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EUROSYSTÉM

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Contents

Národná banka Slovenska has been publishing its Financial Stability Report on a regular basis since 2004 and twice a year since 2005. The annexes to each report contain topical articles and analyses in which selected issues related to financial stability are examined in greater depth.

The objective of the Financial Stability Report is to support the timely identification of risks to domestic financial stability and thereby help prevent the emergence of financial system disruptions that could impair economic performance. The report focuses on risk arising in the external environment (in the global economy and financial markets) and in Slovakia (in the real economy, public finances, and financial sector).

The data used in the report are taken from Národná banka Slovenska (NBS), the European Central Bank (ECB), the Statistical Office of the Slovak Republic (SO SR), Eurostat and other external sources.

Executive summary

Since the publication of the previous Financial Stability Report in May 2012, conditions for financial stability in Slovakia have not changed overall and remain difficult. Although the worst manifestations of systemic crisis in euro area financial markets have receded – due in large part to the ECB's new non-standard measures – global economic activity has fallen and the outlook for 2013 has deteriorated owing to heightened uncertainty. The domestic economy has been relatively resilient to unfavourable developments in the external environment, but considering the worsening economic situation in other countries and the effects of fiscal consolidation at home, growth projections have been revised down. Conditions for domestic financial stability are expected to become somewhat more adverse over the short-term horizon, amid a prevalence of negative risks, particularly in the external environment. Nevertheless, there continue to be solid grounds for assuming that the domestic financial sector will be resilient to tougher conditions and mounting risks.

The greatest risks to domestic financial stability from the external environment are related to upcoming economic and political decisions, primarily decisions on reforms and the resolution of imbalances in the most distressed euro area countries. Policy on such matters is, however, largely determined by decisions taken at the euro area/EU level. With its new programme of Outright Monetary Transactions (OMTs), which allows the purchase of short-term sovereign debt of euro area countries that are subject to adjustment programmes under the European Stability Mechanism (ESM), the ECB has given the governments of such countries some breathing space in which to resolve their problems. At the level of the countries concerned, however, the decision-making of governments and parliaments is being hampered by the stressed economic situation and elevated indebtedness. At the European level, the situation is aggravated by countries' differing views on how to proceed with deeper euro area integration. Such factors are increasing the risk that the crisis will escalate further, with adverse effects on economic growth in the euro area, including Slovakia.

Along with the real economy, another potential channel for the transmission of risks from distressed euro area countries to Slovakia is the euro area banking sector. Although banks in Western Europe have increased their equity holdings, the financial positions of these banks remain very fragile, particularly given their considerable exposure to lower rated countries.

Other factors that will be crucial in determining how global economic conditions unfold include decisions on how to resolve the major internal and external imbalances in other significant economies, with particular regard to the looming „fiscal cliff" in the United States and the relatively sluggish performance of the Chinese economy. The uncertainty surrounding the consequences of these decisions is already weighing on global economic activity and, to a far greater extent than half a year ago, on the Slovak economy too. The projection for Slovakia's economic growth has been revised down since the publication of the previous Financial Stability Report. The country's sole driver of economic growth continues to be net exports. The combination of a weak labour market and declining real household income, on the one hand, and fiscal consolidation measures, on the other hand, have put downward pressure on domestic demand. Nevertheless, Slovakia continues to have one of the highest rates of economic growth among euro area countries. The resilience of the Slovak economy to the intensifying strains in the external environment reflects factors that are somewhat favourable for the country's macrofinancial stability (the relatively low indebtedness of households, enterprises and the public sector, and the sound financial position of the banking sector) as well as the strong competitiveness of part of the manufacturing sector (especially the automotive industry) in expanding foreign markets.

The principal source of risk to financial stability from the domestic environment is general government debt and its future developments. Despite the progress made in cutting the public finance deficit, it will still take several years to stabilise the debt position at a safe level. Any failure to meet the consolidation objectives could

adversely affect conditions for domestic financial stability.

Given the fragile domestic economic situation, deteriorating outlook and mounting risks in the external environment, the growth rate of bank lending to the real economy declined in the first half of 2012. The outstanding amount of loans to enterprises even fell in year-on-year terms, due mainly to the tightening of credit standards. The overall profit of the banking sector also declined year-on-year, and the sector's net interest income fell on the previous year for the first time since it started to be monitored. These developments are caused partly by external effects, such as the introduction of a special bank levy, and partly by the slowdown in lending activity and narrowing of interest margins. The second of these groups of factors may not be entirely cyclical in character – the banking sector's lower profitability could also have structural causes. As stress-test results confirm, the ability to generate interest income is one of the key reasons for the banking sector's resilience to negative effects. The fall in profits therefore means that banks are less able to withstand losses through the strengthening of capital buffers.

The prevailing risks in the Slovak banking sector are credit risks. Corporate credit risk is the principal risk in this regard, and stems mainly from firms reliant on domestic demand (in the construction and commercial real estate sectors). Although the amount and ratio of non-performing loans in the corporate loan portfolio is stable, future credit risks are heightened not only by the weaker domestic environment, but also by external risks. Despite the less than favourable conditions for attaining stability in the financial situation of households, banks' exposure to household credit risk remains within safe limits. A key factor in mitigating this risk has been the period of low interest rates. Nevertheless, banks must not underestimate the effects that a sudden rise in interest rates could have on their customers' debt-servicing ability. There is upward pressure on household credit risk from trend rise in the proportion of unemployed people who previously worked in middle or higher income occupations and from the intensification of competition between banks.

Although the euro area financial markets have calmed to some extent, the risk that the marking to market of debt securities (particularly Slovak government bonds) will weigh on banks' profits and capital ratios remains elevated. This risk is currently mitigated by the fact that a large proportion of banks' investments in such assets are in held to maturity portfolios. A problem could arise, however, if bond yields increase and it becomes necessary to sell bonds in order to raise liquidity. As regards liquidity risk, the composition of liabilities in the Slovakia banking sector is highly stable when compared with that in other euro area countries. Among the euro area's national banking sectors, Slovakia's reports the highest share of primary deposits in total liabilities and has the lowest reliance on external and interbank funding.

Stress tests of the banking sector confirm that it remains resilient to financial and economic shocks, largely thanks to its strong capital position. In this regard, the banking sector improved further in the first half of 2012, as its average capital adequacy ratio increased to 14.1% as at the end of June. The capital ratio growth was driven partly by a decline in banks' risk-weighted assets but mainly by an equity increase (of 11.8% over a half-year period), as banks retained 46% of their 2011 earnings as equity.

CHAPTER 1

EXTERNAL CONDITIONS FOR FINANCIAL STABILITY

1

1 EXTERNAL CONDITIONS FOR FINANCIAL STABILITY

In the period since May 2012, when the previous Financial Stability Report was published, strains and risk aversion in financial markets have eased markedly. This calming is largely attributable to measures taken by central banks, but despite the worst manifestations of the euro area sovereign debt crisis have been contained, the prospects of long-term stability remain highly uncertain. Concerns centre on the weak performance of economies and on political risks. Although risks from the external environment have eased, the persistently high uncertainty and deteriorating outlook for the performance of economies crucial from the view of Slovak exports will continue to have an adverse effect on conditions for domestic financial stability.

As for the most significant external risks to financial stability in Slovakia over the horizon of one to two years, they include the following interconnected risks:

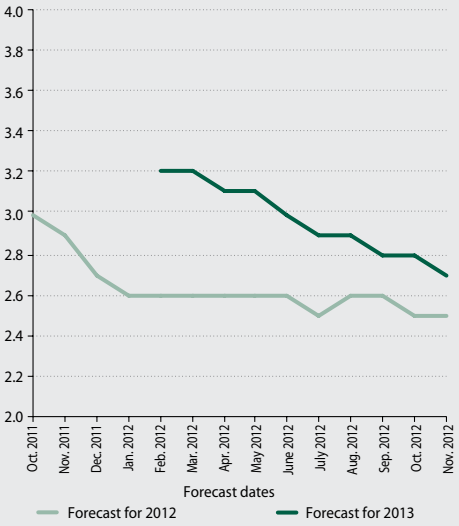
- a further escalation of the euro area sovereign debt crisis, as flawed or inappropriate government responses to problems at the national or EU/euro area level may trigger an increase in risk aversion;
- worse than expected global economic growth, which may to depend to a large extent on government measures in the United States and in the largest emerging countries;
- the slowly improving, but still relatively weak, financial position of part of the EU banking sector, which is also exposed to the risks above.

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

The performance of the world economy in the first half of 2012 was adversely affected by a further escalation in the euro area sovereign debt crisis in the second quarter. Although the sentiment in financial markets improved in the wake of measures taken by central banks, the still elevated uncertainty surrounding crucial economic and political decisions in key economies is acting as a drag on economic activity.

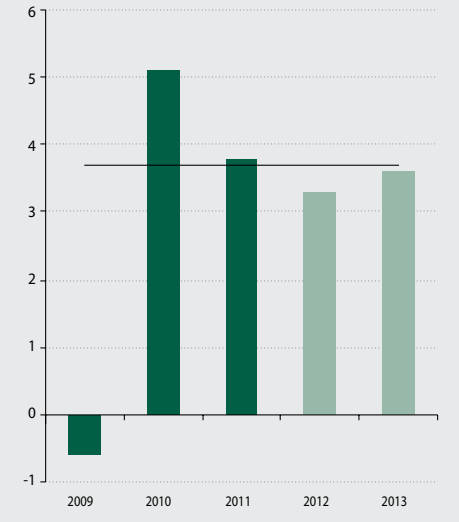
Global economic activity has slowed during 2012 and the forecast for world GDP growth has been revised down (Chart 1). Global growth is there-

Chart 1 World GDP growth forecasts for 2012 and 2013 (%)



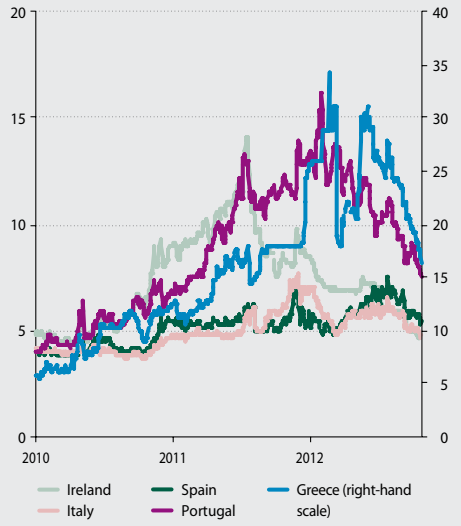
Source: Consensus forecasts.

Chart 2 World GDP (annual percentage change)



Source: International Monetary Fund.
Notes: Data for 2012 and 2013 are IMF forecasts. The horizontal line denotes average real GDP growth over the period from 1980 to 2011.

Chart 3 Yields on long-term government bonds of selected euro area countries (%)



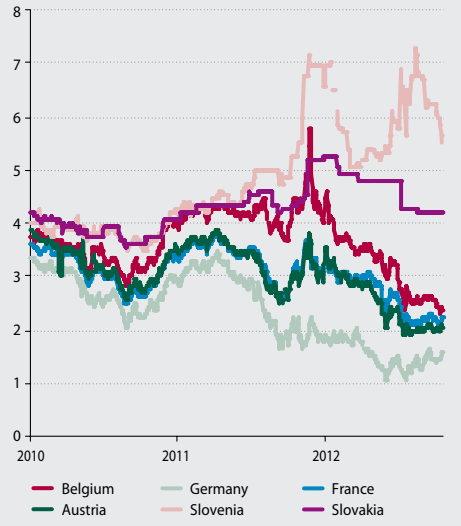
Source: Eurostat.

fore lower in 2012 than at any time since the recession in 2009 (Chart 2). The euro area sovereign debt crisis remains acute due to weak financial institutions, the implementation of fiscal consolidation in many countries at once, and the process of deleveraging in the private sector.

While central banks have again embarked on relief measures, a number of governments and parliaments are not acting with the resolution necessary to ease the increasing uncertainty among economic agents. In February and July the Bank of England decided to increase purchases of assets (mostly government bonds), by £100 billion in total. The European Central Bank (ECB), at its meeting on 6 September 2012, decided on the modalities for undertaking Outright Monetary Transactions (OMTs) in secondary sovereign bond markets for those euro area countries that would activate a binding macroeconomic adjustment programme under the European Financial Stability Facility/European Stability Mechanism (EFSF/ESM). A few days later the US Federal Reserve announced a third wave of quantitative easing (QE3) with its decision to launch a programme to purchase agency mortgage-backed securities. The Bank of Japan also initiated a new programme of quantitative easing in order to stimulate economic growth, and a number of other central banks around the world loosened their monetary conditions, too.

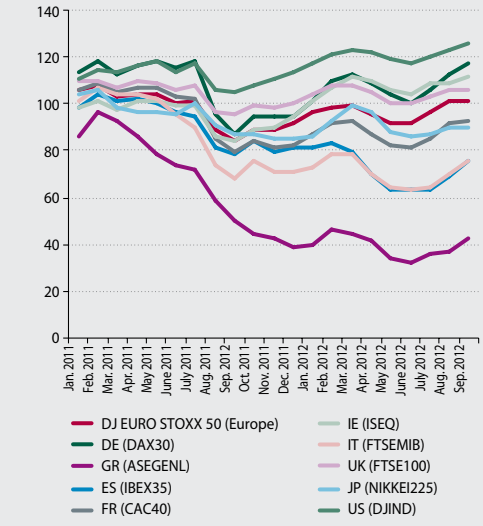
These measures were positively received by financial markets. The unsustainably high yield on the sovereign debt of certain euro area countries fell back to more stable levels. By contrast, German bund yields climbed due to a weakening of the safe-haven flow into these assets (Charts 3 and 4). As investor uncertainty diminished, world equity markets began to show strong growth from July and their volatility declined (Charts 5 and 6). In addition, there was an easing of strains

Chart 4 Yields on long-term government bonds of selected euro area countries (%)



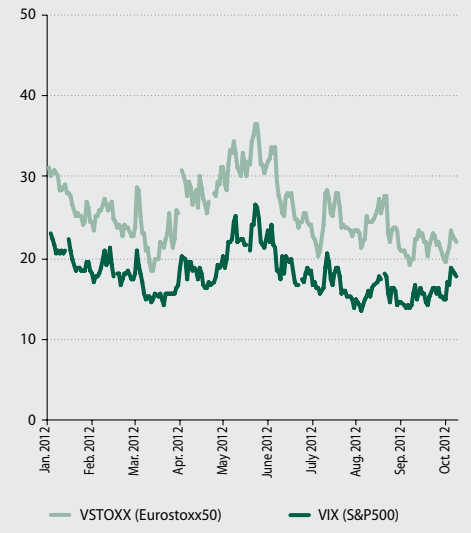
Source: Eurostat.

Chart 5 Equity index movements (2010 = 100)



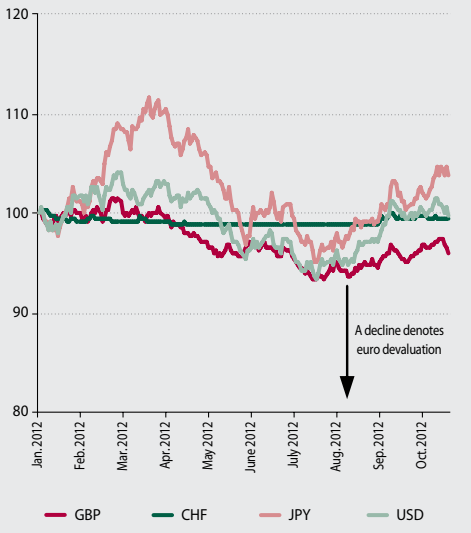
Source: Eurostat.

Chart 6 Implied volatility in equity markets measured by the VIX index



Source: CBOE and STOXX.

Chart 8 Nominal exchange rates of currencies against the euro (daily data; index: 2 February 2012 = 100)

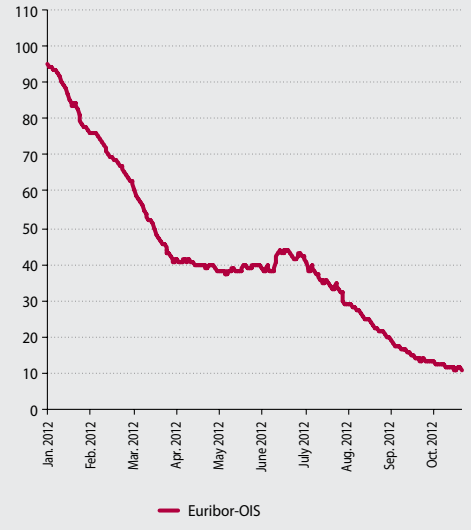


Source: Eurostat.

in the euro area interbank market and the euro appreciated (Charts 7 and 8).

This investor optimism may not be long lasting, however. The economic recovery could be stalled by bad decisions or inactivity of governments in key world economies. The uncertainty generated by that prospect is already inhibiting firms' investment activity and generally contributing to a slowdown in the global economy and, to a far greater extent than half a year ago, in the Slovak economy too.

Chart 7 Spreads in the euro area interbank market (basis points)



Source: EURIBOR-EBF.
Note: The wider the spread the greater the perception of counterparty risk in the interbank market.

A key determinant of the world economy's performance in the period ahead is the continuing efforts to correct major deficiencies in the governance of the euro area. Agreement on the concept of a banking union was reached by EU leaders at their summit at the end of June 2012. The main idea behind the concept is to put the monetary union's financial integration back on to a sustainable footing by separating each country's sovereign risk from its financial sector and introducing risk sharing between euro area countries.[1] However, the proposal to pool risks by directly recapitalising banks from the ESM common bailout fund is not fully supported by the largest net contributors to the ESM fund. A group of countries, Germany foremost among them, are cautious about a banking union and are keen to slow down the pace of its introduction. The opposite view is taken by another group of countries, notably France that would like to see rapid progression towards a full banking union. The decision-making process is difficult since it centres around the issue of how to allocate any losses on outstanding debts (i.e. who

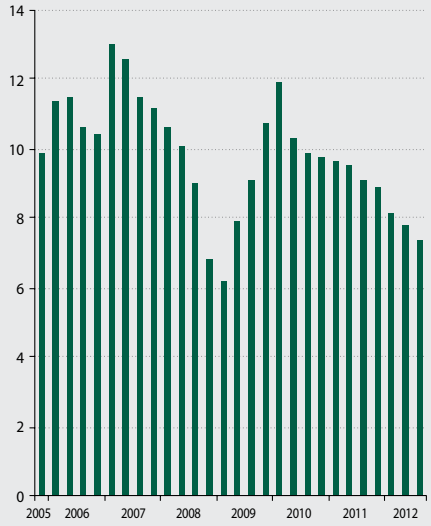
1 *For further details, see Annex 1 of this report.*

will ultimately bear the losses). The persisting uncertainty surrounding these decisions is, however, increasing the risk that the sovereign debt crisis will escalate further, with negative repercussions for economic growth in the euro area.[2] That would make the crisis even more difficult to resolve, and the consequence of such a vicious circle could be that the global economic situation deteriorates much more than expected.

Whether baseline forecasts for economic growth (including the forecasts in Chart 2) are fulfilled is also heavily contingent on the political decision in the United States regarding the so-called fiscal cliff. This is the looming risk that at the end of 2012, under the terms of current legislation, the negative impact of expiring tax stimulus measures and expenditure cuts will amount to as much as 5% of GDP. The US Congress has only a short time (until Christmas 2012) in which to come up with a credible fiscal consolidation plan to prevent the national economy from slipping back into recession. Concerns about the fiscal cliff stem from the fact that the Democrat and Republican sides have so far shown very little willingness to reach a compromise on how and to what extent the federal budget should be consolidated.

Another significant factor in the world economy's performance in the near term will be the macroeconomic policies followed in the largest emerging countries. In China, where annual real GDP growth has fallen from the double-digit levels observed before the crisis to 7.4% in the third quarter of 2012 (Chart 9), there is now an absence of substantial stimulus measures (as was the case in 2009).[3] The Chinese authorities would probably like to avoid a repetition of what happened in 2009 and 2010, when massive monetary expansion caused overheating of the economy along with strong inflationary pressures and a property price bubble, leading to a surge in non-performing loans. A major problem facing the Chinese economy is that the implementation of plans to shift the motor of economic growth from exports and investment to domestic consumption is progressing extremely slowly. Russia and other countries heavily dependent on raw material exports are particularly sensitive to weak demand for energy inputs. This, however, is now being offset by the stimulation of domestic demand by higher government spending and monetary expansion. India is a relatively closed economy

Chart 9 Chinese GDP (annual percentage growth)



Source: National Bureau of Statistics of China.

that is not reliant on commodity exports; nevertheless, a lack of reforms along with a heavy bureaucracy and political errors caused a marked slowdown in GDP growth in 2011 and in the first half of 2012 amid persistently high inflation. In September 2012, however, the government unveiled a set of measures to attract foreign direct investment, support domestic investment and consolidate public finances, which, if rigorously implemented, could boost growth. In Brazil, economic growth has been decelerating recently due mainly to falling demand for commodities; nevertheless, following reductions in the central bank's interest rates and in taxes, domestic demand is expected to pick up in the period ahead.

Although the euro area's situation has improved in certain respects, it remains coupled with high uncertainty. Economic performance has also deteriorated in regions and countries of the world whose demand (particularly for cars) has been supporting the Slovak economy's resilience to negative developments in the euro area.

Since Slovakia is a strongly export-oriented economy, it is particularly sensitive to shifts in demand in the EU and euro area, where the overall economic situation has worsened during 2012 (Table 1) to the extent that GDP growth forecasts for 2012 and 2013 have been revised down (Chart 10).

2 *The situation in the euro area is described in more detail later in the text.*

3 *In September 2012 the announced stimulus measures (in the form of accelerating investment projects that have already been launched) amounted to around 2% of GDP; at the same time, the Chinese central bank is cautiously loosening monetary conditions. These measures could see the Chinese economy rebounding from the bottom by the end of 2012.*

Table 1 Real GDP growth (%)

	Quarterly rate of change							Annual rate of change				
	2011				2012							
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	2009	2010	2011	*2012*	*2013*
Euro area	0.7	0.1	0.1	-0.3	0.0	-0.2	-0.1	-4.4	2.0	1.4	*-0.4*	*0.1*
EU 27	0.6	0.2	0.2	-0.3	0.0	-0.2	0.1	-4.3	2.1	1.5	*-0.3*	*0.4*

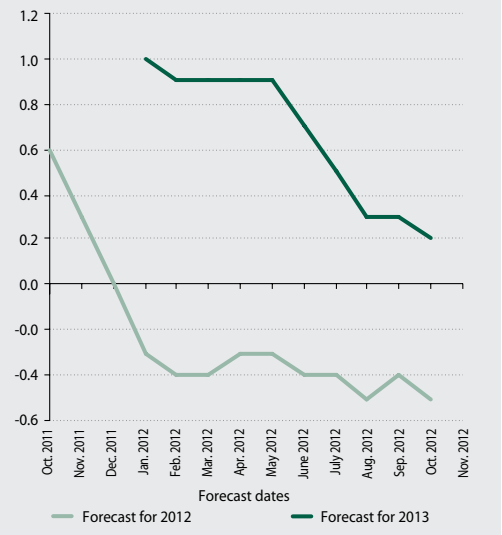
Source: Eurostat.
Note: Based on seasonally adjusted data; the figures for 2012 and 2013 are taken from the European Commission's European Economic Forecast – Spring 2012.

This deterioration reflects mainly the fact that recession in the euro area periphery is spilling over to other EU countries with increasing intensity. Under pressure from financial markets and facing commitments agreed to in exchange for financial assistance from the EU, the governments of periphery countries have carried on with measures to reduce fiscal deficits in order to stabilise public debt.

Although recent years have seen progress in this regard, particularly in deficit reduction (Chart 11), almost all of the countries concerned find it increasingly difficult to fulfil their consolidation targets. Fiscal consolidation has led to a further decline in already weak domestic demand and to recession (except in Ireland), and therefore targets for reducing the government deficit and the public debt to GDP ratio are becoming harder to meet. As a result, the public are less willing than before to undergo unpopular measures, and governments are increasingly reluctant to adopt such measures.[4] There is thus a risk of confidence deteriorating and of accompanying financial market turbulences.

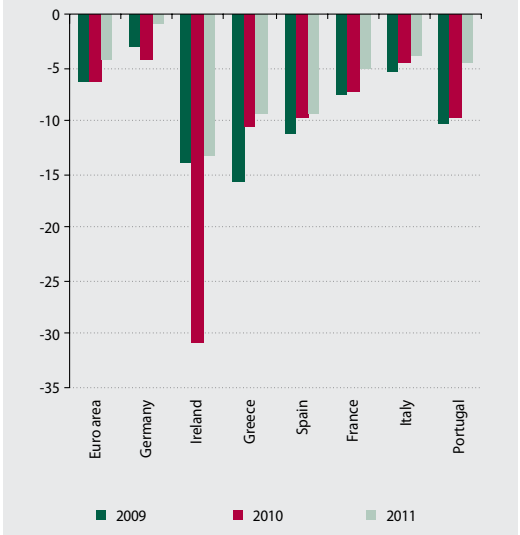
Sluggish growth is also weighing on assumptions for a resolution of the solvency problem facing banks and non-financial corporations in the distressed countries. A positive factor in this context is the improvement in price and cost competitiveness (Charts 12 and 13) and the marked reduction in the external imbalances of periphery countries (Chart 14). Although these trends are affected by highly unfavourable cyclical development (rising unemployment and falling export volume), they also point to progress in the structural adjustment of the economies. This is evident from the improvement in export performance since 2009, particularly in Spain, Portugal and Ireland (Chart 15).

Chart 10 Euro area GDP growth forecasts for 2012 and 2013 (%)



Source: Eurozone Barometer.

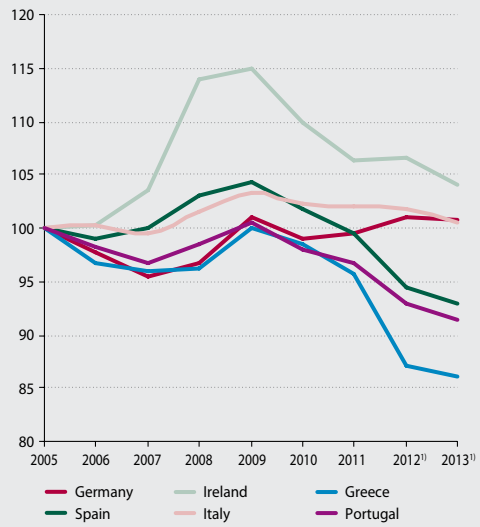
Chart 11 Public finance deficit (% of GDP)



Source: Eurostat.

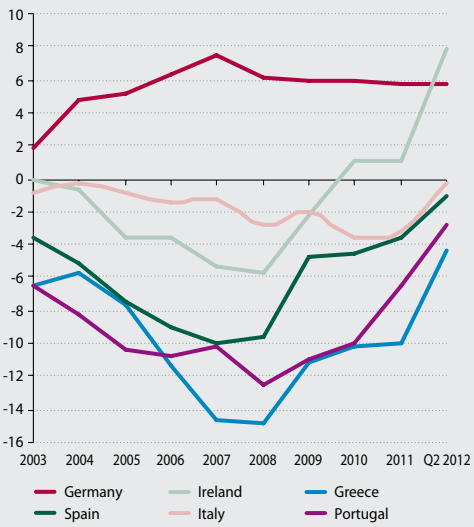
4 *The IMF (in its World Economic Outlook, October 2012) admits that the negative impact of fiscal deficit reduction on economic growth could be greater than previously assumed. Fiscal multipliers – currently greater than 1 due in part to monetary policy's limited scope for creating an effective counterbalance to strong fiscal contraction – mean that any excessively rapid consolidation of public finances may be counterproductive.*

Chart 12 Real unit labour costs (Index: 2005 = 100)



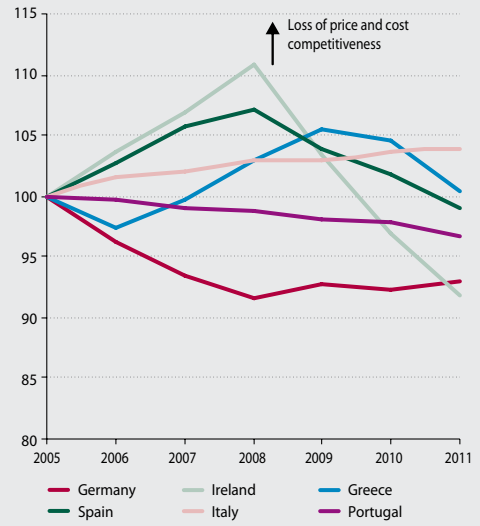
Source: Eurostat.
1) Data for 2012 and 2013 are forecasts.

Chart 14 Current account balance (% of GDP)



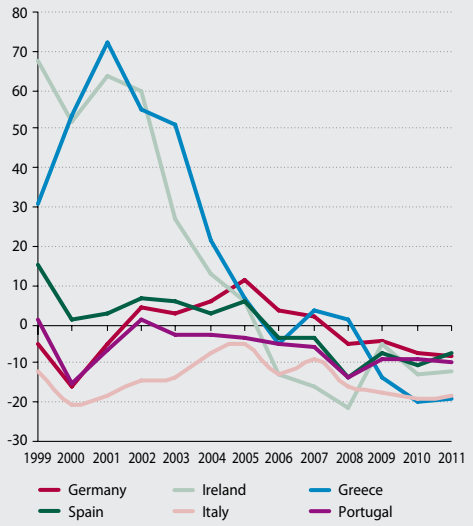
Source: Eurostat.

Chart 13 Real effective exchange rate (REER) – 16 euro-area trading partners (index: 2005 = 100)



Source: Eurostat.
Note: REER based on unit labour costs.

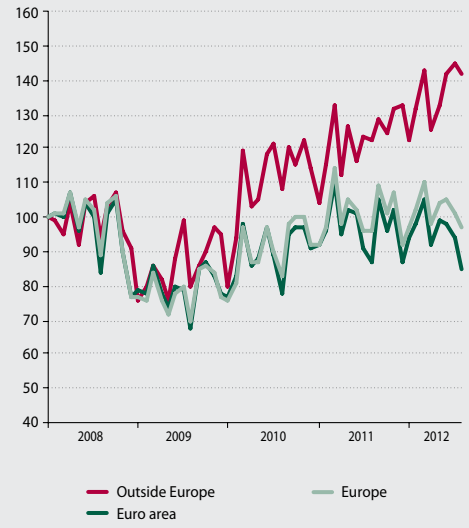
Chart 15 Countries' exports of goods and services as a share of world exports (5-year percentage change)



Source: Eurostat.

The European economy in 2012 was also negatively affected by declining demand in the faster-growing emerging and advanced countries. One corollary of this development was a drop in export performance in export-oriented EU countries, including Slovakia. Nevertheless, this group of countries is proving relatively more resilient to headwinds from the rest of the EU, partly because they still report strong exports of manufactured goods to the faster-growing countries outside Europe (Chart 16).

Chart 16 German export developments (index: January 2008 = 100)



Source: Deutsche Bundesbank; NBS calculations.

1.2 FINANCIAL POSITION OF THE EURO AREA BANKING SECTOR AND ITS EFFECT ON THE DOMESTIC BANKING SECTOR

The largest European banks improved their capital position. Nevertheless, many European banks are making slow progress in the balance sheet repair that is necessary for restoring confidence. Both corporate and household credit risk have displayed a rising trend in 2012, although their intensity varies considerably across countries. Higher sovereign risk and its impact on the stability of banks in the countries hardest hit by the crisis resulted in adverse financing conditions in these countries compared to other euro area states with a more stable macroeconomic situation. While ECB measures have eased the financial pressures on distressed countries, they have not addressed the main causes of the euro area crisis.

The most significant European banking groups increased their equity capital by more than €200 million in total between December 2011 and June 2012, following a recommendation made by the European Banking Authority (EBA) in December 2011. The aim of the recommendation was to create an exceptional and temporary capital buffer that would – in the context of the difficult situation in the EU banking system – restore confidence in financial markets. According to the EBA recommendations, the 71 most significant European banking groups should have reached a 9% core Tier 1 capital ratio (CT1) by the end of June 2012. In the end, ten of those banking groups did not participate in the EBA evaluation since they were subject to separate monitoring as part of either an IMF/EU financial assistance programme or a deep restructuring programme subsidised by the state.[5]

According to the ECB[6], another reason for the improved capital ratios of large European banks has been the reduction in risk-weighted assets. Banks have been selling mainly structured assets denominated in US dollars or managed in trading portfolios, since these are affected by markedly higher risks weights under the Basel 2.5 rules that entered into force at end-2011. They have also shut down foreign branches in the United States and South America and disposed of assets extraneous to their core business (e.g. insurers). According to the EBA, bank lending to the real economy has not declined significantly. In October 2012 the EBA announced plans to issue a new recommendation (on capital conservation), requiring banks to maintain a minimum 9% CT1 ratio.

Although European banks are proceeding steadily with deleveraging, many of them remain vulnerable. Under pressure from the financial market situation and new regulation, their business model based on relatively weak capitalisation and heavy reliance on volatile wholesale funding is not sustainable (Table 2). Also according to the Eurosystem's regular Bank Lending Survey, the tightening of credit standards by euro area banks in the third quarter of 2012 (as against the previous quarter) was partly a consequence of supply-side factors, in particular banks' capital positions and access to market funding. This points to the need for continuing the repair of euro area banks' balance sheets. On the one hand, the Eurosystem's wide-ranging liquidity support measures for the banking sector have helped ensure an orderly deleveraging with limited repercussions on the real economy; on the other hand, the necessary repair of balance sheets and recapitalisation of weak banks is proceeding slowly, which is hindering the restoration of confidence.[7]

As regards the risks facing European banks, they vary in intensity between risks in the recession-

5 *Of the 61 banks required to reach the 9% CT1 ratio by the end of June, three failed to do so, two from Cyprus and one from Slovenia. These banks are expected to obtain international or state assistance by the end of 2012.*

6 *ECB: Financial Stability Review, June 2012.*

7 *A positive development in this regard was the publication of an independent audit of Spanish banks on 28 September, according to which Spanish banks need €60 billion in additional capital.*

Table 2 Selected banking financial stability indicators (%)

	Tier 1 capital/RWA	Equity capital/assets	Loan-to-deposit ratio	Short-term liabilities/total assets	ROA
Greece	1.5	-	154	42	-0.4
Ireland	16.2	8.3	155	24	-0.8
Italy	9.5	5.2	176	25	0.4
Portugal	9.1	4.5	132	18	0.3
Spain	10.5	4.9	142	14	0.2
Austria	9.9	4.9	119	19	0.4
France	11.5	2.5	116	32	0.2
Germany	11.9	2.2	98	10	0.2
Netherlands	14.3	4	99	8	0.4
UK	12.6	4.2	100	6	0.0
USA	13.4	7.1	71	20	0.8
Japan	12.3	2.8	73	21	0.5

Source: IMF – Global Financial Stability Report, October 2012.
Note: Tier 1 capital = core capital; RWA = risk-weighted assets.

afflicted countries of the euro area's periphery and those in the euro area core countries. Nevertheless, a trend common to both groups of countries during 2012 has been mounting corporate and household credit risk due to the deteriorating economic situation and weakening property market in several countries, which has impaired the profitability of euro area banks. The differing intensity of adverse macroeconomic developments and contrasting sovereign risk situations is reflected in banks' access to market funding. Private capital (including resident bank deposits) is flowing from most of the periphery countries into the core countries, where it contributes to relatively accommodative financial conditions for households and enterprises (in Germany there are signs of a property price bubble). In periphery countries, by contrast, bank financing of the real economy is declining and far more expensive, thereby causing further deterioration of their economic situation.

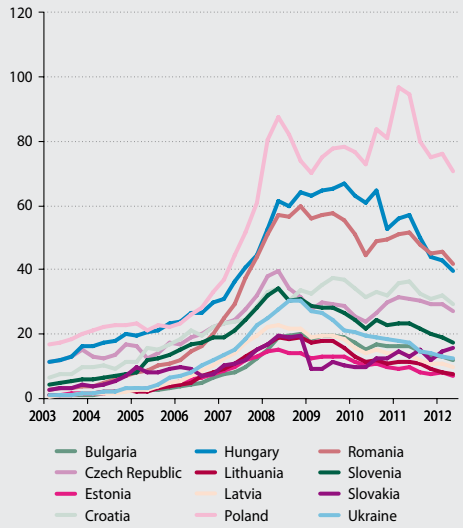
The euro area financial crisis reflects the fragmentation of financial markets across member countries. For periphery countries under current circumstances, the increasing financial interconnectedness between sovereigns and banks at national levels is conducive to the rapid spillover of financial problems between the two. This is not only increasing the risks to financial stability, but also impairing the functioning of the common monetary policy's transmission mechanism.[8] In seeking to provide a stabilising response to these developments, the ECB has introduced a series of non-standard measures, the latest being the Outright Monetary Transactions programme proposed by ECB President Mario Draghi on 26 July 2012 and approved by the ECB Governing Council on 6 September. These measures, however, are not addressing the fundamental causes of the euro area financial crisis, but are simply giving governments some breathing space to find a resolution.

Without the rigorous implementation of fundamental measures – e.g. the establishment of a banking union and the application of structural reforms to support economic growth in the euro area periphery – deleveraging pressure on European banks and financial fragmentation in the euro will continue. The impact of such developments on Slovakia would be, as they have been so far, more indirect – through a deterioration in conditions for economic growth.

If confidence is not restored to euro area financial markets on a more permanent basis and the economic situation in periphery countries worsens significantly, the pressure to deleverage will continue. A downturn in lending would hit periphery countries the hardest – as has been the case to date – with adverse repercussions for the economic performance of the euro area as a whole. Non-resident banks may further un-

8 *For further details, see Annex 1.*

Chart 17 Loan and deposit claims of non-resident banks on selected central and eastern European countries (all sectors; USD billions)



Source: BIS.

wind their operations in central and eastern Europe, as they have been doing since 2009. We assume, however, that non-resident banks will take a differentiated approach to the region. As Chart 17 shows, the activity of foreign banks in eastern European countries has declined quite considerably over the recent period. Only in Slovakia is the opposite trend observed, with an increase in lending from foreign banks.

Given that domestic banks are reporting relatively healthy profits and have very low reliance on funding from their non-resident parent undertakings and that the macroeconomic situation in Slovakia is relatively stable, the direct impact on the domestic financial sector and economy of non-resident banks deleveraging their balance sheets is not expected to be significant in the coming period. Nevertheless, the deteriorating economic situation in the euro area may indirectly weigh on economic activity in Slovakia and consequently on the willingness of domestic banks to lend.

CHAPTER 2

FINANCIAL STABILITY DEVELOPMENTS IN THE SLOVAK ECONOMY

2

2 FINANCIAL STABILITY DEVELOPMENTS IN THE SLOVAK ECONOMY

2.1 OVERALL DEVELOPMENT OF THE SLOVAK ECONOMY

Domestic macroeconomic conditions were generally satisfactory in the first half of 2012, while macroeconomic data published in the second half of the year indicated a slowdown in economic activity. Although the outlook for growth was somewhat weaker, the economic performance of Slovakia remained favourable when compared with that of the euro area (and other CEE countries).

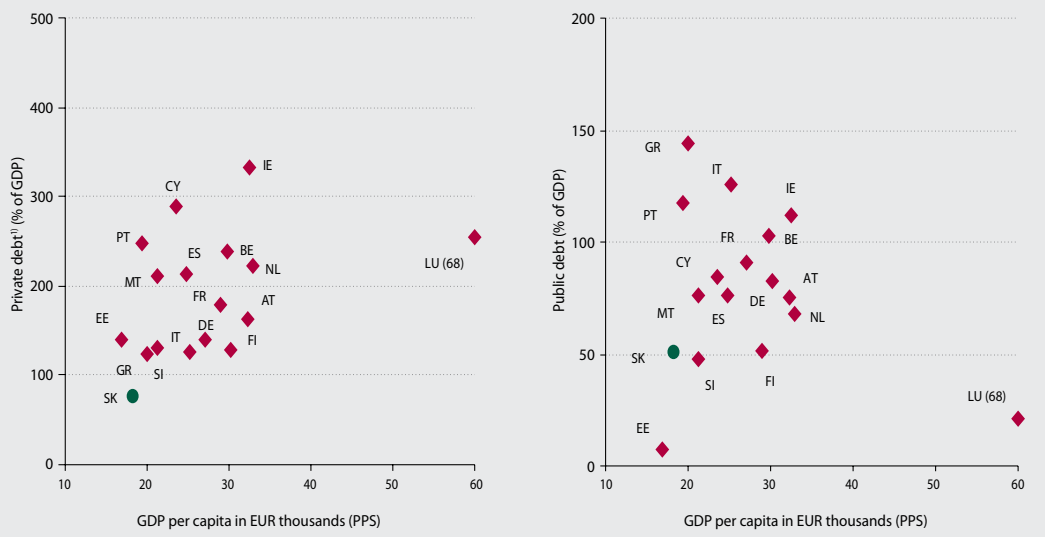
The fiscal consolidation effort has been more moderate in 2012 than in 2011, owing to the effect of this year's early parliamentary elections. The impact of the new government's consolidation measures is expected to be more apparent later, in next year's the reduction of the general government deficit. There is a heavy bias towards revenue-side measures due to the risk that lower economic growth could undermine the projected tax base, which is increasing uncertainty about whether the planned revenues can be achieved. Recurring market volatility related to economic developments in Spain at the end of April 2012 did not adversely affect Slovakia's access to funding. Slovakia was seen as one of the safer countries and the cost of financing its government securities declined.

The ratio of gross debt (private and public) relative to GDP has increased in 2012, but despite its mounting debt, Slovakia's position remains favourable compared to other euro area countries at a similar economic level (Chart 18). The extent of the repairs required to household and corporate balance sheets is not critical at the aggregate level. The position of the general government sector is more complicated.

Slovakia's net debt, expressed as its net financial wealth-to-GDP ratio,[9] fell slightly in the first half of 2012 (ending the period at 54.7% of GDP), due mainly to strengthening of the creditor position of financial institutions (not including NBS) and households. The debtor position of non-financial corporations and the general government sector rose.

Slovak economy continued to grow at a slower pace, driven mainly by net exports.

Chart 18 Gross public and private sector debt relative to output per capita



Source: Eurostat.
Note: As at end-June 2012.
1) Private debt – debt of households and non-financial corporations – unconsolidated.

9 *The amount of net borrowing according to quarterly financial accounts.*

Real GDP for the first half of 2012 increased by 2.9 % year-on-year. Domestic demand remained low, despite positive impact of lending to households from the domestic financial sector. Looking at the composition of economic growth, net exports made by far the largest positive contribution. Domestic demand declined amid stagnating consumer demand, a drop in general government consumption, and destocking; it was supported only by firms' growing investment in new production capacities. With wage growth muted and employment remaining flat, labour productivity maintained an upward trajectory.

Inflationary pressures persist.

Inflation accelerated in 2012 due to external factors (rising food and energy commodities) as well as to the effects of tax adjustments. The slowdown in economic growth was not coupled with any significant disinflationary pressures.

Among the strengths of the Slovak economy are its competitiveness and external position.

The growth in competiveness of Slovak exports[10] observed over the previous two years slowed moderately (year-on-year) in the first half of 2012. This partly reflected an increase in the inflation differential against foreign trading partners, which counteracted a moderate nominal weakening of the effective exchange rate.

Robust exports continue to support the external equilibrium of the Slovak economy.

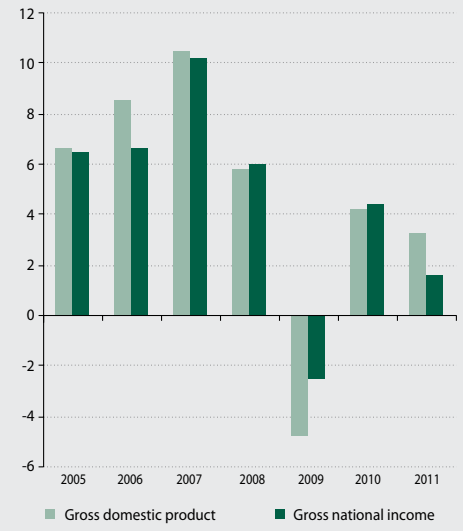
The balance of payments current account increased in the first half of 2012, to 2.5% of GDP, due largely to the surplus in the trade balance (in which both imports and exports recorded growth). The capital and financial account saw a net inflow of capital in the form of foreign direct investment and portfolio investment. The net outflow in the other investment category stemmed from developments in the government sector (the fulfilment of government commitments to the European Financial Stability Facility).

Slovakia has long been funding its growth from the non-resident sector, pushing its international investment position further into negative territory. However, only some (32%) of this funding is debt-based; the bulk comprises equity funding, which is a generally stable source of financing.

Fiscal consolidation effort slowed temporarily in 2012.

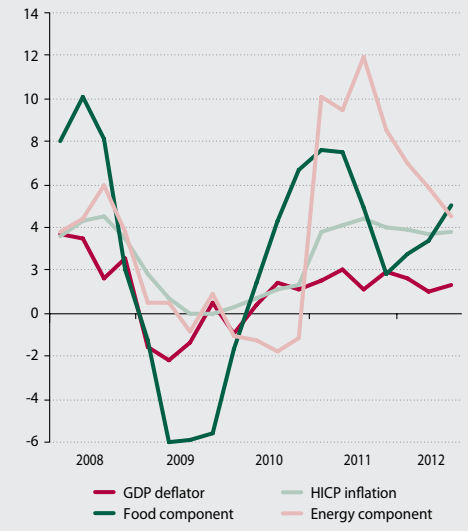
The public finance deficit for 2012 is expected to be 4.8% of GDP. The Slovak government has reaffirmed the objective to sustainably reduce the budget deficit to below the threshold 3% of GDP in 2013, which would allow closure of the External Deficit Procedure for Slovakia. At to the

Chart 19 Real income in Slovakia (annual percentage changes)



Source: SO SR, NBS calculations.

Chart 20 Inflation (annual percentage changes)



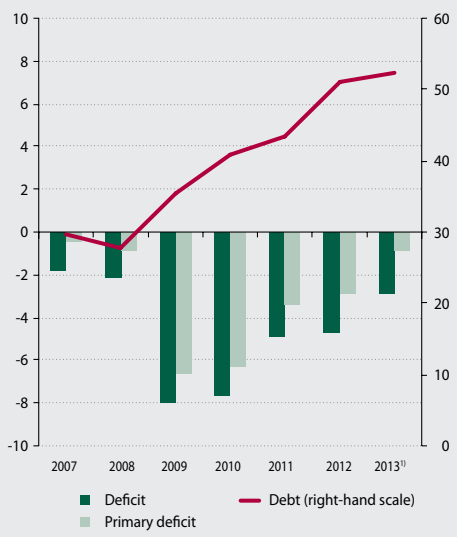
Source: Eurostat.

10 Competitiveness as measured by the real effective exchange rate (based on the manufacturing prices index).

Chart 21 Current account components (EUR billions)

Source: NBS.
Note: Cumulative 12-month balance as at July 2012.

Chart 23 General government deficit and debt (% of GDP)

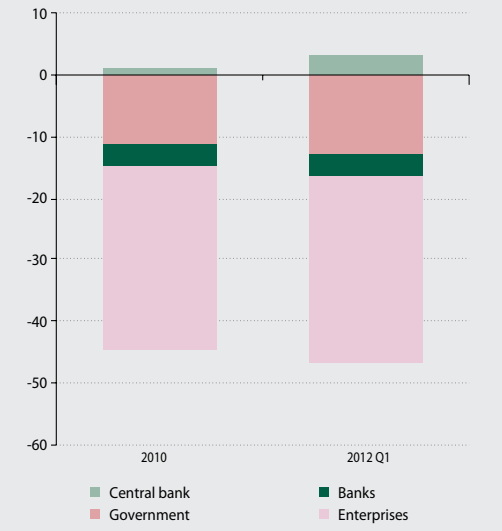


Source: Eurostat, MF SR.
1) MF SR forecast.

implementation of fiscal consolidation there is greater uncertainty surrounding revenue-raising measures than expenditure-reducing measures. The risk to the consolidation is that economic growth is lower than planned, thereby narrowing the tax base and forcing a downward revision of projected budget revenues.

Investor concerns about the mounting risk associated with the more troubled euro area countries have increased their incentive to reallocate portfolios. For countries perceived as safer havens, this trend has resulted in an exceptional decline in yields of their shorter-term government securities. Slovakia has since the summer been among

Chart 22 International investment position (EUR billions)



Source: Eurostat.

Chart 24 Debt composition in 2011 broken down by creditor

Source: Eurostat.
Note: Data for CY, NL, and SI were not available.

Chart 25 Debt composition in 2011 broken down by maturity (%)

Source: Eurostat.
Note: Data for eight countries were not available in a more detailed breakdown.

the countries that have easier funding conditions, reflecting the fact that its debt is relatively well diversified between resident and non-resident creditors as well as in terms of maturity structure.

The debt dynamics in 2012 have been characterised by an increase in debt due to factors other than fiscal developments (the fulfilment of commitments to the EFSF and the issuance of debt beyond the requirements for 2012). As it seems, this would translate into a breach of the first sanction threshold (50% of GDP) set by the debt brake under the Act on Fiscal Responsibility.

2.2 MEDIUM-TERM RISKS FROM THE DOMESTIC MACROECONOMIC ENVIRONMENT

The Slovak economy is not at present exposed to any serious internal imbalances, and as one of the euro area's smaller economies it is expected to maintain output (GDP) growth both this year and next year. The slower growth in economic activity increases the probability that the main sources of potential financial stability risks in the domestic environment, as identified in previous reports, could materialise. These risks are associated mainly with:

- declining domestic demand and related developments in the income of economic sectors;
- maintaining the credibility of fiscal consolidation.

Risks from the domestic macroeconomic environment continue to mount amid deteriorating outlooks

On the one hand, the heavy reliance on net exports is providing a stimulus to growth, while, on the other hand, the terms of trade are precluding any increase in the purchasing power of income in the domestic economy (gross national income) and limiting the income growth of domestic economic agents (in particular of households dependent on income from employment). The result is that there is little scope for maintaining domestic demand levels.[11] In the short-term horizon, the risks that investment and consumer decisions of economic sector will be adversely affected by elevated uncertainty are mounting.

In the fiscal sector, the consolidation effort produced positive results in 2011, but decelerated temporarily in the following period. Nevertheless, the government has made clear its resolution to press on with fiscal consolidation in 2013 so that the public finance deficit does not exceed 3%, and the necessary deficit reduction is covered by specific consolidation measures. Lower than projected economic growth could complicate the generation of tax revenues, the increase in which is a key assumption of the consolidation plan. Given the potentially narrowing scope for "growing out" of the debt, the debt ratio is peaking more quickly and the debt criteria are taking longer to reach a sustainable level.

11 Real income developments in Slovak are analysed in greater detail in Annex 2.

CHAPTER 3

NON-FINANCIAL CORPORATE AND HOUSEHOLD SECTORS

3

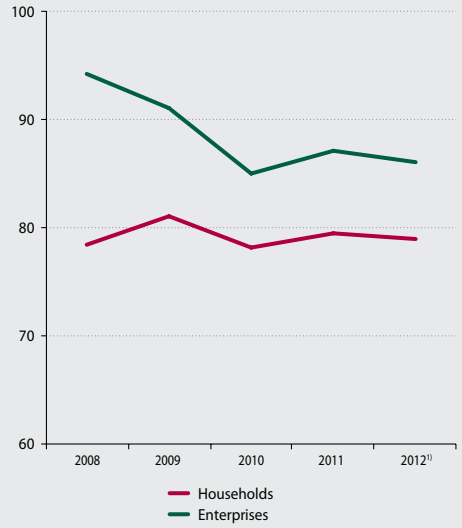
3 NON-FINANCIAL CORPORATE AND HOUSEHOLD SECTORS

In contrast to the majority of euro area economies, where bank lending to enterprises and households has been declining, lending in Slovakia has continued to grow, albeit at a slower pace compared to the pre-crisis period. At the same time, both enterprises and households have been saving to a greater extent.

Lending to households, prevailingly in the form of housing loans, has continued to increase. Consumer loan growth has also picked up. By using loans with a shorter initial rate fixation period to pay off existing loans, borrowers took advantage of more advantageous credit conditions and therefore did not increase their debt servicing costs. Lending to non-financial corporations from the domestic banking sector decelerated (see section 4.1 for more details) and the overall increase in the outstanding amount of corporate loans was attributable to loans from non-residents and to inter-company loans.

After improving slightly at the beginning of 2012, business and consumer confidence has been

Chart 27 Debt ratio (%)

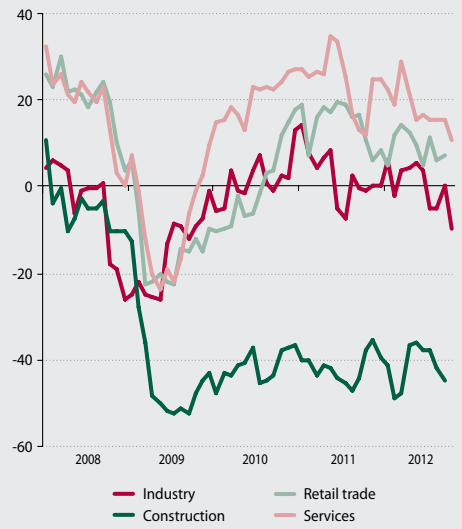


Source: Eurostat.
Note: Households: liabilities / financial assets Enterprises: debt/liabilities
1) NBS estimate for 2012.

Chart 26 Lending trends (index: same period of previous year = 100)

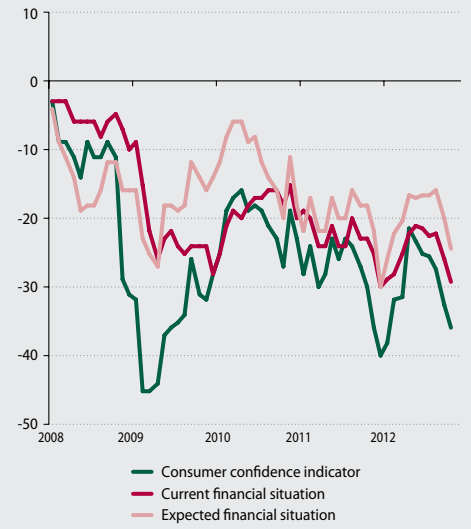
Source: NBS.
Quarterly Financial Accounts.

Chart 28 Business tendencye indicators (balance of responses)



Source: Eurostat.

Chart 29 Consumer confidence (balance of responses)



Source: Eurostat.

Chart 30 Financing broken down by instrument (EUR billions)

Source: NBS, Quarterly Financial Accounts.
Note: Cumulative transactions over four quarters.

declining towards the end of the year, which implies increasing expectations of an economic slowdown. Households facing a slowdown in income growth responded by accumulating savings in financial assets while cutting down on consumption and investment. Corporate profit growth has slowed, reducing the prospects for an increase in investment demand.

3.1 NON-FINANCIAL CORPORATE SECTOR

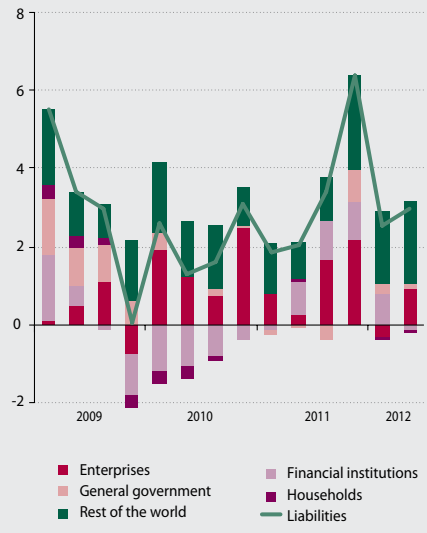
Conditions in the non-financial corporate sector have displayed considerable heterogeneity. The export sector profited mainly from demand in emerging economies, while retail trade and construction had to cope with weaker domestic demand (or subdued activity) amid lower expenditure. Corporate profit growth slowed in the first half of 2012, and firms remained cautious about investing and borrowing.

External financing increased

Non-financial corporations further increased their liabilities in the first half of 2012. Looking at the composition of the sector's financing there were increases in the shares of loan financing, trade credits, and, to a lesser extent, equity issuance. At the sectoral level, the largest rises were in loans from non-residents and inter-company loans.

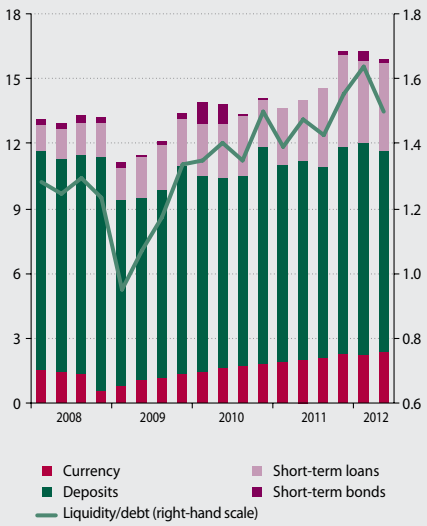
On the side of financial assets, firms maintained sufficient liquidity (currency, deposits, short-term debt and short-term securities), which covered their short-term debts (according to original maturity).

Chart 31 Financing broken down by sector (EUR billions)



Source: NBS, Quarterly Financial Accounts.
Note: Cumulative transactions over four quarters.

Chart 32 Liquid assets (EUR billions)



Source: NBS, Quarterly Financial Accounts.
Note: Stocks Liquidity – currency, deposits, short-term loans, and short-term debt securities.

The composition of corporate financing maintained the same trends. Inter-company financing has increased, while financing from the domestic financial sector declined slightly. Financial leverage, as the ratio between debt financing and equity financing, remained unchanged.

3.2 HOUSEHOLD SECTOR

Looking at the financial situation of households, their real income has been declining this year. Households have further consolidated their financial position, as their savings ratio has remained above the pre-crisis level and they have continued shifting investments into more conservative assets, such as bank deposits. Nevertheless, at the aggregate level, the debt to income ratio has increased as a result of income growth lagging behind. But although the debt-servicing ability of households has been subject to adverse income developments, it has also been supported by the opportunities to reduce interest expenses.

The fall in economic sentiment indicators points to deteriorating prospects for growth and a continuance of the difficult labour market situation.

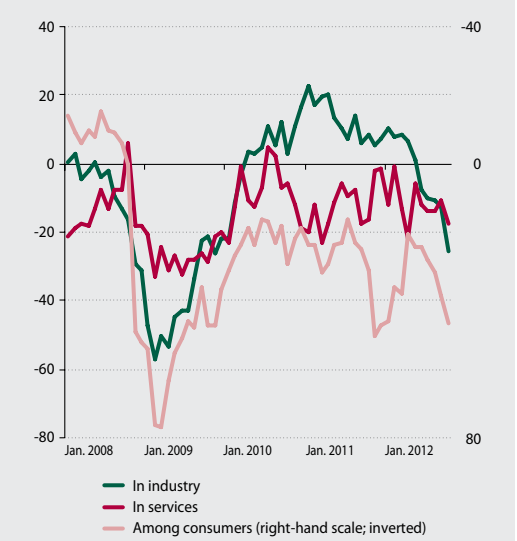
Amid declining income growth and stagnation in the labour market, households are relatively pessimistic about their financial situation at present and about its future outlook. According to forward–looking indicators, such as a survey of recruitment intentions among firms, the months ahead are more likely to see a further deterioration (Chart 33).

The household sector has consolidated its financial position.

In nominal terms, household income has grown at a slower pace this year, while in real terms it has declined due to higher inflation. A positive aspect is the continuing growth in income from employment and business, since this is important for the capacity of households' debt servicing. The household savings ratio remains above its pre-crisis level, at 12% of gross disposable household income. In this regard, the behaviour of households appears to be a response to their strained financial situation.

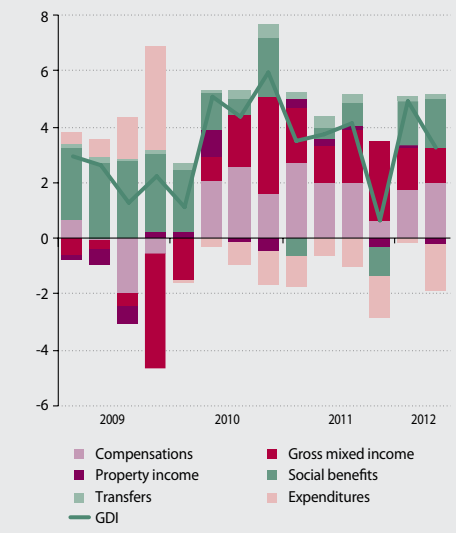
In 2012, the growth in households' financial assets has been moderately lower than the increase in their liabilities, and therefore the growth in their net financial assets has slowed. Growth in liabilities of households outpacing the rise in their

Chart 33 Expectations for employment and unemployment (balance of responses)



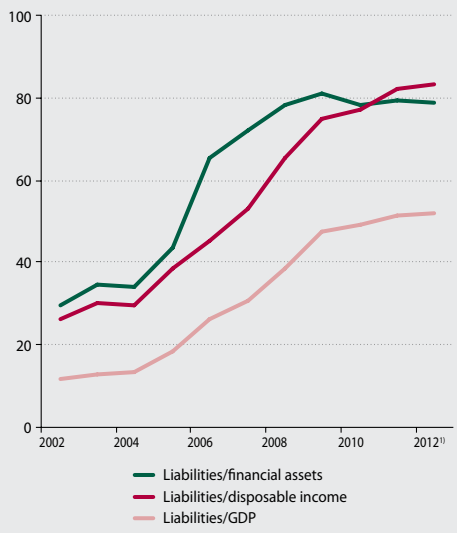
Source: Eurostat.
Note: Industry and services – expectation for employment over the next three month; consumers – expectations for unemployment over the next 12 months.

Chart 34 Disposable income (contributions to growth, %)



Source: SO SR.
Note: GDI – gross disposable income.

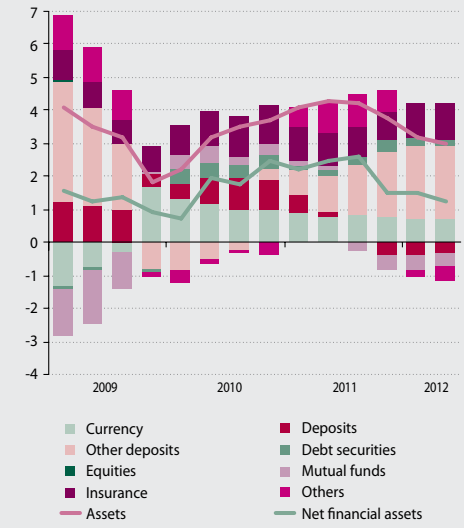
Chart 36 Debt servicing capacity of households (%)



Source: Eurostat.
1) NBS estimate.

income has adversely affected households' debt servicing capacity. The aggregate debt servicing ratio for the household sector (i.e. the amount of debt payments as a percentage of disposable income) has remained at a satisfactory level. The higher accumulation of savings has had a stabilising effect on the debt (liability)-to-asset ratio for households.

Chart 35 Increases in household assets (EUR billions)



Source: NBS.
Note: Cumulative transactions over four quarters.

3.3 MEDIUM-TERM RISKS IN THE NON-FINANCIAL CORPORATE AND HOUSEHOLD SECTORS

The medium-term risks relate mainly to:

- the low level of economic activity and fading growth impulses;
- weak growth in household income as the key factor behind persisting strains in indebted household budgets as well as sluggish consumer demand.

Persisting medium-term risks in the non-financial corporate and household sectors

A combination of persisting uncertainty about longer-term prospects and volatile environments has impeded the anchoring of expectations, which prevents firms and households from planning longer-term investment activity and acts as a drag on the revival of consumption. In the medium-term horizon, the fiscal situation of enterprises and households will be affected by an increase in the fiscal burden. The main gainers from domestic economic growth have been non-financial corporations, which have used low growth in labour income to build up their own buffer reserves. Another risk is that slower

growth in the economy's production potential may, with regard to expected sales, increase the debt burden of firms. This could force firms to deleverage further, with a downward effect on investment.

The labour market situation and unfavourable income trends are weighing on the financial position of households. Although households' high accumulation of savings is dampening consumer demand, such behaviour is justified at times of relatively elevated uncertainty about the future and creates a potential buffer against further economic shocks. The debt servicing capacity of households depends on economic activity and job creation being maintained to at least current levels. Retail interest rates on housing loans have come down due to households paying off existing loans with new loans that have shorter initial rate fixation periods and more advantageous conditions. There is a risk that the current trend in interest rates reverses while the income situation of households remains unfavourable, which could translate into a further increase in interest rate burden.

CHAPTER 4

FINANCIAL SECTOR DEVELOPMENTS AND RISKS

4

4 FINANCIAL SECTOR DEVELOPMENTS AND RISKS

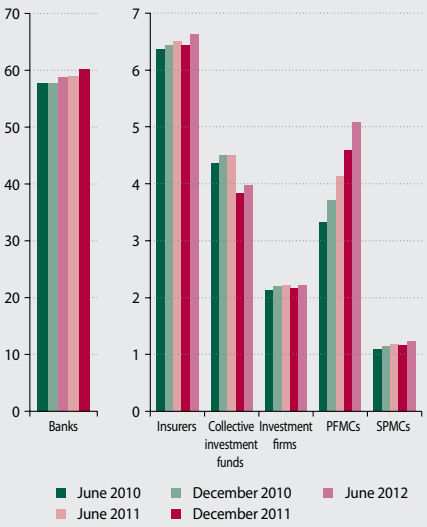
Given the economy's relatively strong resilience to headwinds from the external environment and due to easing of the negative effects of the debt crisis activity in several financial market segments picked up moderately in the first half of 2012 (Chart 37). The profitability of financial institutions in the first half of 2012 was influenced by factors specific to individual sectors (Chart 38). In all sectors except for pension saving, profits continued to lag behind the levels seen before the crisis.

Owing to the temporarily improving situation in the external environment as well as to the relatively favourable, if fragile, economic performance of Slovakia, the stress indicator for the Slovak economy and financial system[12] remained at a moderately elevated level in the first half of 2012 (Chart 39). This comparatively calm period was not interrupted until June 2012, when the indicator rose sharply before correcting back in the following month. The increase was caused mainly by a decline in lending (both to enterprises and on the interbank market).

Chart 38 Return on equity (ROE) in the financial sector (%)

Source: NBS.

Chart 37 Amount of assets and managed assets in the financial sector (EUR billions)



Source: NBS.

Chart 39 Stress indicator for the Slovak economy and financial system

Source: NBS calculations.
Note: The most recent data available are for September 2012.

12 The stress indicator for the Slovak economy and financial system reflects the extent to which accumulated imbalances are appearing in the system. The indicator was introduced in Annex 1 of the Financial Stability Report for the First Half of 2011.

4.1 BANKING SECTOR

The overall lending activity of banks has weakened. In the first half of 2012, the annual growth rate of banking sector assets decelerated as the outstanding amount of loans to enterprises fell and the growth rate of loans to households (especially housing loans) slowed. A decline in the amount of foreign bonds was offset by an increase in investments in Slovak government bonds and Treasury bills. The banking sector's return on equity fell sharply year-on-year due to elevated profits in 2011 and a marked rise in equity capital in the first half of 2012. The new banking levy made its first negative impact on the banking sector's profit in the first half of 2012, diminishing it by around 12% of the total pre-tax profit. Not only was there a slowdown in bank lending activity, but the competition between banks for borrowers and depositors remained strong and squeezed banks' interest rate margins. Both the overall capital adequacy ratio and the core Tier 1 capital ratio increased sharply in the first half of 2012.

4.1.1 Financial position of the banking sector

The banking sector's total profit in the first half of 2012 decreased markedly year-on-year, owing mainly to a fall in non-interest income, lower returns on shares and other equity, an increase in bank levy-related expenses, and an increase in credit risk costs.

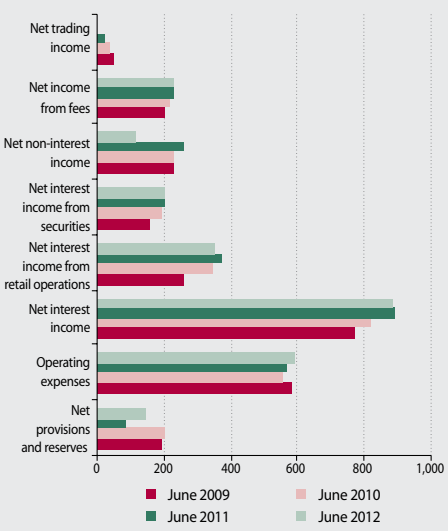
The banking sector's net profit for the first half of 2012 was €275.5 million, representing a year-on-year decline of almost 40%. Since the decline in ROE was more pronounced at large banks, the weighted average for the sector as a whole fell too (Chart 40). The main cause of the lower profit at the sectoral level was non-interest income, which slumped year-on-year by almost €150 million (Chart 41). The decline in returns on shares and other equity stemmed from their relatively sharp, one-off increase at certain banks in 2011. The bank levy for the first half of 2012 equated to around 12% of the sector's pre-tax profit, but its impact was heterogeneous across banks. The banking sector also saw an increase in credit risk costs in the first half of 2012. The outstanding amount of loans past due by up to 90 days increased quite sharply. As for loan loss provisioning in the first six months, the vast majority of provisions were made for household loans.

The sector recorded a first year-on-year decline in interest income which, if it continues for a longer period, could hinder the maintenance of financial stability. Profits have also been reduced by external effects in the form of additional levies and taxes on the banking sector.

Chart 40 ROE distribution across the banking sector (%)

Source: NBS.
Note: The bars indicate the interquartile range of ROE values across banks (excluding foreign bank branches).

Chart 41 Banking sector profit broken down by main components (EUR millions)



Source: NBS.

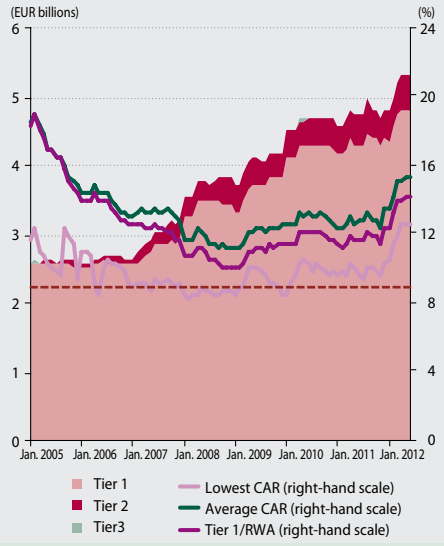
Net interest income has, by virtue of its amount, a significant effect on the banking sector's total profit. After a period of relatively stable growth,[13] net interest income in the first of 2012 recorded a year-on-year decline. Almost all the banks active in the household sector reported an annual drop in interest income. Banks' income was squeezed by the continuing slowdown in household lending and the lowering of interest rates on new loans, all of which caused a decline in the annual rate of return on loans. At the same time, both the amount of deposits and remuneration of deposits continued to increase. Banks' funding costs have been rising for several years in a row, and this, along with the effect of competition between banks for loans, has on the whole resulted in a decline in banks' interest rate margins in the household sector. At the same time, the slowdown in lending and fall in the interest margin may not be entirely due to cyclical factors.

As stress test results show (Section 4.3), the decline in the sector's profitability is detrimental to the preservation of financial stability. With lower profits, banks have less capacity to cover losses by creating a capital buffer out of net earnings. Another cause of banks' declining profits, besides shrinking margins, is the imposition of extraordinary levies and taxes (e.g. the financial operations tax now being prepared). These are factors over which individual banks have little influence.

The banking sector's capital adequacy and core capital ratios increased markedly in the first half of 2012. The sector's financial leverage is also an indicator of its robustness.

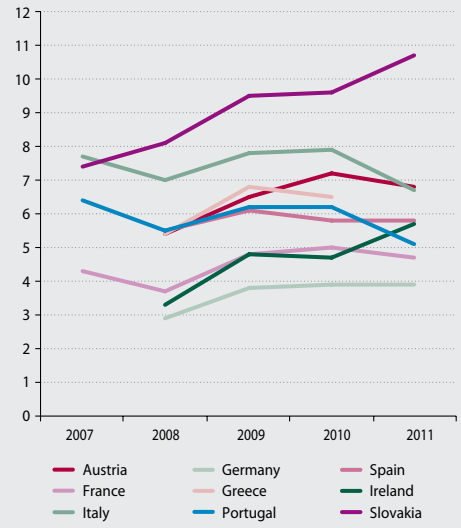
The capital adequacy ratio[14] of the banking sector increased from 13.3% as at December 2011 to 15.3% at the end of the first half of 2012 (Chart 42). The core Tier 1 ratio also increased sharply, from 12.3% to 14.1%. The sizeable increase in both ratios stemmed mainly from an increase in the banking sector's equity capital as well as from a decline in capital requirements. The increase in equity capital comprised mainly an increase in Tier 1 capital in the form of retained earnings from previous years. In total, 46% of the banking sector's profit for 2011 was retained by banks. The decline in risk-weighted assets (and hence the drop in capital requirements) by 2.4% reflected mainly a decrease in capital requirements for credit risk. The sector's financial leverage ratio is in positive territory (Chart 43).

Chart 42 Capital position of the banking sector



Source: NBS.
Note: The broken line indicates the regulatory recommended minimum capital adequacy ratio (CAR) of 9%. RWA = risk-weighted assets.

Chart 43 Equity capital (% of assets)



Source: ECB.

13 In the pre-crisis year of 2008 it increased year-on-year by almost 16%, and in 2010 and 2011 by approximately 8%. The only exception to this trend was the average growth rate of 2% in 2009.
14 The sectoral average is weighted by the amount of risk-weighted assets.

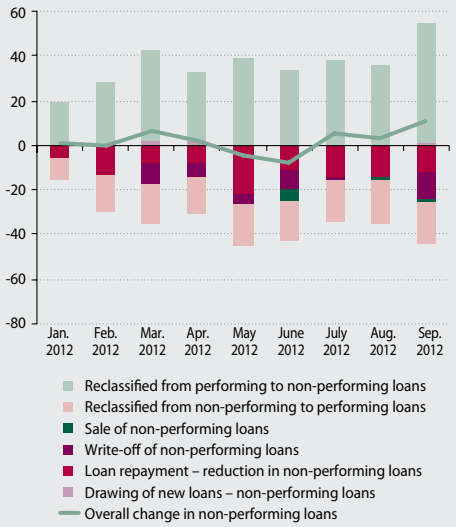
4.1.2 Risks in the banking sector

- Banks' declining ability to generate profit represents a potential risk to financial stability. The causes of lower profits may be more structural than temporary (part 4.1.1).
- A key factor in mitigating household credit risk has been the period of low interest rates. This risk is increasing due to the trend growth in the proportion of unemployed people who previously worked in middle or higher income occupations and to the intensification of competition between banks.
- The quality of corporate loans remains stable. The risk from non-performing loans is greater in certain sectors focused on the domestic economy, although any future increase in credit risk will also reflect a weaker external environment.
- Although the euro area financial markets have calmed to some extent, the risk that the marking to market of debt securities (particularly Slovak government bonds) will weigh on banks' profits and capital ratios remains elevated.

The quality of the banking sector's household loan portfolio improved in the first half of 2012. Households were benefiting mainly from the period of low interest rates, as well as from a relatively stable labour market situation. There is, however, upward pressure on credit risk from the increasing proportion of unemployed people who previously worked in middle or higher income occupations and from the intensification of competition between certain banks.

Looking at the ratio of non-performing loans (NPLs) in the household loan portfolio, it levelled off in the second half of 2011 after displaying a downward trend from the beginning of the year. In the first half of 2012, however, it started falling again. The overall NPL ratio at the end of June 2012 stood at 4.25% (down from 4.63% in December 2011). An improvement in the NPL ratio was observed in almost all banks and across most types of loan. The amount of NPLs also fell, mainly due to the repayment of NPLs and to reclassification of NPLs to performing loans (Chart 44). The only deterioration in households' repayment of bank loans was in the share of loans past due by more than 90 days, which increased to 5.6% of the outstanding amount of loans. This ratio is still, however, at the level of the long-run average.

Chart 44 Non-performing household loans – composition of changes (EUR millions)



Source: NBS.

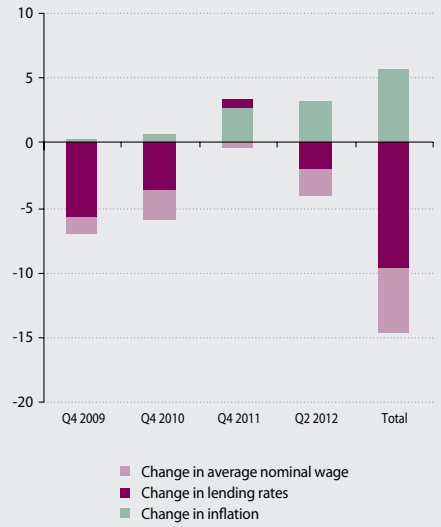
The continuing decline in interest rates eased the debt burden on those households that arranged new interest rate fixation period or refinanced old loans with new loans. Nominal wage growth also helped lower the household debt burden in the first half of 2012, but elevated inflation continued to have a negative effect in this regard.On the whole, the household debt burden did not increase in the first six months of 2012 (Chart 45).

Unemployment fell slightly in the first half of 2012 and the trend of stagnating employment continued from the end of 2011. Therefore the labour market situation did not give rise to any significant changes in household credit risk. An unfavourable development for household credit risk over the long-term horizon is the increasing proportion of registered unemployed people who previously had middle or higher income occupations,[15] i.e. who belong to the socio-economic group that receives a large majority of total bank loans.[16]

Heightened competition between certain banks in lending to households could contribute to higher credit risk throughout the sector.

15 This share has increased from 40% at the beginning of 2009 to more than 50% at present.
16 The factors affecting household credit risk are looked at in more detail in Part 3.2.

Chart 45 Changes in the debt burden



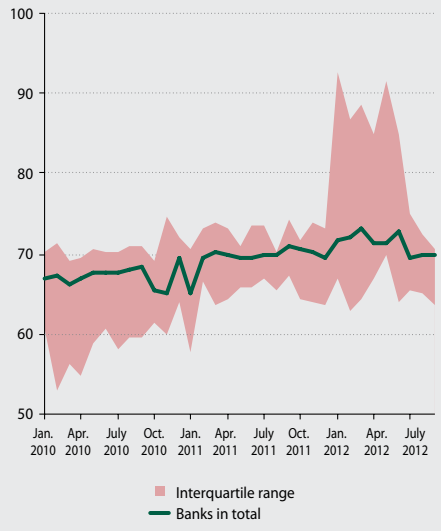
Source: NBS.
Note: The data express the separate effect of each item on the change in the debt-service ratio (ratio of loan repayments to disposable income) from its level in 2008. The ratio calculation used the average loan provided in 2008 with a one-year fixed interest rate. Inflation growth increases living costs and hence reduces the income from which loans are repaid.

In the banking sector as a whole, the average amount of the loan-to-value (LTV) ratio for new housing loans increased moderately in the first half of 2012 based on marked increases in the LTV ratios at certain banks (Chart 46). Banks are therefore exposed to higher credit risk, since with less collateral covering the outstanding principal, the losses in the event of loan default will be higher. Increasing the LTV ratio is a means of competition, but while it improves conditions for customers, it does not, in the context of falling residential property prices and generally elevated macroeconomic uncertainty, contribute to the stability of the sector as a whole. The correction of high LTV ratios at certain banks during the third quarter of 2012 was, in our view, a positive development.

The ratio of non-performing loans has remained stable. The quality of the loan portfolio has been improved by positive trends in the sector, although the prospects for these trends are uncertain given the deteriorating situation in the external environment.

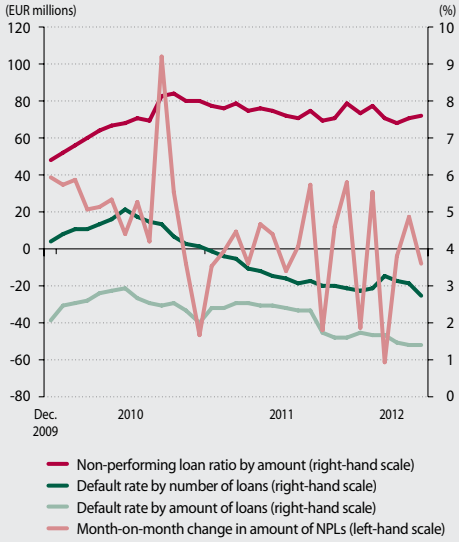
The stability of the banking sector is benefiting from the relative stability in non-performing loans, in terms of both their ratio to total loans and absolute amount (Chart 47). Recent intensive cleansing of the portfolio has resulted

Chart 46 Loan-to-value ratio for housing loans



Source: NBS.
Note: The data for the banking sector represents the average weighted assets of all banks.

Chart 47 Non-performing corporate loans and default rates



Source: NBS.
Note: Default rates are calculated as the ratio between, on the one hand, the number/amount of loans reclassified from "performing" to "non-performing" and, on the other hand, the number/amount of loans classified as "performing" at the beginning of the period.

in large month-on-month declines in the outstanding amounts of NPLs. Almost all portfolios have undergone cleansing (through the write-off of claims) with the exception of the portfolios for the commercial real estate and hotel segments, in which the amount of NPLs has steadily risen. The falling default ratio in the corporate loan portfolio may reflect deleveraging in the corporate sector and declining lending rates.

Looking ahead, however, the quality of the corporate loan portfolio could deteriorate again. Most banks were tightening credit standards[17] in the first half of 2012 amid uncertainty about the future macroeconomic situation. Consequently, the interest rate margin kept widening throughout the period, despite favourable external trade results, steady growth in the corporate sector's aggregate sales, and increases in industrial new orders and in labour productivity in industry.[18] A further explanation for this development, besides the climate of uncertainty, is an asymmetry between concentration of performance in the corporate sector and the extent to which domestic banks are involved in the financing of top-performing firms. The automotive industry has been largely responsible for the real economy's relatively solid performance, but the industry's strong results may not necessarily affect the domestic banking sector's customers given that domestic banks play only a marginal role in the financing of firms in this segment.

Although the elevated strains in financial markets have eased somewhat, the most significant market risk facing the banking sector continues to be credit spread risk. Interest rate risk in the banking book increased.

After experiencing considerable turbulences in autumn 2011, euro area bond markets stabilised somewhat in the first half of 2012 and even more so in the following period, largely as a result of several ECB measures. Nevertheless, credit spread risk on government bonds has not been averted definitively, since the ECB measures are not sufficient to end the euro area financial crisis (see Annex 1). As Table 3 shows, the banking sector's overall direct exposure to the lowest-rated EU countries through the securities portfolio (including financial instruments held-to-maturity) is relatively low (less than 1.5% of assets), and it declined further during the first half of 2012 due mainly to the restructuring of Greek debt. The fact, however, that these exposures are

Table 3 Investment in debt securities of selected countries as a share of total assets (%)

		Greece	Hungary	Ireland	Italy	Spain	Portugal	Slovenia
Banks	VI.11	0.9	0.6	0.3	0.3	0.1	0.1	0.1
	VI.12	0.1	0.7	0.3	0.2	0.0		0.1
SPMC funds	VI.11	0.1	0.6	0.2	0.9	1.0		2.7
	VI.12	0.0	0.6	0.2	1.1	0.8		2.1
PFMC funds	VI.11		0.9	0.1	0.1	0.9		1.9
	VI.12			0.1	0.6	1.4		2.9
Mutual funds	VI.11	0.1	1.5	0.3	0.4	0.1	0.0	1.5
	VI.12		1.5	0.1	0.5	0.1	0.0	1.3
Insurers	VI.11	0.1	0.2	0.2	2.5		0.1	0.6
	VI.12		0.2	0.2	2.3	0.0		0.6
Unit-linked insurance	VI.11			0.3				
	VI.12		0.1	0.3				

Source: NBS.
Note: Debt securities issued by the given country, or by institutions established in that country, as a share of total assets or NAV. An empty cell means that the value is zero or negligible, while 0.0 expresses a value that is not zero but is less than 0.05. The lower-rated countries include also Cyprus, where the exposure of the banking sector is 0.1% of assets and that of other sectors is zero.

17 Slovak banks' credit standards for enterprises were less strict in the third quarter of 2012 than in the second quarter.
18 The factors affecting corporate credit risk are looked at in more detail in Part 3.1.

highly concentrated among a few institutions, represents a risk.

The banking sector's largest exposure is to Slovak bonds. The risk of losses on the revaluation of these securities is limited by the fact that they are mostly allocated to held-to-maturity portfolios. If, however, it became necessary to liquidate these portfolios, banks could face significant losses.

The portfolio of debt securities marked to market through profit and loss constituted 2.6% of the banking sector's assets as at 30 June 2012. Of that share, Slovak debt securities (mainly government bonds and mortgage bonds issued by Slovak banks) accounted for approximately 90%.

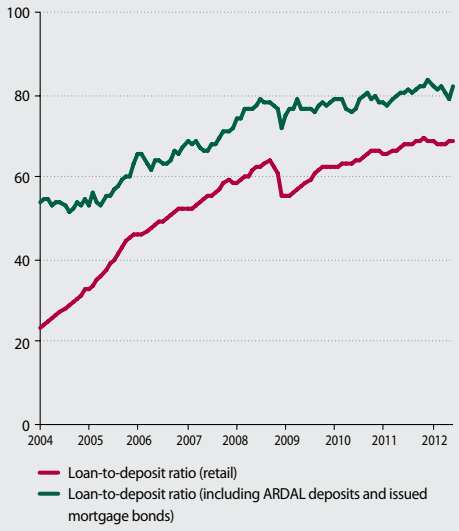
Other securities that banks mark to market include bonds in the available-for-sale portfolio. At the banking sector level, this portfolio comprises mainly Slovak bonds (87%), but in certain banks the AFS portfolio includes securities issued by lower-rated countries. A devaluation in a bank's AFS portfolio does not affect the institution's profit, but does reduce its capital and therefore its capital adequacy ratio as well.[19] For the sector as a whole, the AFS portfolio constituted 8% of the balance-sheet total as at the end of June 2012. The average duration of this portfolio remained largely unchanged, to stand at 2.5 years at end-June. This implies that if credit spreads or interest rates rose by 100 basis points, the portfolio's value would fall by 2.5 %, causing the capital ratio to drop by around 0.4 percentage point.

As for general interest rate risk in the banking sector, occurring mainly in the banking book, it also increased in the first half of 2012 owing to a lengthening of duration.

Due to fair-value accounting rules, a large part of the securities portfolio (especially Slovak government bonds) is not being revalued; nevertheless, banks could still be vulnerable to rising yields in the event they need to sell these bonds (e.g. in order to obtain liquidity).

The sector's long-term liquidity remains favourable. The stable composition of liabilities in the Slovak banking sector is supporting liquidity. The liquid asset ratio has improved moderately.[20]

Chart 48 Long-term liquidity ratios for the banking sector (%)



Source: NBS.

The loan-to-deposit ratio[21] remained stable in the first half of 2012 due largely to a combination of, on the one hand, robust growth in household deposits and, on the other hand, a continuing slowdown in lending to enterprises and the onset of a slowdown in lending to households.

The composition of liabilities in the Slovak banking sector is, compared to other euro area countries, highly stable in terms of liquidity. Household deposits as a share of total liabilities stood at almost 43% in June 2012. The Slovak banking sector reports the highest share of primary deposits in total liabilities and has the lowest reliance on external and interbank funding.

The liquid asset ratio,[22] which indicates liquidity risk over a one-month horizon, improved moderately in the first half of 2012 due to a combination of increasing liquid assets and falling volatile liabilities from March 2012. At banks oriented on the household sector, the trend of low liquid asset ratios continued (Chart 49).

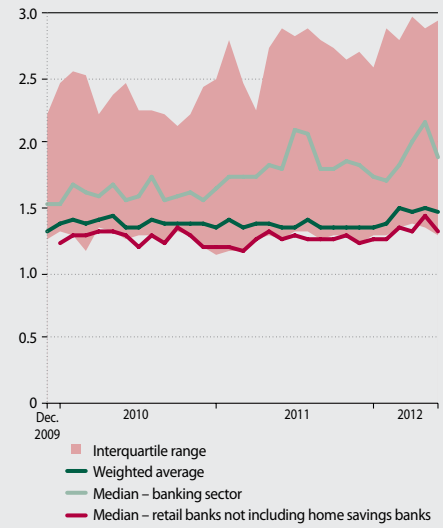
19 This reduction in equity capital is due to the introduction of a new deductible item as of 31 May 2011.

20 An analysis of the determinants of the banking sector's short-term (7-day) liquidity is provided in Annex 3.

21 The loan-to-deposit ratio is an indicator of long-term liquidity; it is defined as the ratio of customer loans to customer deposits after taking into account the obligation to issue mortgage bonds. An LTD ratio of less than 1 indicates sound long-term liquidity and self-sufficiency of the banking sector, while an increase in the ratio indicates a weakening of this position.

22 The liquid asset ratio is defined as the ratio of liquid assets to volatile liabilities over a horizon of one month. Its level should not fall below 1.

Chart 49 Liquid asset ratio for the banking sector



Source: NBS.

4.2 OTHER FINANCIAL MARKET SECTORS

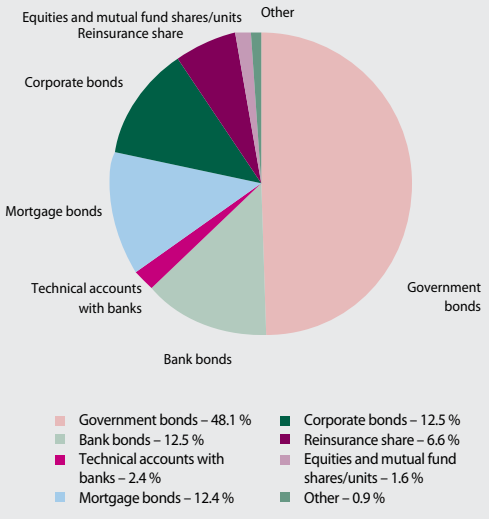
Healthy results in the insurance sector are supporting its resilience to risks. Insurance companies are exposed mainly to credit spread risk and also to the risk associated with a long period of low interest rates.

The insurance sector's total profit for the first half of 2012 fell year-on-year by 15%, following a record profit in 2011; nevertheless, it remained at a healthy level. The profit was based largely on the financial result. As at the end of 2011, all insurance companies satisfied the requirement that their available solvency margin (own funds) be higher than the required solvency margin.[23] Since the available solvency margin declined year-on-year by 1.8% and the required solvency margin hardly changed at all, the average solvency margin fell moderately, to 3.49.

Total technical provisions in the insurance sector increased further in the first half of 2012, up to €4.75 billion at end-June, due mainly to growth in life insurance technical provisions. The asset coverage of technical provisions (not including provisions for liabilities arising from financial investments made on behalf of insured persons) was 116%. The composition of technical provision investments remained conservative without any significant changes. The share of government bonds increased to 50%, and the mortgage bond weight also rose, while the largest decline was in bank bonds (Charts 50 and 51).

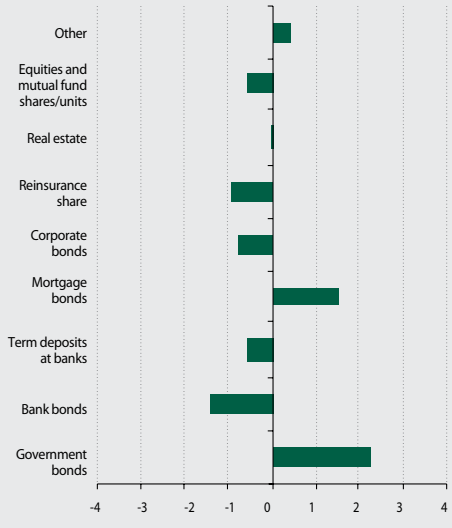
For insurance companies, the most significant market risk is interest rate risk (see Table 4),

Chart 50 Composition of technical provision investments as at the end of June 2012



Source: NBS.
Note: Not including provisions for liabilities arising from financial investments made on behalf of insured persons.

Chart 51 Technical provision investments – annual percentage changes in components (%)



Zdroj: NBS.
Poznámka: Na grafe sú znázornené medziročné percentuálne zmeny investícií v daných nástrojoch ku koncu júna 2012.

23 Insurance companies report their solvency data to Národná banka Slovenska at the end of each year. The evaluation of the solvency situation is therefore based on audited data as at 31 December 2011.

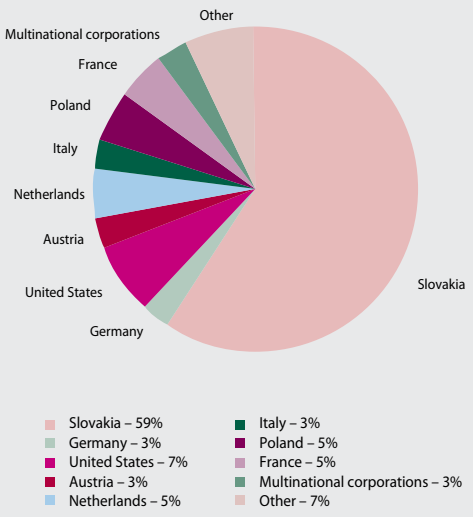
Table 4 Share of equity, foreign-exchange and interest-rate positions in different sectors of the financial market (%)

		Banks	Insurers	PFMC funds	SPMC funds	Mutual funds	Unit-linked assets
Equities and mutual fund shares/units	VI.11	0.3	2.6	0.0	22.1	19.3	82.0
	VI.12	0.4	2.7	1.0	17.6	17.1	77.3
Foreign-exchange positions	VI.11	0.2	2.2	0.1	10.1	12.5	21.1
	VI.12	1.4	1.0	0.0	12.2	11.7	12.2
Debt securities	VI.11	25.2	69.8	70.1	58.0	46.3	17.1
	VI.12	24.8	72.6	69.0	64.8	36.6	19.7
Duration of debt securities	VI.11	3.3	6.0	0.4	2.6	1.3	5.0
	VI.12	3.2	6.3	1.0	3.1	1.7	4.7
Duration of entire portfolio	VI.11	1.0	5.6	0.4	1.5	0.6	0.9
	VI.12	1.1	5.7	0.8	1.9	0.8	0.9
Residual maturity of debt securities	VI.11	4.3	8.0	1.1	4.1	2.2	5.3
		4.1	8.0	1.6	4.0	2.3	5.1

Source: NBS.
Note: Values are given as a percentage share of total assets (or NAV) and represent the asset-weighted average for the given group of institutions. Duration and residual maturity are stated in years. Foreign-exchange positions were calculated as the sum of the absolute values of the positions for each institution. Equity positions do not include participating interests in subsidiaries and affiliates.

since equities, mutual fund shares/units and foreign exchange positions constitute a low proportion of their assets. The interest rate risk is accentuated by the long duration of the bond portfolio and by the large share of bonds in portfolios maked to market, a share that by 30 June 2012 had increased to 66%.[24] If the risk-free interest rate increases, the adverse effect on the valuation of assets will be partially offset by a decline in reserves, since the risk-free interest rate is used as a discount rate in the calculation of their value. On the other hand, where bonds drop in value owing to a rise in the issuer's credit risk premia, there is no offset. The exposure of insurers to lower-rated countries is concentrated on Italy. Insurers' principal exposure is to an increase in the risk premia on Slovak government bonds, which make up 59% of the portfolio (Chart 52).

Chart 52 The insurance sector's portfolio of debt securities revalued to fair value, broken down by country of issuer

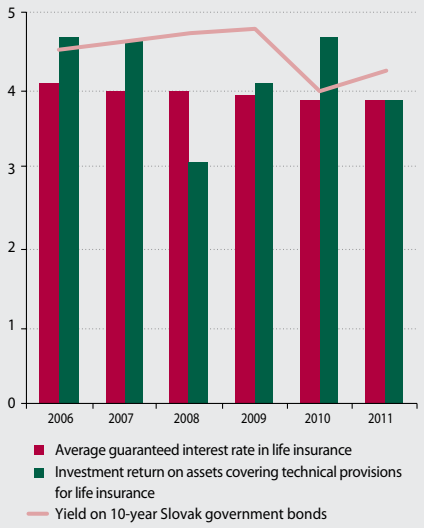


Source: NBS.
Note: The chart shows shares in the total amount of securities revalued to fair value, as at 30 June 2012. The segment labelled "Other" comprises securities issued by countries with a share of less than 1.5% in the total amount.

The insurance sector has the most pronounced exposure to low interest rates, since insurance portfolios include life insurance contracts under which returns are guaranteed. In an environment of low interest rates, insurers may struggle to ensure guaranteed returns and may therefore be induced into making riskier investments. In 2011 the average return on assets covering technical provisions (3.84%) was slightly lower than the average guaranteed (3.86%). Although the average yield on ten-year Slovak government bonds was higher in 2011 than in 2010 (Chart 53), it declined again in the first half of 2012, to below 3.5% per annum. At present the residual maturity of the insurance sector's bond portfolio is sufficiently high. If, however,

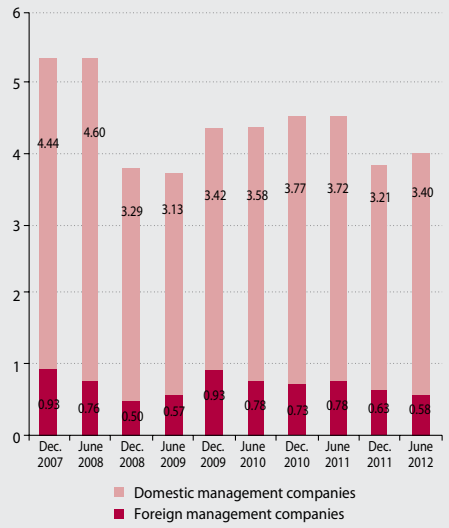
24 Approximately 7% of this portfolio comprises assets covering technical provisions in unit-linked insurance. Since the customer bears the risk under unit-linked insurance policies, this part of the portfolio does not constitute a risk to insurers. The assets covering technical provisions for unit-linked insurance policies comprise mainly equities, mutual fund shares/units, and longer-duration bonds.

Chart 53 Comparison of guaranteed interest rate and actual return (%)



Source: NBS.

Chart 54 Changes in the net asset value of mutual funds marketed in Slovakia (EUR billions)



Source: NBS, SASS.

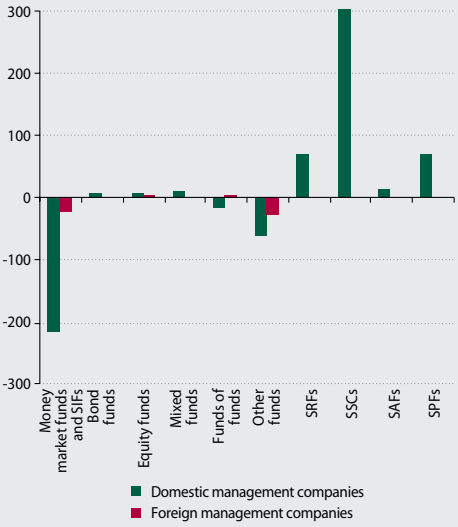
insurers continued to face low interest rates and were therefore constrained to reinvest a significant part of their portfolio under current conditions, they would have difficulty achieving the guaranteed investment return.

In the collective investment sector, the increase in aggregate net asset value in the first half of 2012 was accounted for mainly by net sales of several special mutual funds. All fund categories reported an improvement in performance over the period. The sector as a whole is exposed mainly to equity risk, and for bond funds there is an added exposure to credit spread risk.

The aggregate amount of assets under management in domestic and foreign mutual funds marketed in Slovakia was €3.98 billion as at 30 June 2012, which is still relatively low compared to the long-run average (Chart 54). Net sales accounted for around four-fifths of the increase in the sector's NAV, and most of that increase was concentrated among several special mutual funds. The growth in the sector's assets occurred alongside the establishment of new special mutual funds under the Collective Investment Act that entered into force on 30 June 2011 (Chart 55).

The increase in NAV at the sectoral level was further supported by higher returns on investments in mutual funds. Equity funds reported the largest nominal appreciation, more than 10% in an-

Chart 55 Changes in the amount of assets under management in the first half of 2012 broken down by fund category (EUR millions)



Source: NBS, SASS.
Note: SIF = short-term investment fund; SRF = special real estate fund; SSF = special securities fund; SAF = special alternative investment fund; SPF = special professional investor fund.

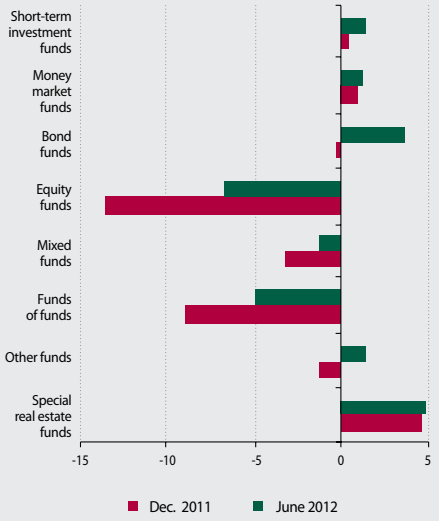
nualised terms, closely followed by bond funds (9%). Special real estate funds continued to be the best performing category, with an annual rate of return of 5% as at 30 June 2012 (Chart 56).

A key determinant of the risk exposure of mutual funds is the composition of their asset portfolios (Chart 57). In the case of domestic mutual funds, the most significant change was the increase in the share of bank deposits and decline in the bond component.

Equity risk remains the most significant risk, particularly for equity funds, mixed funds, and funds of funds. As a share of the net asset value of all funds in the sector, equity investments were almost unchanged from December and moved largely in line with stock market developments. Bond funds are exposed mainly to interest rate risk, which consists mainly of credit spread risk. As for securities issued by lower-rated countries, those with the largest shares in the portfolio are securities issued by Slovenia (4%) and Italy (1.5%). Such investments are as a rule, however, heavily concentrated among a few funds and constitute a sizeable part of their portfolios.

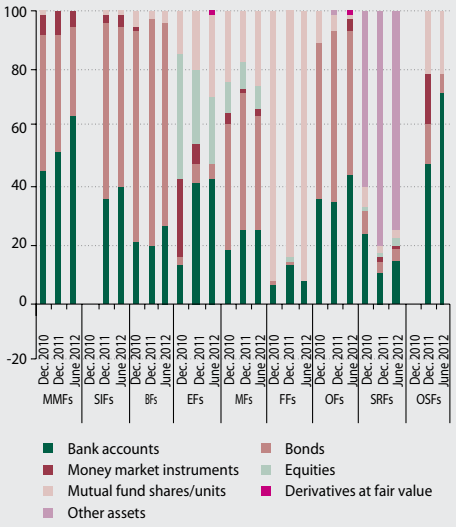
In the pension sector, legislative amendments have resulted in changes in the distribution of savers between different types of pension fund. The performance of pension funds has improved moderately in year-on-year terms. For PFMC funds, the risk of a pension unit decline increased slightly in the first half of 2012, but still remained very low as fund portfolios retained their conservative profile. In the context of the euro area's ongoing sovereign debt crisis, the principal risk is credit spread risk.

Chart 56 Average annual performance of mutual funds by category (%)



Source: NBS, SASS.

Chart 57 Asset composition of domestic mutual funds by fund category (%)

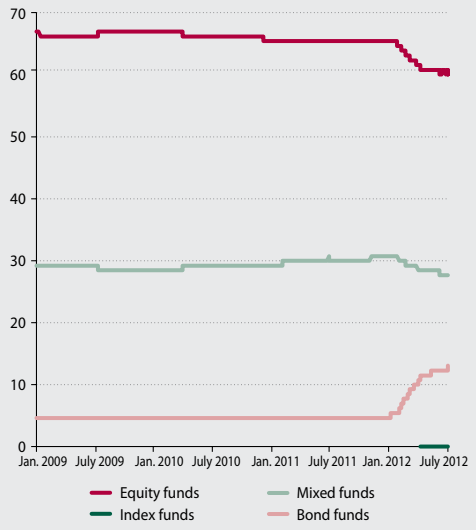


Source: NBS.
Note: Note: MMF = money market fund; SIF = short-term investment fund; BF = bond fund; EF = equity fund; MF = mixed fund; FF = fund of funds; OF = other fund; SRF = special real estate fund; OSF = other special fund.

With savers in Pillar II of the pension system making regular compulsory contributions, the net asset value of Pillar II funds maintained linear growth during the first half of 2012 and ended the period at €5.09 billion. Unlike in the past, however, this trend was not observed in all types of Pillar II fund. As a result of amendments to pension sector legislation, and the preceding information campaign conducted by pension funds management companies (PFMCs), the distribution of savers between different types of pension fund has changed markedly, after remaining the same for years.[25] As savers switched between funds, so did the assets under management of these funds (Chart 58).

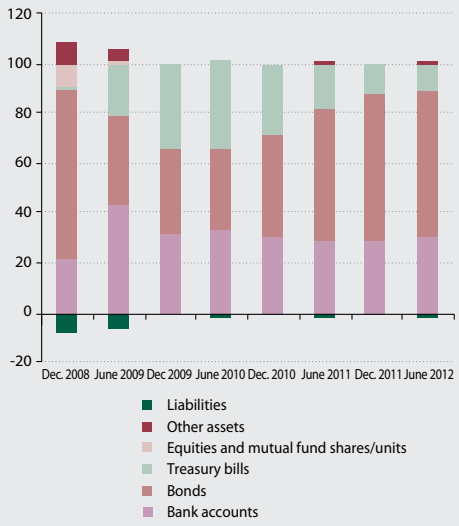
25 For the purposes of this analysis, a saver is included in a particular type of fund if more than 50% of his contributions are made to that fund. Where the ratio of contributions is precisely 50:50, the saver is included in the bond fund. Therefore savers enrolled in two pension funds are not counted twofold.

Chart 58 Aggregate net asset value of PFMC funds broken down by fund category (%)



Source: NBS.

Chart 59 Composition of funds' assets by principal types of investment (%)



Source: NBS.

In the first half of 2012, however, the asset composition of PFMC funds showed only limited change in response to the new statutory rules. One of the intentions behind the new law was to give PFMCs an incentive to invest in assets likely to be higher-earning over the long-term horizon. Debt securities comprising bonds and Treasury bills accounted for almost 70% of the sector's total assets as at 30 June 2012, and bank deposits made up the rest (Chart 59). Since PFMCs are not required to comply with the new rules on portfolio composition until the end of 2012, they did little or nothing in the first half of the year to bring the composition of their equity funds into line with the new limits (Box 1).

In a sign that PFMCs are turning away from highly conservative investment policies, the average residual maturity of their aggregate holdings of debt securities rose sharply (Table 4). Nevertheless, the average residual maturity of individual funds remained at low levels, ranging from 1.0 to 2.6 years. The average modified duration of this part of the portfolio increased along with the residual maturity, meaning in practice that the fair value of these assets became more sensitive to interest rate movements.

Box 1

LEGISLATIVE AMENDMENTS IN THE SECOND PILLAR OF THE PENSION SYSTEM

Under key provisions of the Retirement Pension Saving Amendment Act (2011) that entered into force on 1 April 2012, PFMCs are obliged to establish and manage bond, mixed and equity funds (as replacements for conservative, balanced and growth funds) as well as index funds as a fourth category of fund. To save in index funds should be less expensive than in other types of fund since the upper limit on the management fee is set lower than that for the alternatives and, furthermore, because PFMCs are not allowed to charge a performance-related fee on index funds. As regards investment strategy, the

returns on such funds should closely track those on a selected equity index or a basket of equity indices.

Another legislative change that may bring greater flexibility to savers is the possibility to save in two types of pension fund at the same time. In such case, contributions are divided between the two funds in an arbitrary ratio set by the saver. There is a restriction, however, in that one of the funds must be a bond fund.

A third key amendment was the repeal of the obligation on PFMCs to supplement, out of their own funds, the assets of mixed and equity funds in the event of a decline in the value of the fund's pension unit within stipulated reference periods. For pension funds themselves, this obligation was retained, while the reference period for assessing asset value in bond funds was extended from six months to fiver years.

The Amendment Act also introduces portfolio composition limits for the different types of fund. In equity funds, for example, investments in debt and money market instruments may not exceed 80% of the fund's net asset value (Article 88). This means that at least 20% of the portfolio will comprise investments in equities or in mutual funds in which equity investments predominate.

The improved year-on-year performance of pension funds in the first half of 2012 mainly reflected the upward valuation of debt securities in the portfolio (Table 5). In this regard, Slovak government bonds were the key factor since their yields to maturity fell relatively sharply from February to April and thus their price rose. The different fund categories (bond, mixed and equity) continued to report similar rates of return, reflecting the almost identical composition of their assets.

Since changes in PFMC fund portfolios were minimal in the first half of 2012, the risk exposure of these funds did not change significantly, either. Although index funds are the riskiest category, their assets constitute less than 0.5% of the total amount of assets managed by PFMC funds. The largest downside risk to the pension unit value is therefore that the duration of the bond portfolio is lengthened by an increase in the residual maturity of the bonds in the portfolio. The duration rose markedly, but since it did so from a very low base, the risk exposure of PFMC funds remains minor.

Although investments in Spanish and Slovenian sovereign debt increased, exposure to lower-rated countries remains limited (Chart 60). It cannot be ruled out, however, that turbulences in euro area financial markets will again escalate, thus pushing up the credit risk premia on Slovak government bonds, which constitute by far the largest component of the PFMC portfolio.

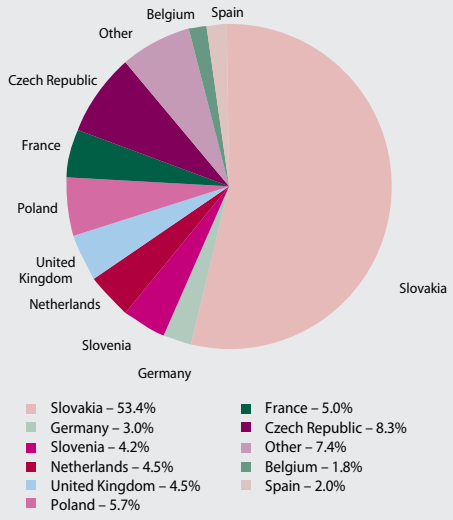
Funds could also suffer a marked decline in asset value in the event of the failure of any of the banks with which they have deposits. This risk, however, is considered to be low, except in re-

Table 5 Annual rate of return on pension funds as at 31 December 2011 and at 30 June 2012 (%)

	Min.		Weighted average		Max.	
	2011	1H2012	2011	1H2012	2011	1H2012
Bond funds	1.2	1.7	1.5	2.2	2.1	2.6
Mixed funds	1.1	2.0	1.5	2.3	2.1	3.1
Equity funds	1.1	2.0	1.4	2.3	2.1	2.9

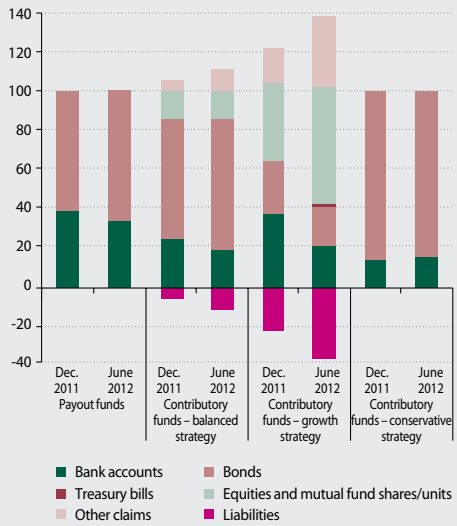
Source: NBS.
Note: The average annual return on pension funds is calculated as a weighted average of the annual percentage changes in the daily values of pension units of the respective pension funds.

Chart 60 The debt securities portfolio of PFMC funds broken down by country of issuer



Source: NBS.
Note: The chart shows shares in the total amount of the debt securities portfolio as at 30 June 2012. The item "Other" comprises sovereign debt securities that constitute less than 1.5% of the total portfolio.

Chart 61 Composition of funds' assets by type of investment and type of fund (%)



Source: NBS.

gard to deposits held with banks based in countries under stress.

In Pillar III of the pension system, the net asset value of funds managed by Supplementary Pension Fund Management Companies (SPMCs) recorded higher annual growth in the first half of 2012. The annual rate of return on these funds was, however, weak. The global risk exposure of SPMC funds increased, with the most prominent risks being equity risk and credit spread risk.

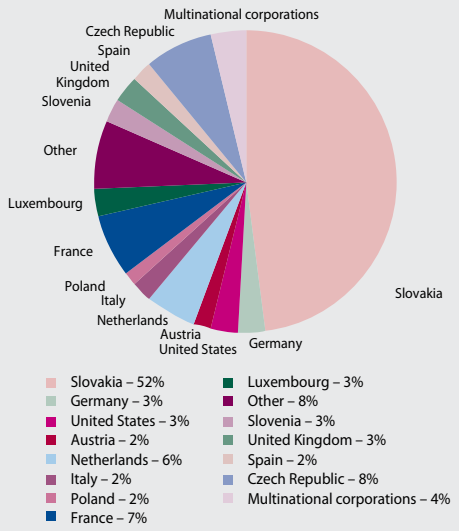
The value of assets under the management of SPMC funds was €1.2 billion as at end-June 2012. The overall NAV of SPMC funds increased in the first half of 2012 by €50 million, which is similar to its average rise in the years 2008 to 2010.

Contributory SPMC funds in which a growth policy is pursued saw a large rise in the equity component of their total assets, up to almost 60% (Chart 61). The average weighted residual maturity of debt securities increased slightly at the beginning of the year, and then returned to its four-year average towards the end of June. The average weighted modified duration of these instruments was just over 3 at end-June (Table 4).

The average annual return on contributory funds was 0.2% as at 30 June 2012. Negative annual returns were reported by all contributory funds with a growth investment policy and by one contributory fund with a balanced policy. The average nominal appreciation of all payout funds was 1.9%.

The risk profiles of SPMC funds range from those of conservative funds that have no investments in equities or mutual fund shares/units to those of funds that invest between 50% and 60% of their assets in such instruments. The exposure of the SPMC funds' portfolio to interest rate risk and credit spread risk is increasing as the duration of securities in the portfolio lengthens. The exposure to fiscally troubled countries comprises mainly investments in sovereign debt of Italy and Slovenia. The sector's exposure to these countries is not large (Chart 62), but it is concentrated. Although the exposure to foreign exchange risk declined moderately, it remains higher than in any other sector of the financial market.

Chart 62 The debt securities portfolio of SPMC funds broken down by country of issuer (%)



Source: NBS.
Note: The chart shows shares in the total amount of the debt securities portfolio as at 30 June 2012.The item "Other" comprises sovereign debt securities that constitute less than 1.5% of the total portfolio.

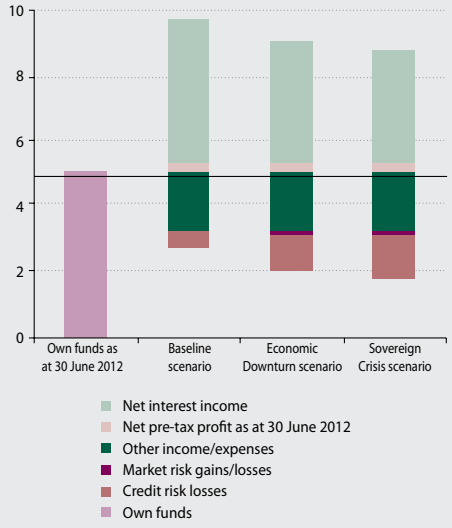
4.3 MACRO STRESS TESTING OF THE FINANCIAL SECTOR[26]

The banking sector's resilience to negative scenarios as at 30 June 2012 was similar to that at the end of 2011. The adverse impact of each scenario on the banking sector as at 31 December 2014 was strongly amplified by the assumption that the banking levy (in its current form) would apply throughout the stress period. As in previous stress tests, the sector's resilience was based on banks' high initial capital buffer and on their ability to generate net interest income. Credit risk remains the most significant risk in the sector, although some banks would also report significant market risk losses. A further risk to the banking sector is the outflow of profits.

The number of banks failing to meet the minimum capital adequacy requirement of 9% as at the end of the stress period would be one under the baseline scenario, two under the Economic Downturn scenario, and five under the Sovereign Crisis scenario (the details of the scenarios are set out in Table 6).[27] The total additional loss absorbency required to meet the 9% threshold would be 0.1% of own funds (as at 30 June 2012) under the baseline scenario, 1.5% under the Economic Downturn scenario, and 3.0% under the Sovereign Crisis scenario. The adverse impacts are more pronounced than those in previous stress tests owing to the scenarios being more stringent and to the assumption that the bank levy applies over the whole stress period. Disregarding the bank levy, the total additional loss absorbency requirement would be €41 million (0.8% of own funds) under the Economic Downturn scenario and €81 million (1.6%) under the Sovereign Crisis scenario. In the baseline scenario, no bank would fall below the minimum capital ratio (9%).

In this stress test, as in previous ones, the sector's resilience to the scenarios is strengthened by its relatively large capital buffer (as at 30 June 2012 no bank reported a capital ratio of less than 12.5%). As a consequence, relatively few banks would fall below the regulatory capital requirement even under scenarios in which they are projected to make a loss over the given period.[28] Another key factor in helping banks to contain the effects of adverse economic developments is the ability to generate net interest income (Chart 63).

Chart 63 Main factors affecting the level of own funds (EUR billions)



Source: NBS.
Note: The figures are estimates for 31 December 2014. The second, third and fourth bars show the contributions of different profit components to the increase/decrease in own funds. Other income/expenditure comprises mainly general operating expenses, which reduce profit.

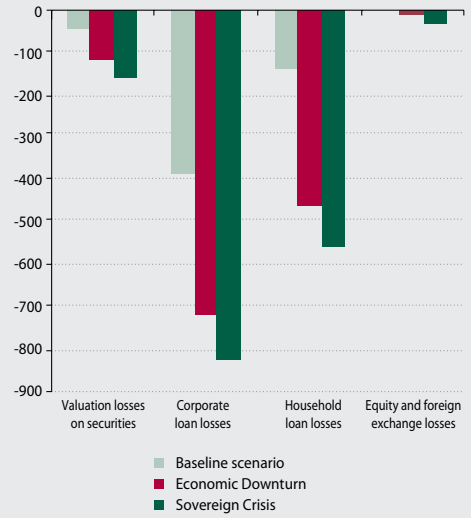
26 The stress test results are not to be interpreted as a prediction of future developments in the Slovak financial sector. The main purpose of the stress tests is to enable a comparison of the tested companies and sectors in terms of their resilience to different risks.
27 A detailed description of the stress test scenarios, assumptions and parameters is provided in the Analysis of the Slovak Financial Sector for the First Half of 2012.
28 In the case of the baseline scenario, a total of five banks would make a loss for the 2.5-year period (after taking into account the bank levy). That number would increase to seven banks under the Economic Downturn scenario and to eleven banks under the Sovereign Crisis scenario.

Table 6 Stress test assumptions and parameters

			Baseline scenario			Economic Downturn scenario			Sovereign Crisis scenario		
			2012H2[1)]	2013	2014	2012H2[1)]	2013	2014	2012H2[1)]	2013	2014
Baseline assumptions	Change in external demand		3%	6%	7%	-16%	0%	3%	-21%	-3%	-1%
	Change in USD/EUR exchange rate		0%	0%	0%	-25%	0%	0%	-35%	0%	0%
	Change in exchange rates of the CHF, JPY, GBP, DKK, CAD, HRK, LVL against the EUR		0.0%	0.0%	0%	-25%	0%	0%	-35%	0%	0%
	Change in exchange rates of other currencies against the EUR		0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	35.0%	0.0%	0.0%
	Change in equity prices		0.0%	0.0%	0.0%	-30.0%	0.0%	0.0%	-50.0%	0.0%	0.0%
	Change in the ECB key rate		0 b.p.	0 b.p.	25 b.p.	-25 b.p.	0 b.p.	0 b.p.	-25 b.p.	0 b.p.	0 b.p.
	Change in the 3-month Euribor		8 b.p.	-1 b.p.	27 b.p.	54 b.p.	-8 b.p.	-9 b.p.	88 b.p.	-15 b.p.	-14 b.p.
	Change in 1-year discount rate (EUR)		5 b.p.	-31 b.p.	22 b.p.	111 b.p.	-27 b.p.	2 b.p.	176 b.p.	-42 b.p.	5 b.p.
	Change in 2-year discount rate (EUR)		42 b.p.	24 b.p.	18 b.p.	93 b.p.	19 b.p.	3 b.p.	127 b.p.	11 b.p.	2 b.p.
	Change in 5-year discount rate (EUR)		60 b.p.	75 b.p.	17 b.p.	61 b.p.	35 b.p.	31 b.p.	65 b.p.	27 b.p.	32 b.p.
	Change in the 5-year iTraxx Senior Financials index		-87%	-50%	-50%	50%	0%	0%	100%	0%	0%
	Change in 5-year German government bond yields		60 b.p.	75 b.p.	17 b.p.	111 b.p.	35 b.p.	31 b.p.	115 b.p.	27 b.p.	32 b.p.
	Change in 5-year Slovak government bond yields		60 b.p.	75 b.p.	17 b.p.	211 b.p.	35 b.p.	31 b.p.	265 b.p.	27 b.p.	32 b.p.
	Change in German government bond yield curve[2)]		8 b.p.	0 b.p.	0 b.p.	8 b.p.	0 b.p.	0 b.p.	-18 b.p.	0 b.p.	0 b.p.
	Change in Slovak government bond yield curve[2)]		-13 b.p.	0 b.p.	0 b.p.	-13 b.p.	0 b.p.	0 b.p.	-58 b.p.	0 b.p.	0 b.p.
Macroeconomic variables	Annual real GDP growth		2.5%	3.1%	4.3%	0.2%	-9.4%	-2.3%	-0.6%	-12.7%	-4.3%
	HICP inflation		2.9%	1.8%	2.0%	3.6%	3.0%	3.0%	5.1%	3.1%	3.1%
	Unemployment		13.8%	13.0%	12.1%	14.7%	15.7%	17.0%	15.0%	16.5%	18.8%
Credit risk variables	Annual probability of default	Non-sensitive sectors	1.5%	1.1%	0.8%	2.0%	2.5%	1.9%	1.9%	2.6%	2.0 %
		Less sensitive sectors	1.8%	2.1%	1.7%	2.2%	4.0%	4.8%	2.3%	4.5%	6,1 %
		Sensitive sectors	4.8%	4.6%	4.1%	5.7%	9.4%	11.6%	5.6%	10.2%	12,8 %
	Non-performing loan ratio for household loans		5.5%	5.4%	5.0%	5.8%	8.5%	9.6%	6.2%	9.7%	11.2%
Insurance risks	Non-life insurance		Average loss ratio	Average loss ratio	Average loss ratio	Maximum loss ratio + 5 p.p.	Average loss ratio	Average loss ratio	Maximum loss ratio + 5 p.p.	Average loss ratio	Average loss ratio
	Life insurance – supplementary insurance		Identical to the situation in 2011	Identical to the situation in 2011	Identical to the situation in 2011	Max. loss ration + 10 p.p. or market average	Identical to the situation in 2011	Identical to the situation in 2011	Max. loss ration + 10 p.p. or market average	Identical to the situation in 2011	Identical to the situation in 2011
	Life insurance – risk of death		Identical to the situation in 2011	Identical to the situation in 2011	Identical to the situation in 2011	Death rate +10%	Death rate +20%	Death rate +30%	Death rate +10%	Death rate +20%	Death rate +30%

Source: NBS.
1) In the case of the baseline assumptions, the column for the second half of 2012 shows the change occurring between the end of June 2012 and the end of 2012, while the columns for the other years show the annual rate of change.
2) The slope of the yield curve for government bonds is in this case defined as the difference between the yields on 5-year and 1-year government bonds.

Chart 64 Stressed losses of the banking sector by risk type (EUR millions)



Source: NBS.

For the banking sector as a whole, the estimated losses on the corporate loan portfolio would exceed other risk losses (Chart 64). Nevertheless, three banks would report higher losses on the household loan portfolio than on the corporate loan portfolio under the baseline scenario, and five would do so under each of the two stress scenarios. There were two banks in which market risk losses under the Economic Downturn scenario would exceed corporate loan losses or household loan losses. This number increased to four under the Sovereign Crisis scenario. In one of the four banks the market risk loss was largely attributable to the revaluation of bonds (mainly Slovak government bonds); in the other three banks it was caused principally by losses on foreign exchange and equity investments.

Assuming that the entire annual profit is paid out in dividends, the average capital adequacy ratio for the sector would fall rather sharply. But although the sector's capital buffer would then be lower, it would still be at an acceptable level.

Several insurance companies would make a loss if an increase in insurance risk was accompanied by a deterioration in financial markets Along with index funds, PFMC funds would not be severely affected by financial market strains. In the collective investment sector, the high proportion of less risky funds is reflected in the stress test results. The principal risk to SPMC contributory funds would arise from investments in equities and mutual fund shares/units, but the impact would be highly heterogeneous.

In the insurance sector, the long duration of the debt securities portfolio ensures that interest income is only slightly affected by the stress scenarios. Nevertheless, the highest losses would arise from the revaluation of securities, and they would exceed even the losses in non-life insurance.[29] Insurers' highest losses under the stress tests would be recorded in 2012, when it is expected that market risk losses will peak and that claim costs in non-life insurance will increase markedly. At the end of the period under review, a total of six insurers would be loss-making under the baseline scenario, rising to 13 under the Economic Downturn scenario and 14 under the Sovereign Crisis scenario.

The principal risks for collective investment funds are equity risk and indirect foreign exchange risk; the effect of these risks shows considerable heterogeneity across funds, varying according to the proportion of equities and mutual fund shares/units in a fund's total assets. In bond funds, the main risk is interest rate risk.

Bond, mixed and equity PFMC funds would not be seriously affected by the adverse market developments simulated in the stress tests – not one fund would make an overall loss exceeding 1.8% of its assets. Owing to the composition of their investment portfolios, PFMC funds would be exposed mainly to interest rate risk during the stress period and, in the case of mixed and equity funds, to equity risk. For index funds, the results would be far worse. Since index funds invest almost exclusively in exchange-traded funds, the sharp drop in stock indices assumed in the stress scenarios would impair the asset value of all of these funds by more than 40%.

SPMC funds would make relatively large losses under the stress test conditions. As a ratio of total assets as at 30 June 2012, the losses of SPMC

29 Due to a shortage of data, the calculation does not include the revaluation of insurance companies'liabilities. A potential decrease in liabilities as a result of a rise in risk-free rates would mitigate the impact of particular scenarios.

funds under the Sovereign Crisis scenario would range from 1.2% to 67.4%, depending mainly on the proportion of equities and mutual fund shares/units in their investment portfolio; the funds reporting the highest losses would be those with the largest exposures to equity risk, indirect interest rate risk and indirect foreign exchange risk .

ANNEXES

THE VIEWS AND RESULTS EXPRESSED IN THE ANNEXES ARE THOSE OF THE AUTHORS AND DO NOT NECESSARILY REFLECT THOSE OF NÁRODNÁ BANKA SLOVENSKA

1 Banking union as part of the resolution of the euro area crisis and its potential impact on Slovakia

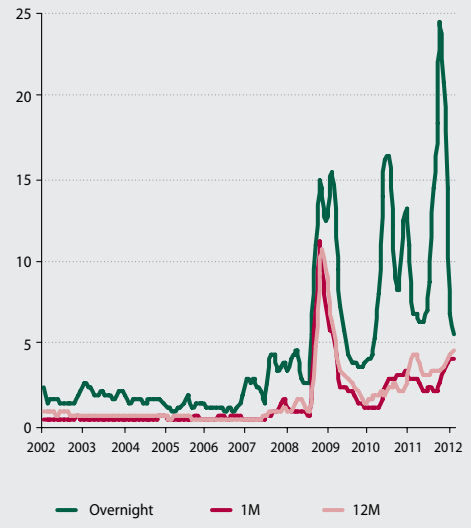
TOMÁŠ TŐZSÉR[30]

The ongoing financial crisis has seriously impaired financial integration in Europe. Before the crisis, integration had reached high levels, especially in the money and bond markets. The transmission of the ECB's monetary-policy measures is being weakened by fragmentation of these markets across countries, while the benefits from integrated financial services in Europe are being lost. Moreover, risks to financial stability in the euro area are mounting due to strong financial links between the Member States and their banking sectors. The proposed solutions comprise a package of measures, including the establishment of a banking union. This article deals with its possible forms and impact on the Slovak financial system and economy.

1.1 INCREASING SEGMENTATION OF FINANCIAL MARKETS IN THE EURO AREA

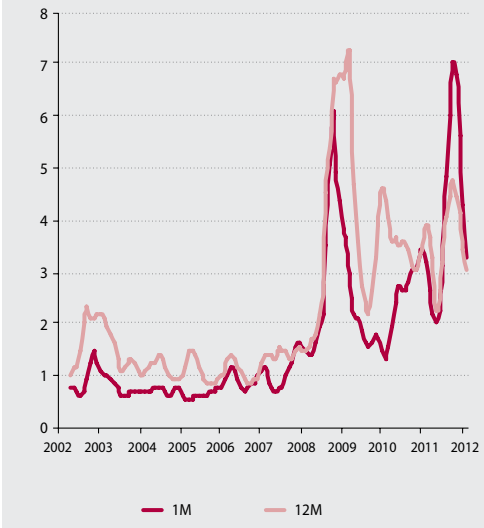
The escalation of the euro area sovereign debt crisis in the summer and autumn of 2011 was reflected in a worsening of conditions in the euro area money market. Increasing segmentation of these markets across countries was also reflected in usually more resilient secured money markets (ECB, 2012). The ECB price indicators confirm increases in price differentiation and indicate that money market integration in the euro area was declining in 2011 (Charts 65 and 66). The quantitative indicators give a similar picture (Charts 67 and 68). The average daily amount of transactions in the overnight unsecured interbank

Chart 65 Cross-country standard deviation of unsecured lending rates among euro area countries (basis points)



Source: ECB.
Note: The significant differences in developments in overnight rates in comparison with longer maturities are partly a result of different approaches to the determination of reference rates.

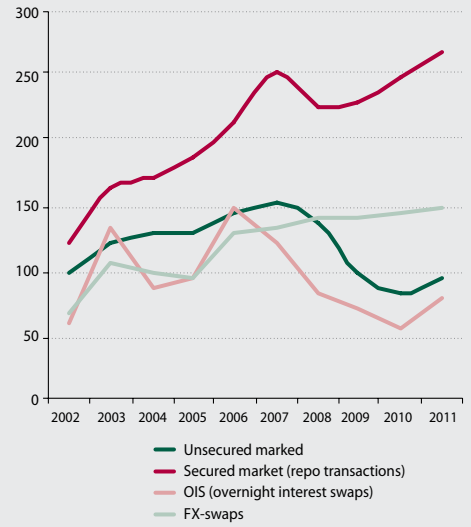
Chart 66 Cross-country standard deviation of repo rates among euro area countries (basis points)



Source: ECB.

30 The opinions presented are those of the author and do not necessarily reflect the official position of Národná banka Slovenska.

Chart 67 Average daily turnover in selected money market segments (index: volume of unsecured transactions in 2002 = 100)



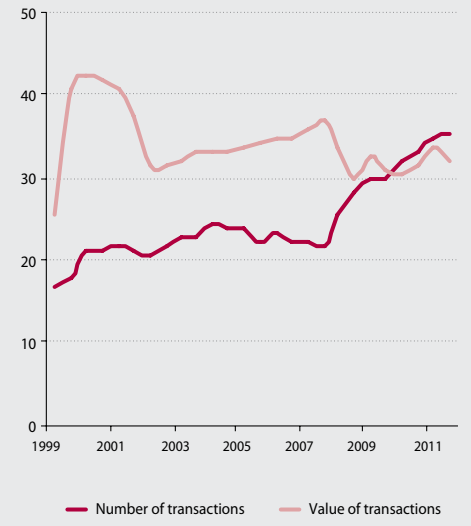
Source: ECB. Euro Money Market Survey, september 2011.
Note: Polling sample cosists of 105 credit institutions.

market operations dropped, suggesting strains related to high risk aversion. Secured markets saw a significant rise in transactions through central counterparties, which reduce credit risk (ECB, 2012).

As a response to deteriorating conditions in interbank markets – with some banks being shut out of wholesale funding markets – the Eurosystem increased substantially the provision of liquidity for the euro area banking sector. As shown in Chart 69, banks increased their deposits with the ECB (surplus liquidity).[31] Banks do not place their surplus liquidity in the markets, but prefer to keep it with central banks despite less favourable (loss-making) conditions. The large amount of surplus liquidity held with the ECB reflects the segmentation of the interbank market, as well as the replacement of malfunctioning money markets by the Eurosystem. In fact there has been an outflow of invested capital and residents' deposits from banks in the euro area periphery countries to euro area countries with high credit ratings. While banks from the former group of countries replaced private funds with secured funding from central banks, banks in the latter placed their surpluses with central banks.

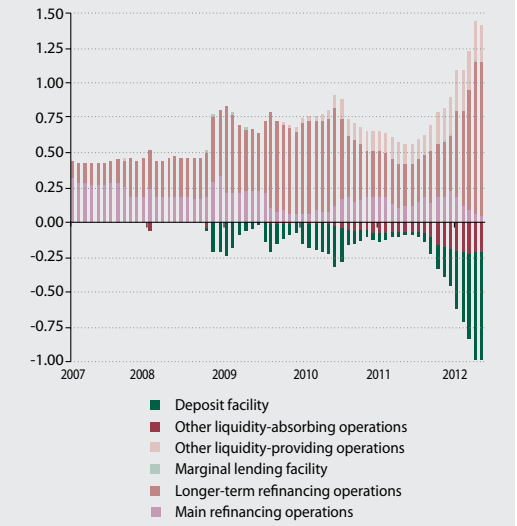
The decline in cross-border capital flows has affected mainly government and corporate bond markets in certain euro area countries (Chart 70). Government bond yields of euro area countries diverged significantly in 2011, reflecting the increased riskiness of a group of countries (caused by their weak fiscal position, adverse economic conditions and investors' higher risk aversion) as well as the perceived safe-haven status of other countries (Chart 71).[32] It is worth noting that the significant narrowing of government bonds yields across all euro area countries during the pre-crisis period was a result of long lasting un-

Chart 68 The share of payments between euro area countries (%)



Source: ECB.

Chart 69 Monetary policy operations of the Eurosystem (EUR billions)

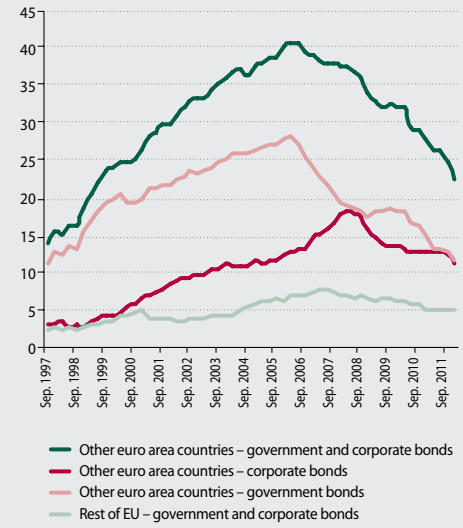


Source: ECB.

31 Before October 2008, the Eurosystem applied strict limits on surplus liquidity in the euro area banking system. During the crisis, however, ECB adopted the fixed-rate full allotment regime, under which banks were allotted as much liquidity as they needed.

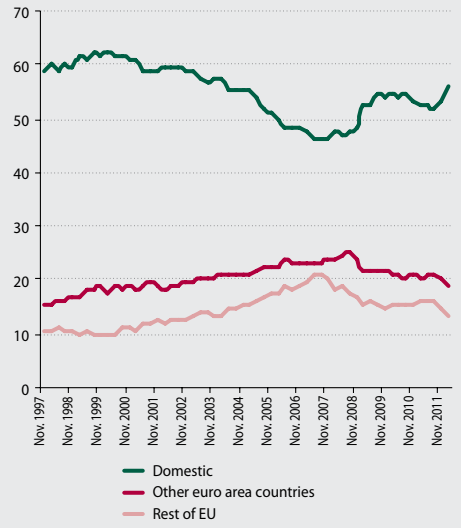
32 Similarly, the divergence of corporate bond credit risk premia in individual countries rose in 2011.

Chart 70 Share of MFI cross-border holdings of debt securities issued by euro area and EU non-MFIs: outstanding amounts by residency of the issuer (%)



Source: ECB.

Chart 72 MFI loans to MFIs: outstanding amounts by residency of the counterpart (% of total loans excluding the Eurosystem)

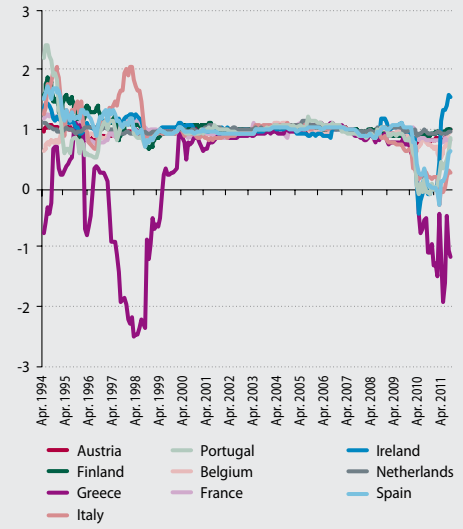


Source: ECB.

derestimation of related credit risks. Therefore, those yields were not necessarily the most proper indicator of financial integration.

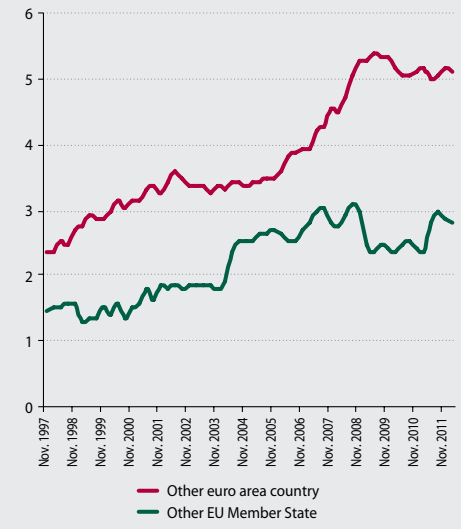
The euro area financial crisis and its escalation in the second half of 2011 also had an adverse effect on banking market integration. Non-price indicators point to a decreasing or slowing trend in relatively low cross-boarder lending activities of euro area banks (Chart 72 and 73).[33] Looking at the effectiveness of the monetary policy interest rate channel, the significantly widening spread

Chart 71 Price indicator of government bond market integration in the euro area (beta coefficients)



Source: ECB.

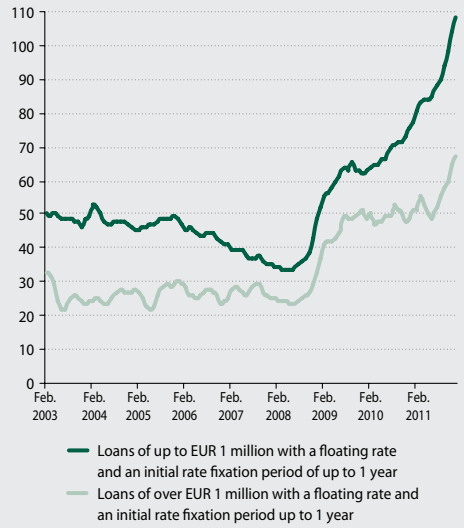
Chart 73 MFI loans to non-MFIs: outstanding amounts by residency of the counterpart (% of total loans excluding the Eurosystem)



Source: ECB.

33 In comparison with the euro area bond or equity markets, the structural integration of the banking segment (in particular as regards the retail loan market) lagged far behind even before the crisis, mainly for institutional reasons.

Chart 74 Cross-country standard deviation of MFI interest rates on loans to non-financial corporations (basis points)



Source: ECB.

Chart 75 Cross-country standard deviation of MFI interest rates on loans to households (basis points)

Source: ECB.

of bank lending rates to non-financial corporations in individual euro area countries is a more serious problem (Chart 74 and Box 2). As regards loans to households, and particularly housing loans, the situation was less dramatic in 2011. In this segment, however, the financial crisis also has had a longer-term adverse effect on the spread of retail rates between countries, resulting from different conditions in bank financing, public finances and differing economic conditions in individual countries (Chart 75).

The ECB decided to intervene in the government debt and covered bond markets in order to mitigate the effect of the euro area financial market's fragmentation on the monetary policy transmission mechanism. By engaging the Eurosystem in these new operations and by changing its operational framework,[34] new risks and challenges for the future arose. It is clear, moreover, that these measures can neither change the nature of the crisis nor restore financial integration in the euro area.

Box 2

THE IMPACT OF FINANCIAL CRISIS ON ECB MONETARY POLICY TRANSMISSION

Due to the fragmentation of the euro area single financial market across national borders, the common monetary policy transmission mechanism is not able to implement monetary policy decisions in a balanced and homogenous way for the euro area economy as a whole. The most important interest rate channel of monetary policy has been weakened by the deteriorating quality of banks' balance sheets.[35] As the quality of their assets has fallen, banks have found that their access to money markets has become increasingly restricted. The degree of access to market funds and borrowing costs differ significantly depending not only on the financial strength of the banking institution, but also on the country in which it is established. Thus, ECB rate movements cannot be homogeneously passed on to short-term funding costs. The homogeneous transmission of the changes in short-term interest rates to changes in long-term rates deteriorated due to the escalation of the sovereign debt crisis in the second half

34 For details. see ECB (2012).
35 The interest rate channel ensures the transmission of signals from the key ECB interest rates to money market rates and through the yield curve to longer-term rates and the real economy.

of 2011. Banks' difficulty in obtaining market funding due to increasing sovereign credit risks and banks' high exposure to these risks resulted also in weakened functioning of the bank lending channel.[36] This had a significant and persisting upward effect on the spread of (credit and deposit) retail interest rates across euro area countries. Differences between countries in banks' access to funding were also reflected in variable availability of bank financing for the real economy, as is evident from bank surveys. The problem of unbalanced and heterogeneous transmission of monetary-policy impulses to the real economy is exacerbated by the fact that the euro area's private non-financial sector relies heavily on banks for funding.

1.2 THE FOUR PILLARS OF THE BANKING UNION

According to the ECB, it is becoming increasingly clear that the instability and fragmentation of euro area financial markets has to a large extent been caused by deficiencies in the pre-crisis financial and institutional framework of the euro area, and particularly in measures related to financial stability, crisis management and fiscal and macroeconomic governance of the monetary union.[37]

The strong correlation between the banking crisis and the sovereign crisis in some of the euro area countries concerned is based on the fact that final responsibility for financial stability lies with national governments, i.e. problematic banks are dependent on assistance from the respective national governments. Another reason behind this correlation is the strong tendency of banks to invest in domestic government bonds. This tendency even increased during the crisis. Overall, the mentioned negative interaction is more pronounced within the monetary union,[38] since countries lack the buffer of a depreciated domestic exchange rate, which, by boosting exports, could mitigate rising funding costs and support economic activity dampened by fiscal consolidation measures. The negative interaction between banks and countries has led to the fragmentation of euro area financial markets and ultimately it threatens the monetary union's integrity. The banking union concept agreed upon by euro area leaders at their summit at the end of June 2012, and intended to be partially operational from the end of 2012, is focused directly on solving the problem between banks and countries which seems to be "a vicious circle".

The banking union is based on the idea that risk sharing can disrupt the negative feedback loop between the weak banking sector and weak public finances and restore sustainable financial integration in the euro area. Under consideration is the direct recapitalisation of troubled banks from a central (common) source – the European Stability Mechanism (ESM).[39] If, however, there should be a possibility to bail out banks with ESM funds, then the possibility must be based on the centre's prior and adequate competence to supervise the functioning of banks. According to the IMF (2012), the basic elements of the banking union are as follows: a common deposit guarantee scheme, a centralised resolution agency for banks and a centralised regime of bank supervision. The European Commission mentions the common European banking regulation as another important element.

The drafting of the common EU banking legislation is of key importance, although its implementation and enforcement would remain the responsibility of the Member States. This "minimum harmonisation" approach and other factors may, however, prevent deeper integration of retail bank markets. Greater harmonisation (uniform interpretation and implementation of common regulatory directives at the Member State level) and more effective cross-border bank supervision are to be supported by the new European financial supervisory framework, which has been active since 1 January 2011. This element of the banking union is the most advanced in comparison with the others, although it will still be some time before the changes appear.

The new financial supervisory framework strengthened the position and competences of the three European supervisory authorities in a number of respects, but the responsibility for day-to-day supervision of banks and other financial institutions remained with the national authorities.[40] The re-

36 The effectiveness of monetary policy transmission through the interest rate channel affects also the capital position and the availability and cost of bank funding, i.e. the bank lending channel.

37 Measures to strengthen euro-area fiscal governance agreed by EU leaders in autumn 2011 ("the Six-Pack") and in spring 2012 (Treaty on Stability, Coordination and Governance in the Economic and Monetary Union) are not covered by this annex. The macroeconomic imbalances procedure is one of the Six-Pack regulations, its purpose being to strengthen the fiscal and macroeconomic framework of the euro area. The procedure and its application are described by A. Strachotová in the Annex to the Financial Stability report May 2012.

38 IMF (2012).

39 The ESM has been in force since July 2012 as an instrument for solving the sovereign debt crisis.

40 More details are available in the Annex 1 to the Financial Stability Report for the First Half of 2010.

sponsibility for supervising cross-border financial institutions is divided between the home supervisory authority (of country in which the parent company has its registered office) and host Member State (where the subsidiary or branch has its registered office). In this case, however, the new regime strengthens the position of the home (group) supervision at the expense of that of the host supervision. During the discussions on the final form of the European supervisory framework, a number of Member States (mainly those with a higher share of foreign banks in their markets) objected to significant strengthening of European and home supervisory authorities, on grounds that the final responsibility for financial stability lay with national governments. Within a short time, however, certain governments changed their position on the centralisation of supervisory authority. This was mainly due to a significant escalation of the crisis in the summer and autumn 2011 and the need to react more resolutely to these adverse developments.

One of the pillars of the banking union should therefore be a central supervisory authority with the power to directly supervise and monitor activities of banks. The benefits of this supranational approach should include the elimination of coordination problems between home and host supervisory authorities (for example in the exchange of information or in deciding on measures concerning supervised cross-border entities). This should, in other words, eliminate unsound reasons for protectionist behaviour on behalf of domestic banks (as determined by national interests), disregard of excessive risk appetite, and the postponement of restructuring measures by national supervisors. The central supervision of banks will thus support financial integration and stability at the European level.

The common deposit guarantee scheme is supposed to help break the links between the financial condition of banks and that of the state. It is aimed at stopping deposit flight from countries where the government's financial position is so weak that depositors come to doubt its ability to fulfil the deposit insurance obligations. Moreover, national deposit guarantee schemes in euro-area Member States cannot guarantee the payment of deposits in the euro currency in all circumstances.

The European Commission's proposed EU bank resolution framework has been dealt with in detail elsewhere (Tőzsér, 2011).[41] Attention was paid to one of the most fundamental problems of this proposal, namely the bank resolution regime's low flexibility and capacity to act vis-à-vis a (multinational) banking company conducting cross-border business. This is because final responsibility for financial stability lies at the national level and there is no *ex ante* system for sharing fiscal expenses between countries in order to resolve a crisis at a multinational bank within the EU. As a further core element of the banking union, it is proposed to establish a central authority for bank crisis resolution that will be financed from common funds. This supranational approach is expected to stem the adverse feedback effects between the financial system and the state, support financial integration and provide effective resolution of crisis situations at multinational banks.

1.3 VARIOUS BANKING UNION ALTERNATIVES[42]

In the first half of September 2012, the European Commission published its draft of legislation to transfer specific tasks in the area of the prudential supervision of credit institutions from national authorities to the ECB.[43] The European Commission also published its plans for the specific steps necessary to create a banking union.[44] Although common banking supervision is not immediately necessary for the maintenance of euro area integrity, it would be a first step towards establishing a banking union in the euro area. A single supervisory mechanism is to ensure the objectivity and quality of banking supervision, which are prerequisites for the operational sharing of bank recapitalisation expenses. Risk/cost sharing is crucial to maintaining the integrity of the euro area and single market.

Scope of the banking union and banks covered

The European Commission proposes that the single supervisory mechanism, and the banking union as well, cover all banks in the euro area. Experience has confirmed that financial stability may be threatened not only by the so called systemically important banks but also by relatively small ones. At the same time, a supervisory system combining competences of a single European supervisory authority for a selected group of banks and the competences of national authorities for another

41 *Bank resolution means an organised bankruptcy and all the related consequences for shareholders and creditors, the purpose of which is to limit adverse effects on the financial system and real economy.*

42 *Some of the proposed banking union alternatives in this text are based on a work by Pisani-Ferry et al., 2012.*

43 *European Commission: Proposal for a Council regulation conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions, 12 September 2012.*

44 *European Commission: Communication from the Commission to the European Parliament and the Council – A roadmap towards a Banking Union, 12 September 2012.*

group of banks would open the way to regulatory arbitrage and disrupt competition environment, while its effectiveness in eliminating the adverse feedback between the financial system and the state would be low. It remains to be seen how one supranational supervisory authority would cope with tasks related to a number of larger and smaller banks in the euro area (more than 6,000 banks). The European Commission's proposal expects that most of the preparatory work as well as implementation of the ECB decisions will be further provided by national supervisors.

The main argument in favour of the banking union in the euro area is to maintain the long-term sustainability of Economic and Monetary Union. In the case of the EU-27, the argument would be to maintain and support the single European market. In fact, an EU-wide banking union is unlikely to be created in the near term. Under the existing wording of the EU Treaty, however, the creation of a banking union in the euro area requires a unanimous decision by all the Member States (Lanoo, 2012). It will therefore be beneficial for EU stability if the EU Member States outside the banking union (the non-participating countries) also take part in discussions on the banking union's form and functions and if their opinions are taken into account to an appropriate extent. Given the clear link between euro area stability and preservation of the single EU (not only financial) market,[45] it should be in the interest of all EU Member States to support the establishment of a banking union, at least at the euro area level, as soon as possible. It is worth noting that a banking union is a necessary but not sufficient prerequisite for effective functioning of the single market.

In order to prevent regulatory arbitrage, different competitive conditions and overall divergence between the banking markets of the countries within the banking union and in the remaining non-participating part of the EU, it will also be crucial to ensure a uniform (harmonised) implementation of common regulatory legislation. This task will be performed by the European Banking Authority (EBA). In this context, the European Commission published in September 2012 a draft amendment to the regulation under which the EBA was established.[46] The amendment concerns mainly the method of decision-making on selected issues (infringement of law and settlement of disagreements) in order to ensure that final decisions reflect as far as possible the interests of the Union as a whole.

Single banking supervision

As mentioned above, the European Commission proposes that the European Central Bank act as a central supervisory authority. It intends to establish the so-called Single Supervisory Mechanism ("SSM") composed of the ECB and national supervisory authorities in the euro area. The Member States have agreed with this part of the proposal, although the ECB's supervisory competences continue to be vigorously discussed.

Under the Commission's first proposal, the ECB is supposed to take ultimate responsibility for the specific functions of micro-prudential supervision, i.e. it would for example grant and withdraw licences to and from credit institutions, enforce banks' compliance with minimum capital requirements, oversee and set capital requirements in respect of the risks taken by banks, set additional loss absorbency requirements, and enforce compliance with leverage and liquidity requirements. The ECB should conduct supervision on a consolidated basis, be empowered to require banks to take the necessary remedial action where shortcomings are revealed, and in coordination with the resolution authorities, take early intervention measures when a bank is on the verge of breaching regulatory capital requirements.

A further matter of discussion is the powers of national supervisors within the SSM. According to the EC proposal, national supervisors should actively assist the implementation of the ECB decisions, prepare supporting documents and recommendations for them, monitor adherence to the ECB regulations and measures through on-site inspections and remain responsible for all tasks not explicitly conferred upon the ECB (consumer protection, fight against money laundering, supervision of third-country banks' branches and payment systems). Sanctioning powers are to be divided between the ECB and national supervisors.

The Commission's first proposal (of September 2012) envisaged that the SSM would be established on 1 January 2013. At the European Council meeting held on 18 October 2012, the EU and euro area leaders called for an agreement on the legislative framework for the SSM before 1 Janu-

45 For more details see e.g. Åslund (2012).

46 European Commission: Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 1093/2010 establishing a European Supervisory Authority (European Banking Authority) as regards its interactions with Council Regulation (EU) No .../... conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions, 12 September 2012.

ary 2013. As a result, common banking supervision in the euro area is expected to commence during the course of 2013. The ECB will be allowed to take over responsibility for the supervision of any credit institution in the euro area, in particular banks which have been granted public funding. At the same time, a preparatory period is proposed for phasing in the supervision powers – the most significant systemically-important European banks should be subject to ECB supervision on 1 July 2013, and by 1 January 2014 at the latest all banks with registered offices in the euro area would come under ECB supervision.

The reasons for the proposal to establish the ECB as an institution of common banking supervision in the euro area are as follows: this option has legal basis in the Treaty on the EU (Article 127(6)); the ECB is an independent institution with strengths in terms of funding and necessary expertise; and the ECB has high credibility and has a relevant database (albeit much weaker at present than those of national supervisors) on the banking market and its participants. The Commission proposal solves the potential conflict of interests, often mentioned in the literature, between the central bank's monetary policy and financial stability objectives, by splitting the decision-making in these two areas into separate units of the institution.[47] The supervision should have its own budget with supervisory activities funded from contributions of supervised institutions. Under the Commission proposal, the ECB will be accountable for its supervisory functions to the European Parliament and to the Council. According to recent compromise proposals, the ECB should be accountable to the national parliaments.

As for the arguments against establishing the ECB as a supervisory authority within the banking union, there is, firstly, the threat to the ECB's independence and credibility in the event that a failure of supervision results in mounting political pressure on ECB representatives, and, secondly, the issue of a single institution accumulating excessively strong powers. The ECB should not be responsible for bank crisis resolution in the banking union – such a task may require public funding and will therefore heighten pressure on the ECB's independence. An alternative solution may be to establish a new non-central-bank institution of common supervision that also acts as a bank crisis resolution authority.

Bank deposit guarantee

In July 2010, the European Commission published a legislative proposal aimed at improving the harmonisation and funding of the EU deposit guarantees schemes and their streamlining.[48] The Commission proposed, *inter alia,* to establish an instrument for discretionary provision of funds between the national deposit protection funds. This instrument would enable a fund depleted due to payment of compensation for insured deposits to borrow resources from a fund in another Member State. The European Commission considers this instrument to be the first step on the road to the EU-wide deposit guarantee scheme.

The first option in organising a deposit guarantee scheme within the banking union is to have simultaneous national schemes and an EU-wide fund for bank deposit guarantee. In the case that a national deposit protection fund (financed from banks' contributions) is not enough to meet depositors' claims, these liabilities would be settled from national as well as supranational public funds. The relationship between domestic and common fiscal resources would be determined *ex ante;* it would be identical for all the banking-union Member States. As regards incentives for complete monitoring, this model would be important if some banks (e.g. those doing local business) remained subject to national supervision. If, however, this model of insuring deposits within the banking union is to be credible, there must be a Community fiscal coverage for the EU-wide bank deposit guarantee fund. Alternatively, the supranational guarantee fund may be funded *ex ante* from national fiscal resources provided that the annual contribution would later on depend on the incidence of withdrawals from this fund during the previous period.

If the banking union covered all the banks of the Member States and if the supervisory and regulatory powers remained the exclusive responsibility of the centre, the deposit guarantee could have a Community (common) character (i.e. existence of one central scheme funded from banks' contributions). This solution is predicated on the parallel construction of a fiscal union, i.e. common sharing of potential expenses so as to provide credible fiscal support for the common deposit guarantee fund.

47 The latest research is more directed towards considerations on how to harmonise the monetary and financial stability functions.

48 European Commission: Proposal for a Directive .../.../EU of the European Parliament and of the Council on Deposit Guarantee Schemes, 12 July 2010. The draft Directive is still being decided upon by relevant EU bodies.

Bank crisis resolution

The European Commission will prepare a proposal for a single bank crisis resolution mechanism within the banking union after the EU Member States have reached agreement on the proposal for bank crisis resolution of June 2012 (see Footnote 53). As mentioned above, the ECB is not a suitable candidate as a bank crisis resolution authority within the banking union. One of the reasons is that the task potentially includes the distribution of expenses not only among failing banks' shareholders and creditors, taxpayers and other banks, but also among the Member States. In order to ensure that such decisions have democratic legitimacy, they should be taken only by elected political representatives and may only be delegated to an independent institution with a restricted mandate, rules of operation and accountability to citizens. Although a central bank is such an institution, its legitimacy is derived from its restricted mandate in the area of price stability.

The most feasible solution seems to be the creation of a new institution that could be identical to the one responsible for European bank deposit insurance. This implies that the funding model alternatives of the bank crisis resolution mechanism could also be analogous to those of deposit insurance.

As mentioned above, European deposit insurance and bank crisis resolution within the banking union may require public funding. The credibility of the banking union is, however, heavily contingent on prompt access to these common resources being in all circumstances. This implies that the banking union also requires a fiscal union.[49] In other words, an appropriate form of fund transfers between countries within the monetary union will have to be ensured. The topic has not been dealt with in detail because of its considerable scope.[50]

1.4 IMPACT OF THE BANKING UNION ON SLOVAKIA

The final form of the banking union has not yet been decided and the negotiations of expert groups and representatives of governments continue. Since not all details of its functioning have been clarified, it is not possible to carry out a thorough analysis of its impact on Slovakia.

In a small open economy with high share of foreign financial companies, there are concerns about losing control over the banking sector. One reason for this may be that idiosyncratic adverse shocks in our market may not necessarily trigger adequate corrective responses from the competent central bodies; the problems in the banking sectors of large and systemically important countries may be solved at the expense of our market and economy, which is relatively less important to the euro area as a whole. For these reasons, Slovakia's stance in the negotiations is to promote the principle of a balanced approach, meaning that the financial stability of a part of a whole (bank subsidiary, country) should have the same weighting as the whole (banking group, European Union). Slovakia belongs to a group of countries which would like decision-making powers in the area of macro-prudential policy (deciding on additional anti-cyclical capital requirements) to be at the national level.

The proposal for a single banking supervision shows that although the national supervisors will lose important decision-making powers in the area of prudential supervision, they will still be partially involved in ECB decisions concerning relevant matters.[51] The SSM is expected to operate in a decentralised regime, i.e. the national supervisors will provide supporting documents for ECB decisions. The reason is that the national supervisors are better informed on the situation in the markets and on the positions of credit institutions at the respective national levels (and the Commission's proposal takes this into account). The restriction of national sovereignty in decision-making may matter in the event of a conflict between the home supervisor (in the country where the parent company has its registered office) and the host supervisor (in the country where the subsidiary has its registered office). In the banking union, the ECB would have both roles and would decide on any dispute between the two sides, possibly looking at the relevant issues more from the view of the home supervisor (of the parent company).

The ability of Národná banka Slovenska to influence (even indirectly) the situation in the domestic banking sector will also be determined by whether, following the launch of banking union, the important domestic banks keep the legal form of joint-stock companies (subsidiaries), or

49 Pisani-Ferry and coll. (2012) do not find the solution similar to the ESM (ex ante sharing of expenses among the countries according to a selected key, e.g. GDP per person) as ideal with regard to the establishment of a credible banking union, because the funds released are dependent on the approval by national parliaments. By contrast, the INET Council on the Euro Zone Crisis (2012) expects to use mainly the ESM in sharing fiscal cost of banking crises, and it does not find the establishment of a permanent fiscal transfer mechanism necessary.

50 The topic of fiscal integration in the euro area is dealt with in IMF(2012) Part 2.

51 There will be a representative of Slovakia in the decision-making body. For the moment, however, a final voting arrangements have not been agreed.

whether they are transformed into branches of foreign banks. The central supervision, harmonised regulation and common deposit guarantee scheme will give multinational banking groups an incentive to transform their foreign subsidiaries into branches. In that case, the effects of domestic banking policy would be even weaker (e.g. branches do not have their own capital, only the parent company's funds in trust). On the other hand, increased competition among banks may exert opposing pressures, as customers find subsidiaries to be more transparent for them and have greater confidence in subsidiaries than in foreign branches.

The most serious political reservations against the banking union stem from concerns about the proposal for bank crisis resolution. Under the Commission's proposal for credit institution crisis resolution, funds from one part of a financial group may, under certain conditions, be used to tackle the potential financial problems of another part abroad.[52] If these provisions of the draft Directive were implemented within the banking union, there could be a risk of financial problems spilling over from one country to another.[53] On the one hand, it is difficult to estimate at present how large the risk is given the lack of detailed information, for example on the decision-making process in the European bank crisis resolution institution; on the other hand, the concerns and reservations are to a large extent the result of banks in Western Europe being in a far more difficult position than banks in Slovakia. Moreover, banks in Slovakia have already, in 1999 and 2000, undergone an expensive recovery process funded from domestic resources.

Conclusion

The financial crisis in the euro area resulted in the fragmentation of financial markets, which was most apparent in the first half of 2011. This has significantly impaired the homogeneous transmission of the ECB monetary-policy measures across the euro area. The economic benefits of deeper financial market integration during the pre-crisis period are also being lost. The main reason behind these developments seems to be fundamental deficiencies inherent in the structure of monetary union since its establishment.

One of the agreed remedial measures is the creation of a banking union. It should be based on the four pillars: common bank deposit insurance, single bank crisis resolution, a single bank supervision mechanism, and harmonised financial regulation. In particular, the banking union is expected to strengthen impartial supervision, improve the effectiveness of supervision and the crisis resolution of multinational European banks as well as overall financial stabilisation of the monetary union. Achieving these objectives will also depend on the final form of the banking union. This will be determined by difficult political decisions, as the creation of a viable banking union requires the sharing of risks and the relinquishment of some national sovereignty to European institutions.

To estimate the impact of the banking union on Slovakia is difficult since its final form is not clear at present. In the meantime, it seems that Národná banka Slovenska will cede some of its competences in the area of prudential bank supervision. The curbing of NBS's final decision-making competences entails heightened risks for Slovakia, mainly due to the country's relatively small economic importance in the euro area as a whole. Particularly at a time when the position of foreign banks is worse than that of banks in Slovakia, the risks are higher. NBS's influence over the domestic banking sector will depend also on the extent to which the banking union encourages multinational European banks to transform their foreign subsidiaries into branches. On the other hand, if the banking union supports the financial stability and integrity of the euro area as a whole, the risks that would very negatively affect Slovakia will be limited. In negotiating individual aspects of the banking union, the representatives of the state should in particular seek to maintain proportionality between competences and (financial) responsibility in the area of banking sector stability.

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52 Articles 17 to 23 of Proposal for a Directive of the European Parliament and of the Council establishing a framework for the recovery and resolution of credit institutions and investment firms

53 Although it is logical that the respective provisions of the draft Directive enable financial help of one part of a group to another only if "the financial support does not jeopardize the liquidity or solvency of the entity providing the support nor, as a result, does it create a threat to financial stability (Article 19(e)), this fact might be very difficult to assess ex ante in practice.

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2 Real income developments in the Slovak economy

BY ANNA STRACHOTOVÁ[54]

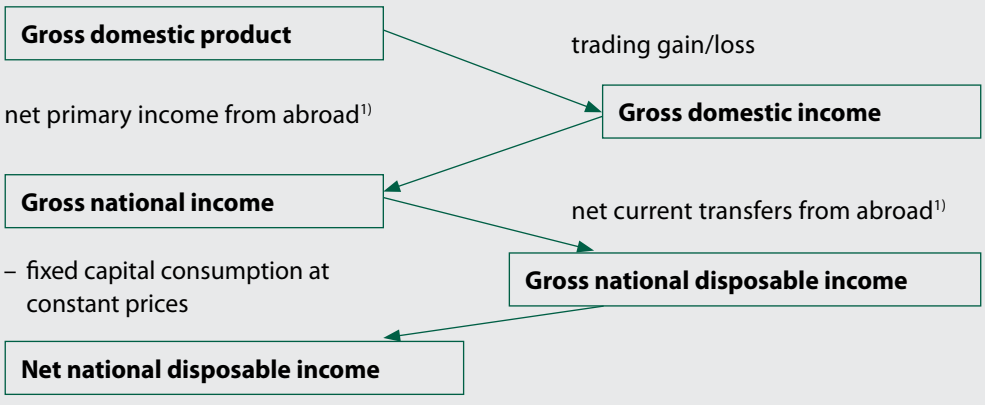
The performance of the Slovak economy is usually assessed in terms of the value of output at constant prices, which is measured by real GDP. Data from the national accounts, however, also allow us to evaluate economic performance on the basis of income-related indicators derived from GDP, which also take into account other aspects of economic development, such as changes in the real purchasing power of income. Such changes may arise from relative price movements, the balance of income flows between the domestic economy and the rest of the world, and capital consumption (depreciation), i.e. the replacement value of capital used up in the process of production.

Alternative indicators of economic performance provide slightly different information, which, however, may shed light to important long-term trends. In the period from 2000 to 2011, real GDP increased by almost 65%, while the real income of Slovak residents, as measured by the *net national disposable income* indicator, increased by only 49%. Owing to the persistent unfavourable trend in price relations between exports and imports, the Slovak economy sustains losses from external trade, as a result of which the purchasing power of resident entities weakens to some extent. The liberalisation of capital movements, combined with a growth strategy based on the creation of production capacities from foreign investment capital, causes a net outflow of primary income (dividends, interest) from Slovakia. The balance of current transfers is also negative (as from 2005). Moreover, the need to replenish the level of fixed capital reduces the growth in real income, which Slovak economic entities have at their disposal. The relative decline in real income in relation to the value of output (GDP) may be one of the causes of low domestic demand in Slovakia.

The Statistical Office of the SR publishes data on income indicators mostly at current prices. An exception is gross domestic income, which is only a real concept. For its calculation, it is necessary to determine the amount of trading gain/loss, which arises from a change in the purchasing power of income caused by changes in the relative prices of exports and imports.

The calculation of the trading gain/loss provides a basis for the estimation of other aggregates of real income, too. Real gross domestic income is gradually extended to include the net income flow between residents and non-residents,[55] and

Alternative real income indicators as they are derived from GDP:



1) Converted to constant prices using the deflator of gross domestic final expenditure.

54 Any views or opinions presented in this article are solely those of the author and do not necessarily represent the official position of Národná banka Slovenska.

55 The purchasing power of these income flows is expressed in terms of the price deflator of gross domestic final expenditure.

thus the concept changes – from a domestic concept to a national concept. The last step is the deduction of capital consumption, i.e. the capital used up and replaced for future production.

Movements in relative export and import prices

The effect of movements in export prices in relation to import prices – the terms-of-trade effect – can be measured in various manners. The traditional measuring tool is the ratio between implicit export and import price deflators. Changes in the terms of trade have an important effect on the level of real income, which is not captured by real GDP. If the terms of trade improve (export prices rise more steeply that import prices), the volume of imports that can be purchased for the given volume of exports increases. This means that the real purchasing power of money increases in the economy. A deterioration in the terms of trade has a different effect: a smaller volume of imported goods and services can be allocated for domestic consumption and investment.

The effect of the terms of trade on the level of real income is expressed by the *trading gain/loss* indicator. Under the European System of National Accounts, this indicator is measured as the difference between exports and imports (at current prices) deflated by a common price index, less the difference between exports and imports deflated by separate (different) price indices. Various deflators can be used as a common price index, depending on the purchasing power gained (or lost) and its assumed target. We assume that an increase in income would be used for the creation of domestic demand; therefore we use final domestic consumption as a deflator.

$$T_{DD} = (X\text{-}M)/ P_{DD} – (X/P_X – M/P_M) \quad (1)$$

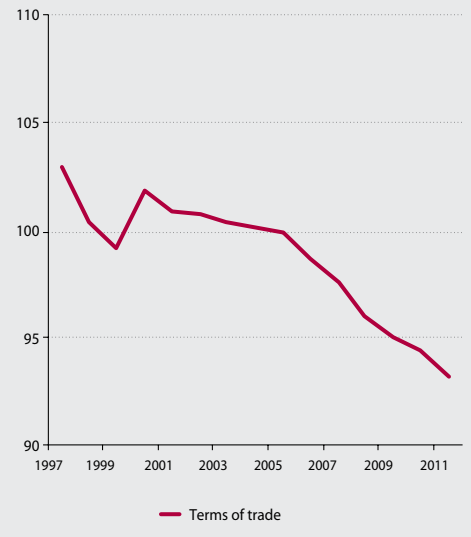
where T_{DD} is trading gain/loss , X is exports at current prices, M is imports at current prices, P_{DD} is deflator of final domestic consumption, P_X is the export price index, and P_M is the import price index.

Since the economy of Slovakia is experiencing a long-term deterioration in the terms of trade (Chart 76), relative export and import price movements have a predominantly negative effect on real income. This negative effect started to intensify in 2005 (Chart 77).

Effect of the terms of trade on income redistribution in the economy

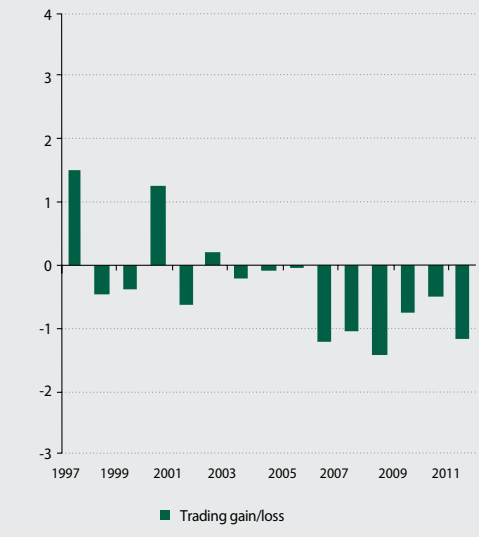
The terms-of-trade effect (positive or negative) may spread to the incomes of production factors, i.e. labour and capital to different degrees, depending on the share of employee compensation and corporate sector profits in gross domestic income (GDI).

Chart 76 Terms-of-trade changes in Slovakia (index, 2005 = 100)



Source: Eurostat, NBS calculations.

Chart 77 Effect on real income of trading gain/loss (% of GDP)



Source: Eurostat, NBS calculations.

If the burden of purchasing power loss (caused by worsened terms of trade) is shared equally by households and corporations, the real wages of employees grow at the same rate as labour productivity, adjusted by the terms-of-trade effect. Such wage growth is referred to as 'neutral wage growth'. In this case, real unit labour costs remain unchanged in year-on-year terms.

$$ULC = \frac{w/P}{Y/L} = \frac{wL}{PY} = \frac{\frac{w}{P_{DD}}}{\frac{Y}{L}\frac{P}{P_{DD}}} \qquad (2)$$

$$\Delta ULC = 0 \quad \text{when} \quad \Delta\left(\frac{w}{P_{DD}}\right) = \Delta\left(\frac{Y}{L}\frac{P}{P_{DD}}\right) \qquad (3)$$

where:

$\frac{w}{P_{DD}}$ is growth in real compensation per employee (in relation to domestic demand-based prices);

$\frac{Y}{L}$ is growth in real labour productivity;

$\frac{P}{P_{DD}}$ is the effect of the terms of trade on the purchasing power of domestic income through changes in domestic prices P (GDP deflator), which are caused by import price movements (included in the deflator of domestic demand-based prices P_{DD}).

Chart 78 indicates that real wage growth did not deviate significantly from the neutral wage growth in the years under review, except for overshooting in 2005 and 2009. The periods when wage growth lagged behind the growth in labour productivity created room for the corporate sector to increase the share of profits in the value added produced. The cumulated wage growth (as from 2001) indicates that employees carry a greater part of the negative impact of trade losses than the corporate sector does.

Income flows between the domestic economy and the rest of the world

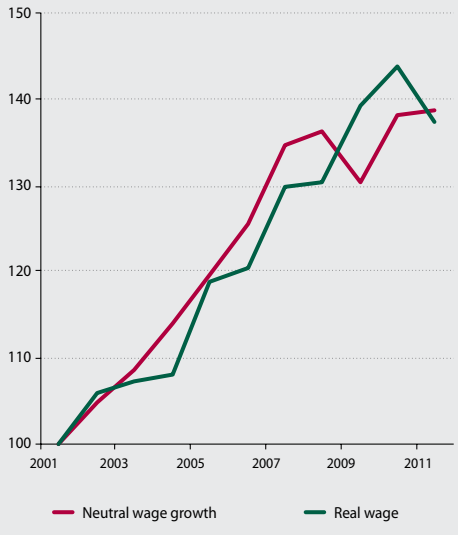
The level of real income earned by resident entities also depends on movements in primary income (employee compensation and property income) in relation to the rest of the world. Domestic investors purchasing assets in other countries earn income from their investments – dividends and interest. Similarly, foreign investors earn income from their investments in Slovakia. By deducting the balance of these income flows (including income from work – compensation of foreign employees) from gross domestic income, we obtain the *gross national income* (GNI) indicator.

In the balance-of-payments current account, the balance of net transfers (government and private sector transfers) covers income movements that

Chart 78 Real wage developments (year-on-year changes in percentage points)

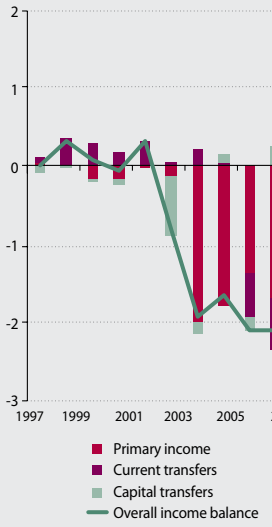
Source: Eurostat, NBS calculations.

Chart 79 Real wage developments (index, 2001 = 100)



Source: Eurostat, NBS calculations.

Chart 80 Income balance: inflows (+)/ outflows (-) to/from Slovakia (EUR billions)



Source: Eurostat, NBS calculations.

are related to the process of secondary income distribution between the domestic economy and the rest of the world[56]. By deducting these flows from the value of gross national income, we obtain gross national disposable income (GNDI).

The balance of current transfers, however, does not cover the funds that Slovakia receives from the EU structural funds; these are recorded as capital transfers in the capital account of the balance of payment. The drawdown of these funds has shown a growing tendency in recent years, and thus partly compensates for the net outflow of primary income and current transfers.

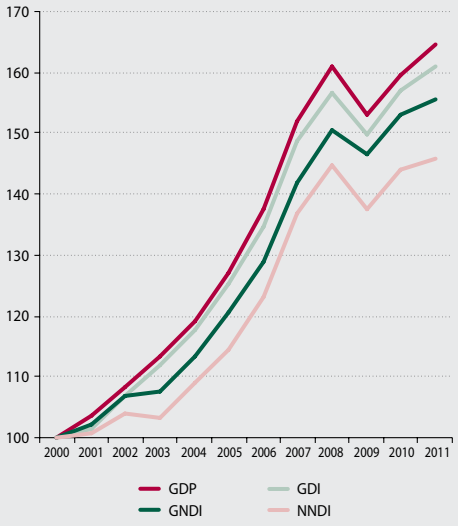
Consumption of fixed capital

The GDP indicator does not take into account the consumption of fixed capital in the production process. Thus, GDP overstates the value of output which is created without the economy's production capacity being reduced in the future. To maintain the economy's production capacity, the fixed capital used up in production must be replaced.

The part of real income that remains in the economy after the costs of fixed capital replenishment have been deducted is referred to as net national disposable income (NNDI). This indicator expresses the maximum value of output that can be used for consumption, while the country's production capacity is kept unchanged.

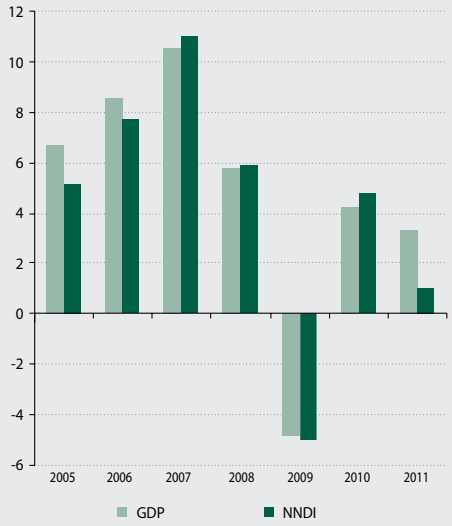
The course of individual real income indicators as from the year 2000 and the differences in growth between real GDP and real NNDI are shown in Charts 81 and 82. The growth in NNDI, i.e. the narrowest real income indicator, lags behind the growth in GDP. In the period from 2000 to 2011, the difference averaged 0.9 percentage point per annum (4.6%, compared with 3.7%). The growth in real income was dampened mainly by the-

Chart 81 Real income growth (index, 2000 = 100)



Source: Eurostat, NBS calculations.

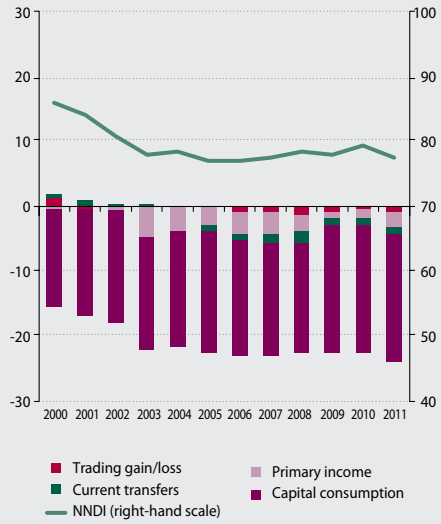
Chart 82 GDP and NNDI (year-on-year changes, %)



Source: Eurostat, NBS calculations.

56 For example, transfers resulting from international cooperation between public service authorities (contributions paid by Slovakia to international institutions), current income and property tax payments, workers' remittances, insurance premiums, claims on non-life insurance companies.

Chart 83 Real net national disposable income (% of GDP)



Source: NBS calculations.

gradually growing consumption of fixed capital, but the other components also had a negative effect on the rate of growth. The result was a relative fall in real NNDI in relation to GDP. In view of the slowdown in GDP growth and the problem of domestic demand stimulation, the relative decline in real income may be one of causes of low domestic demand in Slovakia.

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United Nations: System of National Accounts (SNA) 2008, New York, 2009.

3 IMPACT OF THE BUSINESS CYCLE ON BANK LIQUIDITY

MICHAL BENČÍK, FRANTIŠEK HAJNOVIČ[57]

INTRODUCTION

Bank liquidity is a significant prerequisite for banking sector stability, and its relevance to financial stability has been accentuated by the ongoing economic crisis. It is important to understand the relationships and factors that affect liquidity and in particular the most liquid assets.

This **empirical study** looks at changes in the term structure of assets and liabilities and at maturity gaps over the business cycle in the shortest maturities. We assume that, in addition to the business cycle, the factors affecting the asset and liability term structures and the liquidity gap in the shortest-maturity include also the structure of the asset and liability sides of the balance sheet and changes in that structure.

The analysed data cover the period starting from Slovakia's euro area entry. Consequently, in the empirical analysis, we examine whether the entry has caused changes to short-term liquidity management and, inter alia, whether it has altered the business cycle's impact on short-term bank liquidity. In the present analysis we do not consider the impact of the off-balance-sheet structure and its changes, although we assume that there is such impact. Identifying the impact of these factors is a matter for further research. For the analysis, we use aggregated monthly data for all banks in Slovakia.

Since other available studies of similar questions are few in number, this study focuses on formulating and empirically investigating our own hypothesis. The individual elements of the hypothesis are set out in part 1, where we focus on data adjustment, too. In part 2 we comment briefly on the results, and in part 3 we review the stability of the estimations with regard to the effects of euro area entry and the economic crisis.

3.1 BASELINE MODEL, DATA, AND SELECTED APPROACH OF EMPIRICAL ANALYSIS

3.1.1 HYPOTHESIS

The baseline hypothesis for analysing the development of short-term liquidity in the Slovak banking system assumes that changes in short-term liquidity are related to changes in the business cycle and to structural changes in banks' balance sheets.

In the empirical part of the analyses we assume that the prevailing direction of influence is from business cycle changes and structural balance-sheet changes to liquidity changes, although it is likely that certain balance-sheet changes reflect the implementation of targets or the need for liquidity adjustments.

Liquidity level – the (long-run) objective for the liquidity level is expressed using the long-run part of an error-correction model. The causes of short-term liquidity changes include not only a return to the long-run objective, but also short-term changes in the balance sheet and changes in related balance-sheet maturities (partial spillover, transfers of short-term liquidity between adjacent maturity bands).

These assumptions can be expressed using the following general form of the model:

$$\Delta(lik)_t = - c * (lik_{t-1} - lt(lik)_{t-1}) + st(lik)_t \qquad (1)$$

where ***lik*** is the net position at a given maturity (share in total assets), ***lt*** is the long-run level (objective, aim) and ***st*** is the short-term effects (shocks) on the net position at the given maturity.

The long-run level depends on the cyclical position of the economy (output gap), on the asset and liability structure of the balance sheet,[58] and on changes in the ratios of assets and liabilities in adjacent maturities. The short-term effects are the result of changes in these factors.

57 The views presented here are those of the authors and do not necessarily represent those of Národná banka Slovenska.

58 "Balance-sheet structure" is here understood to mean shares in banks' total assets of different types of balance-sheet assets and liabilities vis-à-vis the central bank, other banks, customers, government bonds, etc.

The net position in the given maturity represents the difference between the asset ratio qA at the given maturity and the liability ratio qL at the given maturity. In general – as confirmed by the empirical analysis – the relationships that determine these ratios are similar to those in (1):

$$\Delta(qA)_t = - cA * (qA_{t-1} - lt(qA)_{t-1}) + st(qA)_t \quad (2)$$

$$\Delta(qL)_t = - cL * (qL_{t-1} - lt(qL)_{t-1}) + st(qL)_t \quad (3)$$

and liquidity changes (in the net position) at the given maturity are determined by the difference between these ratios on the asset and liability sides:

$$\Delta(lik)_t = \Delta(qA)_t - \Delta(qL)_t = - cA * (qA_{t-1} - lt(qA)_{t-1}) + st(qA)_t - (- cL * (qL_{t-1} - lt(qL)_{t-1}) + st(qL)_t) \quad (4)$$

The relationships (2 and 3) express a hypothesis that is more general than the one expressed at the beginning of this part of the study. It asserts that banks separately form the term structure of assets and liabilities (according to the economic cycle and balance-sheet structure) and they determine the net positions at given maturities as the difference between assets and liabilities. Although relationship (4) can clearly be converted into relationship (1) – hence in line with our original hypothesis formulated in the introduction of this part – both asset factors and liability factors will act as net position factors. A difference in – and advantage of – the empirical analysis of changes in the term structure of assets and liabilities according to relationships (2) and (3) is that it is more general. Besides allowing individual effects to be captured more precisely, it expresses any inter-conditionality (simultaneity) between the asset term structure and liability term structure. That, however, is not considered at this stage of the empirical analysis.

Before looking at the particular specifications selected in this analysis, we must mention another problem related to the modelling of the maturity term structure. Since each asset or liability position of banks either has a specific maturity or does not have a set maturity, the sum of their shares in total assets (and liabilities) equals 100%, thereby adding a further condition to the modelling of the structure according to maturity. Our approach partially expresses this fact by explicitly taking into account "transfers" of assets, liabilities and the net position from or into assets, liabilities or the net position of adjacent maturities.

3.1.2 Sources and preliminary adjustment of data

The data used in this study are taken from NBS's "bank liquidity table", which shows developments in the balance sheets and off-balance sheets of different banks and their groups, with the term structure broken down by the maturity of assets and liabilities under the current valid methodology.[59] Owing to methodological adjustments, comparable monthly data are available only for the period from January 2006 to August 2012.

The liquidity table contains balance-sheet data and as well as selected off-balance-sheet data and derived data and characteristics. The only data used in this analysis are balance-sheet data, and they are all converted into shares of total balance-sheet assets.

Business cycle

The business cycle, ordinarily characterised as the output gap, is determined by an appropriate method from developments in GDP at constant prices. Since these data are available only at quarterly intervals, they can only be used if the quarterly GDP data are interpolated into monthly data.

The specific approach we selected was as follows:

- the original quarterly data were seasonally adjusted (Census X12, E-views);
- the seasonally adjusted data were interpolated into monthly data (by the quadratic match sum method);
- the monthly data series was divided into a trend part (potential output) and the output gap (the cyclical component of the series) using an H-P filter.

The Slovak economy experienced two major changes (breakpoints) at the beginning of 2009, namely:

- the effects of the global financial and economic crisis caused the Slovak economy to decelerate at the end of 2008 and fall into recession in 2009;
- Slovakia became a member of the euro area in a move that had major implications for the country's financial sector in general and banking sector in particular.

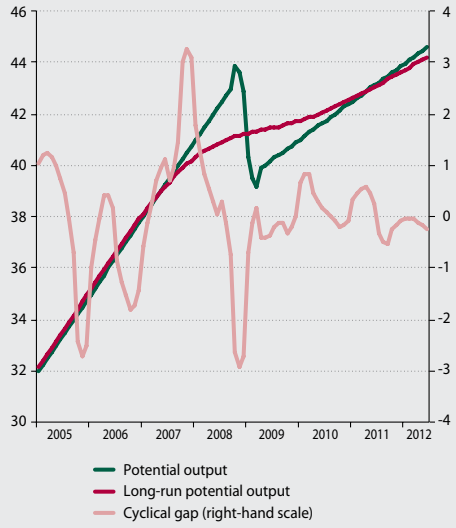
With whichever method is used to determine potential output and the cyclical component of devel-

59 Current contractual residual maturity.

opments, economic reasoning should take precedence over formal application of the method. The core difference in approach is whether potential output is treated as a concept that is (very) long-run or more medium-term (3 to 5 years) and in particular whether economic agents perceive changes in potential output as a gradual slowdown or a sudden fall. Looking at how the economy changed, it may be assumed that potential output remained basically constant when real output slumped. This supports the assumption that these changes led to a slowdown in future potential output growth and the current economic slump and pace of economic growth can be treated as a (large) shock which may be included in the cyclical component. An alternative view of these changes is that the crisis caused the drop (shift) in potential output and that the cyclical component is determined by movements around the new lower potential output. In such case, the changes during the cyclical component will only be minor. To identify the cyclical component, we opted for the second of these approaches. This was partly because we were not able to sufficiently justify the concept of (very) long-run potential output given the briefness of the period for which we had data. Mainly, however, it was because we were persuaded that not only banks, but also a majority of economic agents perceived the crisis changes as a shock, as a shift in the conditions of economic activity, and they quickly adjusted their behaviour accordingly. From the economic view, we ascribe that shift to capital depreciation as well as to devaluation of part of the workforce (a higher NAIRU), the past level of which did not correspond to the conditions existing after the outbreak of the crisis, in particular the conditions for domestic and foreign demand (previously supported for a long time by growing debt). Therefore neither we, nor economic agents (including banks), assume that potential output will return to its original trajectory – growing at a slower pace and from a lower, shifted level – in the medium-term horizon of 3 to 5 years. In the (very) long-run view, however, it cannot be ruled out that the economy may return to the (very) long-run trajectory of potential output.[60]

We determined the cyclical component by dividing the GDP time series into two parts (up to December 2008 and from January 2009) and then separating the trend[61] components for these time periods from it. Hence the potential output time series consisted of two parts with a discontinuity between them. This problem is illustrated in Chart 84.

Chart 84 Cyclical component[1)]



Source: Own calculations.
1) The original quarterly time series for GDP is an index; 2005= 100. The cyclical component (output gap) is determined as a percentage of potential output.

Chosen approach and scope of analysis

As we have mentioned, the modelling of the net position within this framework may be carried out either by directly modelling the change in the net position at a given maturity or by modelling the change in the asset ratio and liability ratio at a given maturity and then determining the net position. Naturally, the second approach offers the greater scope, including the possibility to express the inter-conditionality of the asset term structure and liability term structure. This study states only the findings from the **modelling for the shortest maturity – up to 7 days – in regard to assets, liabilities and the net position.**

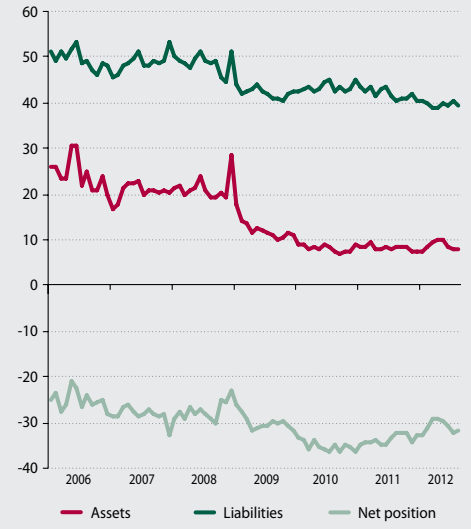
Assets, liabilities and the net position with a maturity of up to 7 days

Chart 85 shows, for the Slovak banking sector, movements in the shares of assets and liabilities maturing within 7 days and in their net position. As a share of total balance-sheet assets in the period under review (January 2006 – August 2012), assets maturing within 7 days declined gradually, from more than 25% to below 8%. The share of liabilities maturing within 7 days fell from over 50% to below 40%. The **net negative position of assets and liabilities maturing within seven**

60 For a systematic analysis of this issue, conducted for the purposes of the NBS macroeconomic forecast on the basis of an assumed relationship between inflation and the output gap, see: Huček, J., Reľovský, B., Široká, J.: "Premietnutie globálnej ekonomickej a finančnej krízy do vnímania potenciálneho HDP" (Impact of the global economic and financial crisis on GDP), NBS, http://www.nbs.sk/_img/Documents/PUBLIK/MU/potential_output.pdf. The authors also pointed how this issue had been resolved in other euro area countries, noting that a shift in potential output is an assumption in, for example, Ireland.

61 The trend part was determined using an H-P filter.

Chart 85 Assets and liabilities maturing within 7 days and their net position (as a percentage share of total balance-sheet assets)



Source: NBS, own calculations.

days increased its share from just over 25% to more than 30%, reaching a peak of 36% in 2010.

Movements of selected indicators of balance-sheet structure

In this part we will note and briefly discuss those items in the asset and liability structure of the balance sheet which we have identified to be factors that influence the shares of assets and liabilities with the shortest maturities – up to 7 days.

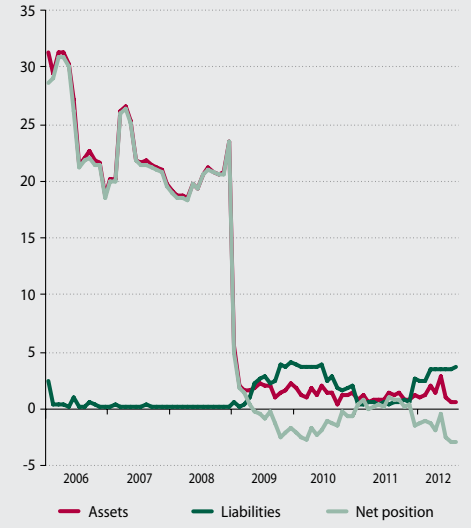
Outstanding amount in central bank accounts

The outstanding amount held in central bank accounts (Chart 86) comprises the total amount of mandatory and discretionary reserves and deposits. It changes mainly according to whether the prevailing position of banks vis-à-vis the central bank is one of sterilising excess liquidity (as was the case up to 2008) or refinancing (since 2009). Up to 2008 banks had a substantial net asset position with NBS – between 20% and 32% of their total assets – and the vast majority of these assets had a maturity of up to one month (in fact two weeks). From 2009, the position of banks shifted heavily towards the refinancing (liability) side – with a share of between 1.0% and 3.5%. Virtually all of their assets with the central bank (the ECB) had a (residual) maturity of up to 7 days (O/N).

Accounts of other banks

Claims on other banks and liabilities towards other banks (Chart 87) include interbank liabilities and claims, which between resident banks should balance out, and claims and liabilities vis-à-vis non-resident banks. Here, too, the situation changed markedly following Slovakia's entry into the euro

Chart 86 Banks' asset position, liability position and net position with the central bank (as a percentage share of total assets)



Source: NBS, own calculations.

Chart 87 Banks' asset position and liability position with other banks (as a percentage share of total assets)

Source: NBS, own calculations.

area; claims and liabilities were partially settled. Until 2008 non-resident banks held a considerable volume of deposits with banks in Slovakia. This liquidity was absorbed by NBS. At this time banks' liabilities to other banks were elevated, exceeding claims by between 10% and 20%. After 2009, liabilities and claims were almost balanced with a difference of between 8% and 10%. A gap in favour of the asset side opened up in 2012. The prevailing maturity of asset and liability positions with other banks was up to three months.

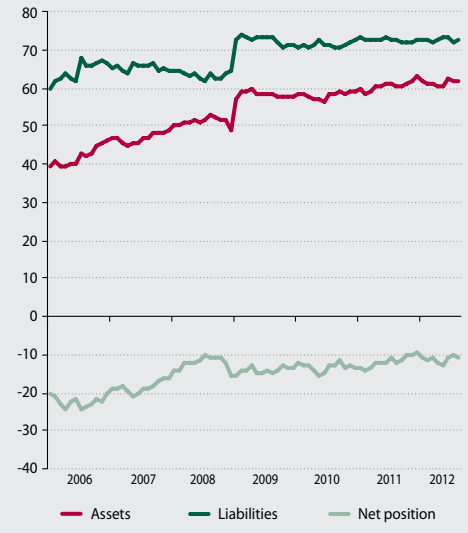
Customers' accounts

Customers' accounts (Chart 88) comprise mainly loans and deposits. As a share of total assets they have increased since 2009 to more than 70% (liabilities) and around 60% (assets). The negative net position has fallen in absolute terms from more than 20% (minus) to around 10% at present. The asset position with customers includes a significant and growing share of long-term assets related to the provision of housing loans. The large majority of liabilities to customers are (stable) short-term liabilities, mostly in the form of current account deposits.

Government bonds

With the data available, it was not possible to express the effect that the buying, selling and holding of government securities had on the maturity position of up to 7 days. The data on government securities covered only a short period and the estimate of the government securities' effect was not statistically significant. We are aware that the high liquidity of government bond means they will fall under short-term liquidity management, and consequently we expect that in future, after obtaining further observations, it will be possible to identify and confirm their effect on the most liquid assets.

Chart 88 Banks' assets and liabilities in customers' accounts (as a percentage share of total assets)



Source: NBS, own calculations.

Stationarity and integration[62]

The unit root test demonstrated that the shares of assets and liabilities maturing within 7 days, and their net position, are non-stationary (integrated variables of order 1).

The unit root test for the cyclical component of GDP, as we determined by the above-mentioned procedure, rejected the existence of a unit root at a high level of significance. The absence of a unit root is interpreted to mean that the cyclical component affected changes in the position only in the short run (it is only a short-term impulse and in model (1), (2) or (3) it is part of the model's short-term (st) component. In other words – the cycle in this case determines not the level of liquidity, but only the changes in liquidity. On the other hand, however, the output gap time series shows a strong serial correlation. This could, though, indicate that it is proximate to the integrated series; hence, in practical terms (with a certain degree of tolerance), it contributes to setting the liquidity level and its changes give impetus to changes in liquidity. In this study, of course, we adhere to a strictly empirical statistical approach – the cycle has a short-term effect on liquidity, although the strong serial correlation of the output gap time series means this effect has significant inertia.

Indicators of balance-sheet structure (on the asset and liability sides) – those which we used to specify models for the shortest maturity of up to 7 days – are all integrated variables of order 1. Unit root tests did not reject the hypothesis of their integration (order 1) with high probability (strength). The asset shares of the different position do not, however, have unrestricted values (they cannot increase without restriction), as an integrated time series would have, but in our analysis there are no difficulties arising from this discrepancy.

62 We tested the orginal time series of share. We note that the structural breakpoints in the time series caused by Slovakia's entry into the euro played a role in the test and we comment on them in part 3.

As we have mentioned, this study assumes that balance sheet structure changes and the business cycle are exogenous factors, determining the asset position, liability position and net position at short maturities.

3.2 ANALYSIS RESULTS. BANKS' LIQUIDITY, ASSETS AND LIABILITIES MATURING WITHIN 7 DAYS – AGGREGATE FOR BANKS IN SLOVAKIA

The estimation results are shown in tables 7, 8 and 9. The independent variables are change in assets maturing within 7 days (Table 7), change in liabilities maturing within 7 days (Table 8) and change in net position of assets and liabilities maturing within 7 days (Table 9). As mentioned, all the variables are (percentage) shares in assets; the business cycle is the output gap as a share of potential output.

The tables contain the parameter estimations as obtained by an ordinary least squares (OLS) method, and therefore not by Pesaran's method for "error correction" models. Symbol Δ denotes the (month-on-month) change in the variable, (t-1) denotes the lagged variable (the previous month's value).

The statistical significance of the estimations was evaluated in the standard way:

*** the parameter's level of significance is 1% (lowest)

** the parameter's level of significance is between 5% and 1%

The estimation results show that the majority of parameters were significant to a level far greater

Table 7 Assets maturing within 7 days

Estimation period		2006/2 – 2012/8 Estimation	
Intercept		2.061	***
Share of assets maturing within 7 days	(t-1)	-0.251	***
Share of assets held with central bank	Δ	0.523	***
	(t-1)	0.157	***
Share of assets held with other banks	Δ	0.427	**
	(t-1)		
Share of assets with customers	Δ	-0.521	***
	(t-1)		
Change in share of assets maturing between 7 days and 1 month	Δ	-0.665	***
R^2		0.845	

Source: Own calculations.

Table 8 Liabilities maturing within 7 days

Estimation period		2006/2 – 2012/6 Estimation	
Intercept		32.135	***
Share of assets with customers	Δ	-0.443	**
	(t-1)	-0.123	**
Share of liabilities maturing within 7 days			
	(t-1)	-0.600	***
Share of liabilities to other banks	Δ	0.323	**
	(t-1)	0.364	***
Share of liabilities maturing between 7 days and 1 month	Δ	-0.236	
	(t-1)	-0.236	
Business cycle (output gap)	Δ	0.408	***
	(t-1)	0.408	***
R^2		0.601	

Source: Own calculations.

Table 9 Net position of assets and liabilities maturing within 7 days

Estimation period		2006/2 – 2012/6 Estimation	
Intercept		-29.368	
Share of assets held with central bank	Δ	0.385	***
	(t-1)	0.429	***
Share of assets with customers	Δ		
	(t-1)	0.229	**
Share of liabilities with customers	Δ	-0.382	**
	(t-1)		
Net position of assets and liabilities maturing within 7 days	(t-1)	-0.451	***
Net position with other banks	Δ	0.229	**
	(t-1)	0.341	**
Business cycle (output gap)	Δ	-0.443	***
	(t-1)	-0.443	***
Net position of assets and liabilities maturing between 7 days and 1 month	Δ	-0.451	***
R^2		0.635	

Source: Own calculations.

than 1%. All the estimations were made by an ordinary least squares (OLS) method. In the dynamic model that we estimated, it is not possible to assess serial correlation of residuals by means of the commonly used DW statistic. To test for serial correlation of residuals we used a maximum-likelihood method (Breusch-Godfrey), which showed that serial correlation of residuals is present in the model for the net position in assets and liabilities maturing within 7 days. In models for assets maturing within 7 days and liabilities maturing within 7 days, the test showed a weak presence of serial correlation of residuals (order 1 or order 2) at a significance level of between 5% and 10%. Here we comment on the estimations without any explicit expression of the serial correlation of residuals.

Impact of the business cycle

In accordance with our expectations, the estimation results show that the boom – positive output gap – impairs the net position of assets and liabilities maturing within 7 days in both the short run (parameter 0.443) and long run (parameter 0,982[63]). This stems mainly from the position of liabilities maturing within 7 days. Their share increases during the boom, with each percentage point improvement in the output gap causing the share of liabilities maturing within 7 days to increase in the short run by almost half of a percentage point (0.408). The boom does not affect the share of assets maturing within 7 days. The impact of the boom on the net position of assets and liabilities maturing within 7 days therefore reflects the increase in the liability position during that period.

The share of liabilities maturing within 7 days increases during the boom and therefore impairs the net position of assets and liabilities maturing within 7 days.

Impact of the position with the central bank

The share of assets maturing within 7 days is significantly affected in both the short run and long run by banks' asset position with the central bank and changes in that position. More than half (parameter 0.524) of the change in this position was reflected in a change in the position of assets maturing within 7 days. The asset position with the central bank also determines the long-run position of assets maturing within 7 days (parameter 0.626). The position with the central bank does not affect the share of liabilities maturing within 7 days. Changes in the asset position with the central bank also leads to a short-run change in banks' net position of assets and liabilities maturing within 7 days (parameter 0.382), and the asset position with the central bank determines that net position in the long run too (parameter 0.951).

Banks' asset position with the central bank and changes in that position determines banks' share of assets maturing within 7 days and their net position

63 We determined the long-run impact parameter by dividing the paramenter at a lagged variable by the EC coefficient: 0.982=0.443/0.451

of assets and liabilities maturing within 7 days. The position with the central bank does not have a significant effect on the share of banks' liabilities maturing within 7 days. This finding does not, however, take into account changes in the asset structure (the substitution of one type of asset for another).

Impact of the position with other banks

The position with other banks has only a short-run effect on the share of assets maturing within 7 days. On the other hand, this position affects the share of liabilities maturing within 7 days in both the short run (parameter 0.323) and long run (parameter 0.607). Hence the net position of assets and liabilities maturing within 7 days is affected by the position with other banks – in the short run (parameter 0.229) and the long run (parameter 0.756).

The asset, liability and net positions are affected in the short run by changes in the asset, liability and net positions with other banks. The only long-run impact is that of the liability position with other banks on the share of liabilities maturing within 7 days (and on the net position of assets and liabilities maturing within 7 days). Banks that borrow on the interbank market therefore have a lower net liquidity.

Impact of the position with customers

Changes in the asset position with customers have a negative short-run effect on changes in the share of assets maturing within 7 days, but not a long-run effect on this share. Somewhat surprisingly, the asset position with customers causes changes in the share of liabilities maturing within 7 days in both the short run (parameter -0.443) and long run (parameter -0.205). The asset and liability positions with customers also affect the net position of assets and liabilities maturing within 7 days. The net position reflects not only changes in the liability position, but also, in the long run, changes in the asset position with customers. This seems to result from the interconnectedness of asset (loan) and liability (deposit) positions with customers.

The shares of assets and liabilities maturing within 7 days and the net position of these assets and liabilities are mainly affected, in both the short run and long run, by changes in the asset position with customers and its level.

Impact of positions in assets and liabilities maturing between 7 days and 1 month

If banks, for any reason, increase their share of assets maturing between 7 days and 1 month, they will reduce their share of assets maturing within 7 days. Thus substitution (crowding out) occurs within the term structure of assets. This is a short-run effect (parameter -0.66). Likewise, substitution in the structure of liabilities maturing within 7 days occurs when there is an increase in the share of liabilities maturing between 7 days and 1 month, in both the short run (parameter -0.236) and long run (parameter -0.393). A similar effect is observed in the net position of assets and liabilities maturing within 7 days – when for any reason the net position of assets and liabilities maturing between 7 days and 1 month increases as a share of total assets by 1%, it does so, in the short run, at the expense of the net position of assets and liabilities maturing within 7 days (parameter -0.451).

The shares of assets and liabilities maturing within 7 days and their net position also reflect (autonomous) changes in the shares of assets and liabilities maturing between 7 days and 1 month and their net position (there is substitution of the former position by the latter position). This appears to occur mainly in changes on the liability side. At the same time there is substitution between the net positions of assets and liabilities maturing within 7 days and those maturing between 7 days and 1 month. This seems to indicate that banks are seeking to stabilise the cumulative net position of assets and liabilities maturing within 1 month.

3.3 CHANGES RELATED TO SLOVAKIA'S ENTRY INTO THE EURO AREA AND TO THE CRISIS; THE STABILITY OF PARAMETERS

Looking at the crisis that caused Slovakia to fall into recession in 2009 and at Slovakia's entry into the euro area in 2009, the question arises whether such significant events and changes caused changes – structural breakpoints – in the development of variables within the nexus of the business cycle, banks' structural parameters, and liquidity.

The stability of the parameters was tested by re-estimating them with an extended parameter

64 In E-views this test is identified as "recursive estimates".

estimation period;[64] this demonstrated that the estimated parameters change over the extended period – that they display a certain instability. Since we know that a substantial change in the relations under review could well have taken place in January 2009, it is possible to carry out a Chow breakpoint test. The selection of January 2009 is based on the assessment of the charted results of the above-mentioned stability test for the estimated coefficients. The test shows that instability (a potential breakpoint) in the parameters could be caused not only by changes at the beginning of 2009, but also by events and measures in around the first half of 2010. The Chow breakpoint test confirmed that the behaviour of banks changed at the beginning of 2009, and this change was reflected in the analysed relationships for 7-day liquidity. It was also confirmed that a breakpoint probably occurred in March 2010 as well, mainly on the asset side of the analysed relationship.

From mid-2010 we did not identify any substantial instability (breakpoint). The majority of parameter estimations stabilised; gradual changes were observed only in the estimations of certain parameters, which may have reflected the adjustment of banks' behaviour to the current crisis situation. Unfortunately, we do not at present have a suitable measured variable with which to express these changes. One way to smooth the identified instability is to adjust the explanatory variables (structure of assets and liabilities) by a procedure similar to that used to adjust potential output. Another way is to explicitly express the structural breakpoint using a dummy variable in equations for the change in the shares of assets and liabilities maturing within 7 days and in their net position. This second method hardly changed the results at all.

The identified instability shows that changes in the banking sector following Slovakia's entry into the euro area (and to some extent as a result of the crisis) caused changes in liquidity management at the short end of the of the maturity range and that this fact will warrant further attention in the future. It may also be worth estimating the model using only data from 2009 and later.

Conclusions

We tested the hypothesis that the ***liabilities maturing within 7 days as a share of total assets and the net position of these liabilities are related to the business cycle. The share of assets is not related to the business cycle*** and changes in the net position of such assets (maturity gap) are affected by the business cycle due only to the fact that the share of liabilities maturing within 7 days changes during the cycle. The economic background seems to be, that, during the cycle, the share of (uninvested) liquid funds within banks changes, including the most liquid (available within 7 days).

We also showed that the ***shares of assets and liabilities maturing within 7 days, and the net position of these assets and liabilities, falls (rises) when, for any reason, the respective share of assets or liabilities maturing between 7 days and 1 month rises (falls)***. The fact is that there is an interrelationship between maturities in the term structure of assets and liabilities and in their net position; this is based mathematically on the fact that the sum of the shares in total assets of all assets and liabilities regardless of maturity is 100% and the sum of their net positions is zero. The analysis showed that at the lower end of the maturity range there is substitution between assets/liabilities maturing within 7 days and those maturing between 7 days and 1 month; this confirms that what is decisive for banks is the net position of assets and liabilities maturing within 1 month.

We also demonstrated that ***the share of the most liquid assets is affected by changes in the balance-sheet structure and that different counterparties (central bank, other banks, customers) have different effects on the asset and liability positions***:

- ***with the central bank it is mainly the asset position,*** *in both the short run and long run, that affects the net position of assets and liabilities maturing within 7 days;*
- ***with other banks it is only the liability position,*** *in the long run, that affects the net position of assets and liabilities maturing within 7 days;*

With customers it is only the asset position*, in both the short run and long run, that affects the shares of assets and liabilities maturing within 7 days and their net position.*

ABBREVIATIONS

Abbreviations

AFS	available-for-sale securities portfolio
CDS	Credit Default Swap
CPI	Consumer Price Index
D/E	Debt to Equity Ratio
EBA	European Banking Authority
ECB	European Central Bank
EFSF	European Financial Stability Facility
ESM	European Stability Mechanism
EU	European Union
FED	Federal Reserve System
GDP	Gross Domestic Product
HICP	Harmonised Index of Consumer Prices
HTM	hold-to-maturity securities portfolio
IMF	International Monetary Fund
MB	mortgage bonds
LTRO	long-term refinancing operations
LTV	Loan-to-Value ratio
MFI	monetary financial institutions
MF SR	Ministry of Finance of the Slovak Republic
NAV	Net Asset Value
NBS	Národná banka Slovenska (central bank of the Slovak Republic)
NNDI	Net National Disposable Income
OECD	Organisation for Economic Cooperation and Development
PFMC	Pension Management Company
PMI	Purchasing Managers Index
ROA	Return on Assets
ROE	Return on Equity
RWA	Risk weighted assets
SO SR	Statistical Office of the SR
SPMC	Supplementary Pension Management Company
Tier 1, 2, 3	Components of own funds

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