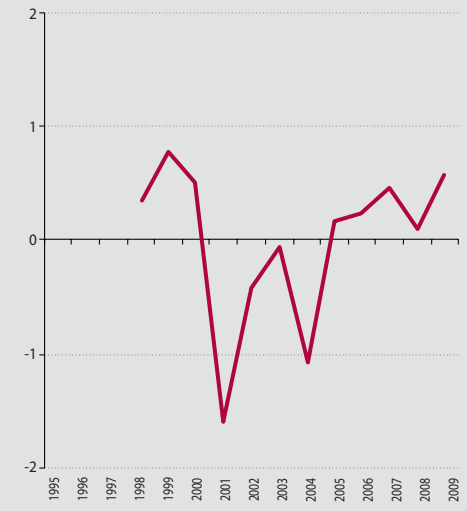
3.3 CONCLUSION

The results of estimation of the model (1), (2) confirmed the initial hypothesis, according to which the budgets of EU27 countries react to the deficit and debt ratio from the previous period. The analysis demonstrated that the critical threshold for the debt ratio is not equal to 60%, as would follow from the Maastricht debt criteria, but varies among individual EU27 countries. Countries reporting sound results for the management of general government budgets mostly had a low critical threshold at which the debt ratio triggers a pro-consolidation reaction in expenditure and revenue, and therefore their budgets reacted to the debt ratio on both the expenditure and revenue side. By contrast, countries with a higher or rising debt ratio had a high threshold for the triggering of a consolidation reaction and their fiscal policy was loose as a result. Some countries, including Slovakia, had a low debt ratio below the critical threshold level. Budget reactions to the debt ratio were predominantly based on expenditure-side changes. In the case of the revenue-side reactions to the debt ratio, the changes were smaller.

The results of analysis show also certain limitations of the selected approach. In particular, it appears that when estimating budget reactions to the debt ratio, it will be meaningful to differentiate between countries according to their level of development and revealed fiscal discipline. At the same time, it seems that the reactions of revenue and expenditure are frequently asymmetric (it is easier to implement revenue reductions than revenue increases, while raising expenditure meets with less public opposition than does cutting it) – they differ on the basis of how easy the respective measures are to implement.

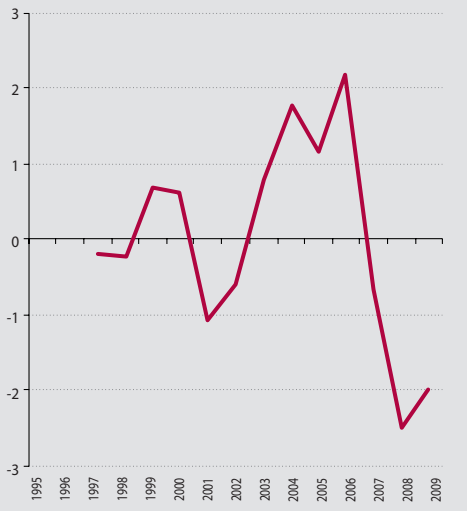
For the model identification, we proceeded on the assumption that the government's threshold for reacting on the revenue side is set differently than its threshold for reacting on the expenditure side. It is, in our view, caused by differences in the difficulty and political costs of implementing the respective measures – particularly in the reluctance to tax increases. In this analysis, when identifying the different debt ratio thresholds for triggering a reaction in revenue and expenditure, we assumed that the critical threshold at which the deficit triggers a reaction in revenue

Chart 65 Residues in German budget revenue model (% of GDP)



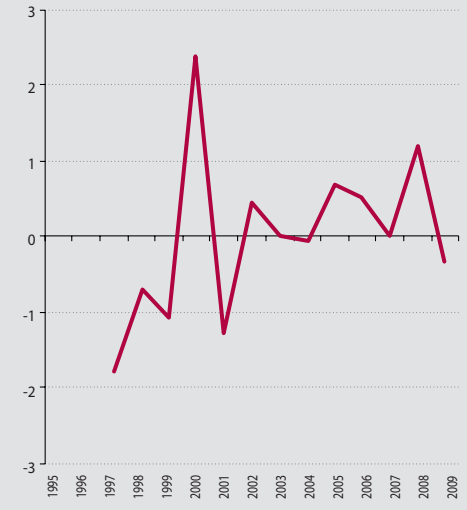
Source: NBS.

Chart 66 Residues in Irish budget revenue model (% of GDP)



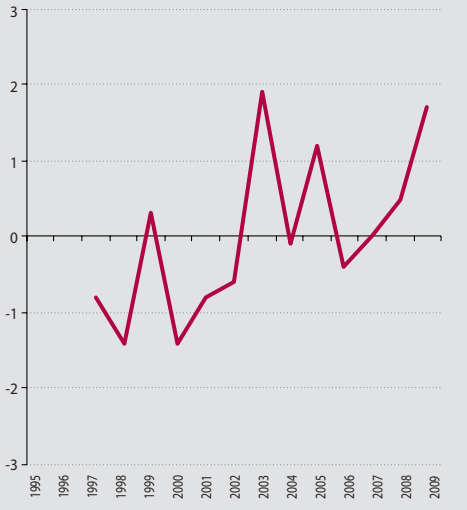
Source: NBS.

Chart 67 Residues in Finnish budget revenue model (% of GDP)



Source: NBS.

Chart 68 Residues in Slovak budget revenue model (% of GDP)



Source: NBS.

and expenditure is the same for each country, i.e. equal to the Maastricht deficit criterion (3% of GDP). We proceeded on the assumption that this threshold is sufficiently accepted and sanctioned – unlike the debt ratio threshold, which has come to attention only during the recent period of critical and rising public debt ratios in certain EU countries. In addition, several countries had a high debt ratio (more than 60%) when they joined the euro area and they committed themselves to 'gradually' reducing the level of this ratio.

We also tested another approach to the identification of budget-reaction thresholds (the results of which are not shown here), which dispensed with the assumption of different thresholds for the reaction of revenue and expenditure to the

debt ratio. A model identification is than possible, which, for example, assumes that the threshold for the reaction of both revenue and expenditure to the debt ratio is the same for a given country, while at the same time the threshold for the reaction of revenue and expenditure to the deficit remains the same for this country (though in general it need not be equal to 3% of GDP for all countries). Both thresholds therefore differ across countries. This identification for the EU27 as a whole showed that the critical threshold for the reaction of income and expenditure to the (past) deficit is close to the Maastricht criterion of 3% of GDP.

In their paper (1), the authors identified a non-linear reaction of the primary balance to the debt ratio. According to them, this non-linear reaction of the primary balance was accounted for by a non-linear rise in debt interest costs and in the govern-

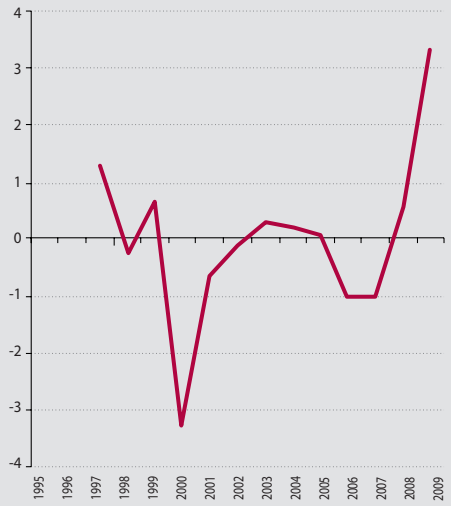
Chart 69 Residues in German budget expenditure model (% of GDP)

Source: NBS.

Chart 70 Residues in Irish budget expenditure model (% of GDP)

Source: NBS.

Chart 71 Residues in Finnish budget expenditure model (% of GDP)



Source: NBS.

Chart 72 Residues in Slovak budget expenditure model (% of GDP)

Source: NBS.

ment's own non-linear reaction to the rise in the debt ratio (expressed as a cubic polynomial of the debt ratio). In the submitted analysis, the (non-linear, rising) debt interest costs are entered in the balance of the general government budget. In this regard, our analysis represents a simplification – it describes only part of the revenue/expenditure reaction to the debt ratio.[54]

We would in future like to devote attention to these outstanding questions.

3.4 ADDENDA

3.4.1 Residues in the model for budget revenue (% of GDP)

The budget revenue of Germany during the period under review fluctuated mainly in the vicinity of the level determined by the model, except in 2001, a crisis year for the euro area.

In the case of Ireland, the revenue level after 2003 diverged from the model to an ever increasing extent. Until 2006, the increase in revenue rose above the level set by the given model, while from 2007 it fell far below that level. This is probably related to the boom-bust cycle, whose repercussions Ireland is now having to address.

Finland is a country that in recent years has had a disciplined fiscal policy. The development of its revenue corresponds well to the model.

In the first part of the period under review, the revenue level of Slovakia fluctuated below the model level (except in 1999, when stabilisation measures were implemented), but in 2003 (the year of reforms) and thereafter the revenue figure stayed mainly above the model level – even in 2009, when the full impact of the crisis on Slovakia was manifested. One possible explanation is that the income level did not correspond to the economic slump owing to the adoption of expenditure measures and the reaction of certain tax revenues.

3.4.2 Residues in the model for budget expenditure (% GDP)

In Germany, the deviation of budget expenditure above the model's level probably reflects a slow reaction and the adoption of stabilisation measures.

In Ireland, the extreme deviation above the model's level after 2007 probably reflects a slow adjustment on the expenditure side and the adoption of stabilisation measures.

In Finland, the rapid rise in the expenditure level above the model's level probably reflects a slow reaction and the adoption of stabilisation measures.

In Slovakia, deviations in the expenditure level at the beginning of the millennium stemmed largely from the restructuring of banks and the adoption of stabilisation measures. The divergence in 2009 resulted from the slow adjustment of expenditure and the adoption of anti-crisis measures. The fiscal consolidation in the period after 2002 shows up in the restriction of expenditure to below a level that would allow favourable economic development.

54 *Ostry, D.J. et al.: Fiscal space. IMF staff position note, SPN/10/11, IMF, September 2010.*

ABBREVIATIONS

Abbreviations

ARDAL	Debt and Liquidity Management Agency
BCPB	Bratislava Stock Exchange
BRIBOR	Bratislava Interbank Offered Rates – interest rates fixing on the interbank deposits market
BS	Banka Slovenije – Bank of Slovenia
ca	current account
CBOE	Chicago Board Options Exchange
CDS	Credit Default Swap – credit derivate contract between two counterparts
CPI	Consumer Price Index
ČNB	Česká národní banka – Czech national bank
D	day
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECB	European Central Bank
EFT POS	Electronic Funds Transfer at Point of Sale – payment terminal
EIB	European Investment Bank
ERM	Exchange Rate Mechanism
EU	European Union
EURIBOR	Euro Interbank Offered Rate – interest rates fixing on the euro area market
FDI	Foreign direct investments
GDP	Gross Domestic Product
H	half year
HICP	harmonized index of consumer prices
IAS/IFRS	International Accounting Standards/International Financial and Reporting Standards
IBRD	International Bank for Reconstruction and Development
IIP	International Investment Position
IMF	International Monetary Fund
IRF	Initial fixation of interest rate
LTV	Loan-to-Value ratio – Proportion of the credit volume to the collateral value
M	month
MF SR	the Ministry of Finance of the Slovak Republic
NARKS	National Association of Real Estate Agencies
NAV	Net Asset Value
NBS	Národná banka Slovenska
PFMC	Pension Asset Management Company
p.p.	percentage points
PPS	Purchasing Power Standard
RMBS	Residential Mortgage-Backed Security – Security which yield and value are derived from the mortgage loans
ROA	Return on assets
ROE	Return on equity
RTGS	Real Time Gross Settlement
SAX	Slovak stock exchange index
SPMC	Supplementary Pension Asset Management Company
SO SR	Statistical Office of the SR
TARGET	Trans-Europan Automated Real Time Gross Settlement Express Transfer
VaR	Value at Risk

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