



## Analysis Of The Slovak Financial Sector for the Year 2012

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## FOREWORD



## Foreword

Národná banka Slovenska produces the Analysis of the Slovak Financial Sector for the needs of the NBS Bank Board, professionals and wider public. The aim of this report is to analyse the current situation and developments in the domestic financial market and to point out potential risks and threats to its stability.

This analysis evaluates the overall condition of the financial sector as at 31 December 2012, although in several parts it uses more recent data, where available. The main aim is to assess the financial system's resilience to possible headwinds, looking at both individual institutions and the sector as a whole. The analysis provides a more detailed view of the links between financial sector developments, on the one hand, and macroeconomic and microeconomic indicators, on the other hand. The systemic nature of the analysis is reflected mainly in the use of stress testing as a way of assessing the financial sector's sensitivity to various scenarios. The Annex supplements the text of the analysis with charts of selected macro-prudential indicators for the main risk areas in the financial sector.

As in previous analyses, financial information on particular institutions is obtained primarily from NBS information systems and from documents produced by various departments of the NBS Financial Market Supervision Unit. Additional sources include the Statistical Office of the Slovak Republic (SO SR), Eurostat, the European Central Bank (ECB), and other external sources and commercial information systems. The analysis does not cover the exercise of supervision over particular institutions.





## ANALYSIS SUMMARY



### **ANALYSIS SUMMARY**

#### ACTIVITY IN THE SLOVAK FINANCIAL SECTOR INCREASED AGAINST A BACKDROP OF AMBIGUOUS ECONOMIC DEVELOPMENTS IN EUROPE

The economic environment of the financial sector remained uncertain during 2012. Although financial markets calmed during the year, they did so mainly in response to measures taken by the ECB, rather than due to expectations of an improvement in the macroeconomic situation. In fact, macroeconomic developments observed towards the year-end reflected the persisting climate of uncertainty. On the one hand, the risks associated with euro area periphery economies were less acute than in 2011, but, on the other hand, economic growth was weak due to low competitiveness. The overall situation therefore remained relatively complicated.

In this context, Slovakia's economic growth also declined, and since the functioning of the domestic financial sector depends on that growth, it was also adversely affected. The effect of these developments was seen in the second half of the year, particularly in the labour market. On a positive note, at the beginning of the year, Slovak government bond prices completed their recovery from the turbulent autumn of 2011, thus providing a boost to the domestic financial sector.

Despite the headwinds, the domestic financial sector managed to increase its activity in 2012, particularly in the second half of the year. The drivers of this growth were not only financial markets, but mainly favourable developments in the household sector, as households increased both their borrowing and their investments in the financial sector. Consequently, the interconnections between Slovak households and the financial sector were further deepened.

A structural trend crucial to the stability and overall soundness of the financial sector was the fact that in most segments of the financial market the increase in activity was accompanied by even higher growth in own funds. Therefore the financial sector, and banking sector in particular, did not increase its leverage and strengthened its resilience to negative shocks.

### HOUSEHOLD LENDING RECOVERED, WHILE CORPORATE LENDING FELL SLIGHTLY

A highly significant trend in the banking sector was the increase in household lending growth. The increase was most marked in housing loans, which account for the majority of the household loan portfolio, but consumer credit also rose. Household demand for loans was stimulated by low interest rates and to some extent also by stable property prices. These factors combined to give Slovakia one of the highest rates of household lending growth in the European Union.

A different situation was observed in the corporate sector. As result of weakening demand for loans and tight credit standards, the outstanding amount of corporate loans initially recorded lower growth and then, mid-way through the year, began to decrease. The pace of their decline in the second half of the year was similar to the levels seen at the end of 2009 and beginning of 2010.

#### **BANKING SECTOR PROFIT DECLINED**

The aggregate net profit of the banking sector in 2012, according to data reported by banks, declined by almost one-third year-on-year. This was largely explained, on the one hand, by the imposition of an extraordinary banking levy and, on the other hand, by an increase in credit risk costs in the loan and guarantee portfolio. Bank profits were further squeezed by the continuing decline in interest rate margins. In an environment of falling interest rates, returns on the corporate loan portfolio declined, while elevated competition was reflected in higher retail deposit costs. Banks were unable to increase lending activity to an extent that would compensate for the lower interest rate margins, and, in addition, their fee income remained flat (after rising in the previous period).

## THE BANKING SECTOR'S CAPITAL POSITION CONTINUED TO STRENGTHEN

The banking sector's capital adequacy ratio (CAR) increased in 2012 to its highest level since 2005. This was largely because a significant share of the sector's 2011 profit was retained, and also due to a direct increase in own funds and to an upward

revaluation of debt securities in the availablefor-sale portfolio. Banks using the Internal Rating Based Approach for credit risk saw a decline in risk weights for credit exposures to the retail and corporate sectors, which further contributed to the CAR increase. The lowering of risk weights may be partly due to the declining trend in the default rate as well as to banks' active policy regarding the sale of non-performing loans. As a result of these trends, the Slovak banking sector reported adequate self-sufficiency in terms of solvency, especially in comparison with banking sectors of other countries.

#### SUFFICIENT PROVISIONING FOR NON-PERFORMING LOANS

As regards the further development of downside risks to bank profits, it is positive that most banks ensured sufficient provisioning for non-performing loans despite an increase in the amount of such loans. The mitigation of future risks was also supported by the fact that the new provisions substantially exceeded the increase in non-performing loans, particularly in the corporate portfolio, which has a lower level of collateraliszation.

## CREDIT RISK SITUATION WAS STABLE, REFLECTING ALSO THE EFFECT OF LOW INTEREST RATES

Household credit risk was relatively stable during 2012. The adverse labour market situation continued to be the main component of credit risk, although it was not reflected in the volume of non-performing loans. As a result of gropwing prices during 2012, especially towards the end of the year, households saw their financial situation come under increasing pressure during 2012, which was to some extent balanced by the decline in interest rates on housing loans. The financial position of the corporate sector remained largely unchanged in 2012. On the negative side, export growth declined towards the year-end and the construction sector remained in a difficult situation. On the other hand, the debt-service burden of firms continued to ease, owing to moderate sales growth, a decline in interest rates, and a slight drop in the outstanding amount of corporate loans.

#### MIXED TRENDS IN MARKET SERVICES

As the situation in financial markets improved, risks in most financial market segments declined. At the same time, risk-free interest rates fell to alltime lows and the probability of them remaining at these levels over the long-term horizon increased. This may lead to a fall in investment returns and, in the case of insurance companies, may also result in the need for creating technical provisions.

The banking sector continues to have an ample liquidity cushion and is adequately self-sufficient in regard to funding. Consequently, the sector is lessening its exposure to the possibility of an increase in external funding costs resulting from a renewed escalation of Europe's sovereign debt crisis.

On the other hand, the exposure of certain financial market segments to market risks increased. The principal segments in this regard were insurance companies and pension funds (in the second and third pillars of the pension system), since the duration of their investment portfolios has continued to increase and therefore so has the sensitivity of the portfolios' fair value to a hike in interest rates. In addition, the cancellation of guarantees in mixed and equity funds heightened the exposure of these funds to equity and foreign-exchange risk.

#### UNIT-LINKED INSURANCE POLICIES INCREASED AMID LOW INTEREST RATES

The aggregate profit of insurance companies in 2012 declined by 20% year-on-year. Nevertheless, this was mainly due to the high profit in 2011. The solvency of insurance companies increased markedly on the basis of gains from the revaluation of securities in the available-for-sale portfolio. These gains resulting from falling interest rates serve, however, as a buffer against a future rise in interest rates. In the context of risk management, insurance companies should also establish a capital buffer large enough to cover any rise in interest rates for the bonds they are currently buying.

The trends in the life insurance sector continued from 2011; the rise in premiums was driven mainly by strong growth in unit-linked and supplementary insurance contracts, while there was a further decline in traditional life insurance premiums and contracts. The amount and frequency of surrenders increased in all insurance lines. In unit-linked insurance, claim costs not related to surrenders also rose, as policyholders survived to the age stipulated in their life assurance contracts.

#### A N A L Y S I S S U M M A R Y

In non-life insurance, premiums written declined in motor third-party liability insurance, motor vehicle insurance and property insurance. Due to a lower loss ratio, the combined ratio for the non-life insurance sector as a whole and for each insurance line therein was lower than 100%.

After financial markets calmed, provisions for unit-linked insurance policies began to rise again. The deficit provision established on the basis of a provisions adequacy test increased, and its adequacy, during the current period of low interest rates, became a significant factor in risk management in the life insurance sector. The asset-coverage of technical provisions increased sharply, and the share of government bonds in that coverage recorded the largest rise due to the upward revaluation of these assets.

#### THE AMOUNT OF PENSION FUND ASSETS WAS AFFECTED MAINLY BY LEGISLATIVE CHANGES AND BY THE PERFORMANCE OF FUNDS.

The number of savers in the old-age pension saving system (Pillar II) increased by more than 30,000 in 2012. From September, however, Pillar II was reopened again to allow people to voluntarily enrol or withdraw from the system. According to data from the Social Insurance Agency, this reopening resulted in a net decrease of around 75,000 savers, although the vast majority of movements in this regard did not take place until January 2013. The new option of saving in two pension funds at once stoked demand for investment in bond pension funds. The growth trend in the net asset value of Pillar II pension funds decelerated towards the end of 2012 owing to a reduction in the mandatory monthly contribution to the Pillar II system.

In the asset structure of equity pension funds and mixed pension funds, the share of equities and mutual fund shares/units increased notably for the first time after a longer period, while the share of bank deposits decreased. Apparently the search for yields increased the average residual maturity and duration in virtually all pension funds.

In Pillar III of the pension system there was elevated demand for enrolling in smaller supplementary pension funds with a more specialised investment profile, while the number of participants in large supplementary pension funds declined. The total amount of assets under management in the Pillar III sector increased to its highest level since 2007, and a significant factor in that growth was the return on assets in pension fund portfolios. Both bond and equity investments increased as a share of the asset structure of Pillar III pension funds.

In both Pillar II and Pillar III, the year-on-year performance of pension funds improved due in large part to increasing prices of Slovak government bonds.

#### **SUBSTANTIAL ASSET GROWTH IN COLLECTIVE INVESTMENT**

The amount of assets under management in the Slovak collective investment sector returned to growth in 2012. Net sales, especially of domestic mutual funds, were supported by an increase in asset prices during the period under review. These inflows wiped out the heavy outflows caused by a sudden spate of redemptions in the second half of 2011. The net inflow of assets in the sector reflected two contrary trends: on the one hand, unit-holders were withdrawing funds from standard mutual funds, particularly money market funds; on the other hand, the number of mutual funds increased sharply and the highest net inflows were recorded for special mutual funds. The special funds with the highest net inflows, mostly investments from households, were real estate special funds and securities special funds (in this case the investment profile was rather similar to that of money market funds). The upturn in financial markets in the second half of the year contributed to positive investment returns in all mutual fund categories.





## MACROECONOMIC DEVELOPMENTS AS THEY AFFECT FINANCIAL STABILITY



## **1** MACROECONOMIC DEVELOPMENTS AS THEY AFFECT FINANCIAL STABILITY

#### $G_{\text{LOBAL}} \text{ economic growth declined in } 2012$

Global economic growth slowed further in 2012, and its rate of 3.2%, according to preliminary figures, was the lowest since the recession of 2009. Europe acted as the strongest drag on global growth, as it felt the full effects of the ongoing sovereign debt crisis. Although other major advanced economies such as the United States and Japan avoided an economic contraction, their growth remained relatively weak despite unprecedented stimulus from monetary policy. Therefore, as in previous years, emerging economies led by China were the main engine of the world economy. Even so, most of these countries saw their economies cool to some extent, due to weaker external demand and/or various domestic structural problems.

#### **E**LEVATED NERVOUSNESS IN FINANCIAL MARKETS, PARTICULARLY IN THE FIRST HALF OF **2012**, STEMMED FROM THE EURO AREA SOVEREIGN DEBT CRISIS

Financial markets across the world continued to show severe turbulence in 2012. Swathes of key markets responded primarily to the repercussions of the sovereign debt crisis in Europe. A great deal of investors' attention was also directed on the measures taken by central banks.

Euro area financial markets were particularly volatile. The principal market trends observed in 2012 can be divided into three stages. The first stage, lasting approximately until mid-March, featured an easing of the elevated strains seen towards the end of 2011. The European Central Bank (ECB) played a crucial role in this regard, by providing banks with an unlimited amount of three-year liquidity, thereby mitigating the problem of distressed banks being shut out of wholesale funding markets.

The positive impact of this measure lasted only during the first two months. In March sentiment among financial market participants began to turn, and in the next period it gradually deteriorated amid indications of Greek insolvency and Chart 1 GDP growth in selected economic blocs and countries (%)



headwinds from the Spanish banking sector. Towards mid-year speculation mounted about a possible break-up of the euro area and investor risk aversion escalated.

#### FINANCIAL MARKETS BECAME CALMER IN THE SECOND HALF OF 2012

The spread of panic was not stopped until mid-July, when the ECB stepped in again. On this occasion the intervention was verbal, with the ECB President affirming the ECB's resolve to do "whatever it takes" to preserve the integrity of the euro area. Financial markets took this as a commitment that the ECB would, as necessary, purchase sovereign bonds of countries facing elevated pressure from investors. In September the ECB's Governing Council approved a programme of Outright Monetary Transactions (OMTs), a framework within which the ECB may support countries in difficulty by intervening in the secondary market for sovereign bonds. Such assistance, however, is subject to the country subscribing to a comprehensive recovery programme defined by European insti-





tutions. Although the OMT programme has not been activated up to now (March 2013) – with no country having requested intervention – it has already proved its worth. The fact that the ECB thus committed itself to intervene in the secondary government bond market resulted in markets fundamentally reassessing the likelihood of an extreme scenario and in a corresponding decline in risk aversion.

The cyclical shift in sentiment during 2012 was reflected in the valuation of different types of asset. The relatively optimistic start to the year was followed by period of rising risk premia, selling of riskier assets, and elevated volatility. Initially this was reflected in increasing yields to maturity of bonds issued by sovereigns in the euro area periphery, in particular Spain and Italy. In order to avoid adverse price movements, investors sought out some of the least risky assets.

From August there was a significant turnaround in the situation. Over the rest of the year many market indicators in Europe gradually improved to levels not seen for more than two years. Investors, and especially foreign investors, regained some appetite for the riskier securities they had previously eschewed during the debt crisis. Funding for sovereigns, banks and large corporations improved in terms of both availability and cost. Thus the feedback loop between the credit risk of sovereigns and their banking sectors became far less negative. Banks in periphery countries ceased haemorrhaging deposits, while at the aggregate level banks became moderately less reliant on ECB funding. Some banks even exercised the option on three-year longer-term refinancing operations of early repayment after one year. Nevertheless, the European banking sector still includes a group of distressed banks that are reliant on ECB refinancing operations.

Although the ECB can claim most of the credit for the easing of financial market strains in the second half of 2012, several other measures also helped. Among the most important was the reaching of agreement on the establishment of a Single Supervisory Mechanism within the European Union, which is due to be implemented in 2014. It should also be noted that rules on fiscal cooperation in the euro area were strengthened and the European Stability Mechanism (ESM) began operation.



### The group of periphery countries includes Cyprus, Greece, Ireland, Portugal, Slovenia, Spain and Italy.



#### PRICES OF RISKIER ASSETS ROSE FROM SUMMER **2012** AMID INCREASED OPTIMISM AMONG INVESTORS, BUT THERE REMAINS A HIGH RISK THAT THEY WILL FALL AGAIN IF THE CRISIS RE-ESCALATES

The calming of European financial markets positively affected markets in other parts of the world as well. This, together with the fact that interest rates had been reduced to extremely low levels by the monetary policy of major central banks, persuaded many investors to seek higher yield for their portfolios and to no longer make safety the key investment criterion. Global financial flows therefore shifted towards equities and corporate bonds which, in favourable circumstances, could deliver the sought-after higher returns. Due to this elevated demand, many equity indices recorded double-digit growth in the second half of 2012 and lower-rated bonds were trading at historically low yields to maturity. The optimistic sentiment in financial markets continued through January 2013.

In this context, the question arises whether the prices of certain asset classes have not reached a level at which they could be seen as overvalued in regard to their fundamentals. If so, the risk is that they will be revalued sharply downwards in the event of a further shock. Any increase in risk aversion triggered as a result, could drag down other financial markets, too.



Chart 4 Comparison of macroeconomic and equity market developments in the second half of 2012 The trigger for such a scenario could be a re-escalation of the sovereign debt crisis in Europe. Indications of a downturn in sentiment appeared from February, following the result of parliamentary elections in Italy. How the crisis develops will depend not only on political events, but also on whether economic growth can be achieved, on the success of ongoing deleveraging in the public and private sectors, and on the practical implementation of Europe-wide anti-crisis measures.

#### THE EURO AREA ECONOMY SLID INTO RECESSION IN 2012

Macroeconomic conditions in the euro area deteriorated severely in 2012. After two years of moderate growth, the region slid back into recession, which was, nevertheless, relatively shallow in aggregate terms. Euro area real GDP fell year-onyear by 0.6%. According to quarterly figures, the economic contraction was more pronounced in the fourth quarter.

A notable feature of the euro area's situation in the second half of 2012 was the stark contrast between the relative optimism in financial markets and the continuing deterioration of macroeconomic figures.

The economic contraction of the euro area as a whole was largely attributable to periphery countries, almost all of which (with the exception of Ireland) reported a relatively sharp decline in GDP (ranging from -1.4% to -6.4%). Other euro countries, too, saw an appreciable slowdown of economic growth, and some also experienced a mild recession.

On the demand side of the economy, the largest decline was in investment demand. This reflected firms' destocking and, even more so, a reduction in their capital investment. Although this trend spanned the euro area, it was especially marked in the periphery countries. The investment cutbacks were due largely to uncertainty surrounding the sovereign debt crisis and to fears of an economic slowdown. Other factors included low utilisation of existing capacities, deleveraging of balance sheets, and the availability of funding.

The percentage decline in household consumption was even greater than that observed in the 2009 recession, possibly because the real dispos-







able income of households has fared worse in this wave of the crisis than in 2009. Purchasing power in the household sector was squeezed by low nominal wage growth, a rising tax burden on employees, rising unemployment, and relatively high inflation. The observed decrease in disposable income was further underlined by weak consumer confidence. The countries at the centre of the sovereign debt crisis made the largest negative contribution to consumption demand in the euro area.

The euro area unemployment rate continued to rise in 2012 and approached 12%. National unemployment rates in the euro area ranged widely, from 5% to 27%.

Government spending cuts in the context of fiscal consolidation measures negatively affected economic growth, particularly in the periphery countries. For the period 2010–2012, however, it is not possible to conclude on a simple direct link between the extent of countries' fiscal consolidation and their economic growth.

The reduction in countries' general government deficits followed from the commitments they made under the revised Stability and Growth Pact as well as other European legislative acts and international agreements. Since the longterm objective for all euro area countries is to balance their budgets and reduce government debt to below 60% (this threshold is exceeded by the majority of them), fiscal policy would remain restrictive for several years ahead. Furthermore, for several countries, worse than expected economic growth is complicating the implementation of fiscal consolidation schedules, thereby forcing them to adopt additional austerity measures. In 2012 Portugal, Spain and Greece had to request a one-year extension of the deadline for reducing the government deficit to below 3% of GDP. There are strong indications that even France will fail to meet the 2013 deficit target, with potentially adverse repercussions in financial markets.

The only component of 2012 annual GDP that was in positive figures was foreign trade, since exports increased and imports fell moderately. Nevertheless, the pace of export growth in the euro area was one-third lower than in 2011, and toward the year-end even exports declined in quarter-on-quarter terms.

Periphery countries continued the slow process of reviving external competitiveness through the reduction of unit labour costs and depreciation





Chart 8 Comparison of corporate lending rates and government bond spreads in euro area countries (%) 6 T Slovenia 4 Ireland Portugal 5 Slovakia rate Corporate lending 🔺 Spair Germany Austria letherlands Belaium France Finland 2 3 6 (p.p.) 5-year sovereign bond spread over Germany Source: ECB, Bloomberg.

of the real effective exchange rate, which helped most of them to achieve annual export growth. Trade deficits have fallen markedly over the last two years, although much of that improvement is due to the contraction of imports amid sluggish domestic demand.

Despite the recession and high unemployment rate, the annual inflation rate remained above 2% throughout 2012. Only in the last months of the year did consumer price inflation decelerate, and in January 2013 it stood at 2.0%. The main driver of the high inflation rate was energy inflation.

#### LENDING ACTIVITY IN THE EURO AREA DECLINED DESPITE A REDUCTION IN THE **ECB** KEY RATE

In response to lower than expected economic growth in the euro area and the related easing of inflationary pressures, the ECB reduced its key rate by 25 basis points in July, to 0.75%. Another reason for this decision was the fact that monetary expansion remained subdued. However, the decline in euro area banks' lending to the corporate sector accelerated in the second half of the year. The contraction in lending activity spread from the euro area periphery to several other countries, including Germany. Lending to households increased moderately during the period under review, but more slowly than in 2011.

Lending activity was squeezed not only from the demand side, but also from the supply side, as banks continued to tighten credit standards throughout the year. Funding conditions were particularly difficult for firms in periphery countries, as risk premia pushed up their borrowing costs to levels far higher than those in higherrated countries.

According to forecasts, whether from the ECB or other institutions, the macroeconomic situation in the euro area will remain difficult in 2013. GDP is expected to contract again, but to a lesser extent than in 2012. Furthermore, the risk of lower than projected growth, which has been inherent in virtually all forecasts in recent years, is relatively high. This is because the baseline assumptions used for the growth forecasts include a gradual easing of the sovereign debt crisis, an assumption that is highly uncertain.

The latest monthly figures from the industry and retail trade sectors, along with several "soft" indicators and confidence indicators, may be showing the first signs of stabilisation, although whether this really is a turnaround in the cy-



cle will only become apparent in the months ahead.

#### TENTATIVE ECONOMIC RECOVERY IN THE UNITED STATES CONTINUED IN **2012;** HOWEVER, GOVERNMENT SPENDING CUTS COULD SLOW GROWTH

The United States was one of only a few major economies where GDP growth increased in 2012, albeit only slightly, to 2.2%. Thus for a third successive year there was a similar situation in the United States, since, on the one hand, the economy grew faster than most other advanced economies but, on the other hand, not sufficient so as to enable healthy functioning of the economy without the ample help of monetary policy and with unemployment rate closer to the longterm average.

Concern about the US economy's performance was reflected in the decision of the Federal Reserve to escalate its strategy of quantitative easing and to make future rising of interest rates conditional on decrease of unemployment rate below 6.5%.

A more positive aspect of development in the US economy was the revival in the property market. Residential property prices began to increase moderately, while new construction and sales of existing properties gathered momentum.

On the other hand there is a risk in the still ambiguous setting of fiscal policy. The so-called fiscal cliff at the beginning of 2013 was partly averted by confining tax hikes to higher-income groups, but the issue of expenditure-based fiscal consolidation was only postponed by two months. Since no political agreement on the scope and structure of federal spending cuts was reached by the end of February, legislation that would significantly reduce planned government spending by a total of USD 1.2 trillion over a ten year period - the sequester - entered into force at the beginning of March. Assuming that this situation does not change, the negative impact of the sequester on GDP growth in 2013 is estimated at between 0.3 and 0.6 percentage point.

## SLOVAK ECONOMIC GROWTH IN 2012 WAS BASED ON EXPANSION IN FEW INDUSTRIAL SECTORS.

At first glance, Slovakia's economy performed modestly in 2012, with annual real GDP growth falling to 2.0%, from 3.2% in 2011. In the context

of growth levels in other euro EU countries and the worsening euro area sovereign debt crisis, Slovakia's economic performance was relatively solid. Nevertheless, a closer analysis of the Slovak economy reveals a major shortcoming, namely that economic progress is not sufficiently robust. A large part of the increase in output was accounted for by two, to a certain extent correlating factors, namely car production and foreign demand, while trends in many other sectors of the economy were on the negative side.

In the automotive industry, investments of foreign car makers in Slovak subsidiaries in 2011 resulted in production capacity rising sharply from the beginning of 2012. The number of cars produced in 2012 therefore increased in spurts, by 45% year-on-year (in value terms, production was 26% higher). Given the large weight of this sector in the composition of industrial production, it accounted for almost the entire 8.1% growth in that production.

Selected market services also made a positive contribution to Slovakia's GDP growth in 2012, although far lower than that of industry. Other sectors that reported an annual decline in real production against 2011 included agriculture, construction, and trade and transportation.



#### Source: Eurostat.

Note: The chart shows the annual moving averages of the quarterly data.



#### STRONG EXPORT GROWTH WAS OFFSET BY WEAKENING DOMESTIC DEMAND

The growth in car production, primarily destined for foreign markets, accounted for around half of the 8.6% year-on-year increase in Slovak exports. The main destinations for Slovak exports were Germany and neighbouring EU countries. Since import growth was lower than export growth, the trade balance contributed positively to Slovakia's economic growth.

All components of domestic demand acted as a drag on Slovakia's economic growth. The component that had the largest negative impact was fixed investment, which fell by 3.7% year-onyear amid lower re-investment in machinery and equipment and in non-residential real estate.

Household consumption continued to decline gradually for a third successive year. Hence, as in 2011, the average nominal wage in the national economy increased but real wage growth (adjusted for inflation) was slightly negative. A downturn in the labour market also weighed on household consumption. Employment began declining at the start of the second guarter of 2012 and it fell markedly in the last guarter of the year. The average unemployment rate increased by 0.4 p.p. in 2012, to 13.9%. This was because GDP growth was achieved through an improvement in labour productivity and it did not contribute to net job creation. Another reason why households cut spending on goods and services was the decline in consumer confidence.

Fiscal consolidation measures resulted in a real decline in general government final consumption, although the decline in 2012 was far lower than in 2011. According to an estimate of the Slovak Finance Ministry (MF SR), the general government deficit in 2012 was 4.8% of GDP, or one-tenth of a percentage point lower than in 2011.

Based on the MF SR's preliminary figures for 2012, the budget deficit and Slovakia's liabili-

ties to the ESM and EFSF are expected to have increased the government debt-to-GDP ratio by almost 10 percentage points. The ratio has therefore already exceeded the 50% threshold at which sanctions may be imposed under the Fiscal Responsibility Act. This fact, however, did not adversely affect sentiment towards Slovak government bonds, as demand for these securities actually increased and their yields to maturity were declining throughout the period under review. By the end of 2012, benchmark 10-year Slovak government bonds were trading at only 2.2%, 2.6 percentage points below their level at the beginning of the year.

The general government budget for 2013 assumes a substantial further increase in the fiscal consolidation effort, since the government's priority is to reduce the public deficit to 2.9% of GDP. To achieve this objective, the budget incorporates consolidation measures that have a combined impact of 3% of GDP, and these should be based more on the revenue side than on the expenditure side. The eventual effect of fiscal policy on aggregate demand in the economy is expected to be moderated by an assumed increase in the drawdown of EU funds. At the beginning of 2013, however, the Slovak Finance Ministry revised its projection for this year's tax and contribution revenues down from the figure stated in the budget. This means that if the deficit target is to be met, additional consolidation measures will be required.

Slovakia's economic growth will almost certainly decelerate further in 2013. According to the NBS forecast, GDP growth will slow to 0.7% in 2013, due mainly to lower export growth that reflects weakening foreign demand and a base effect. Household consumption is expected to stop falling and to be similar in real terms to its level in 2012. Although consumption should be boosted by falling inflation, it is expected to face downward pressure from the higher tax and contribution burden on natural persons and from a further decline in employment.





## DEVELOPMENTS IN THE SLOVAK FINANCIAL SECTOR



## **2 DEVELOPMENTS IN THE SLOVAK FINANCIAL SECTOR**

#### Most of the financial sector saw activity increase in 2012

Despite somewhat ambiguous macroeconomic developments, the Slovak financial sector fared relatively well in 2012. Activity increased in most segments, although the progress and causes of growth varied. In general, however, the financial sector was boosted by trends associated with the buoyancy of financial markets, with a moderate revival in lending for housing purposes, and with continuing growth in household financial assets. Consequently, the amount of assets held in banks, insurance companies, collective investment funds, and supplementary pension funds (Pillar III of the system) continued to increase and even accelerated moderately in the second half of the year.

Looking at the shares of financial market segments in the financial sector's total assets and assets under management, long-running trends continued in 2012, notably the sharp rise of Pillar II pension funds (partly at the expense of the banking sector growth rate). Pillar II funds therefore became the third largest segment of the domestic financial market, and, if current trends continue, could move into second place behind the banking sector. The trend decline in the shares of leasing and factoring continued in 2012, and investment firms also reported a slight drop.

#### ACTIVITY GROWTH WAS ACCOMPANIED BY A RISE IN OWN FUNDS

In this context, it is important that asset growth was not accompanied by a decline in own funds and that an external imbalance did not emerge in the form of an excessive increase in volatile funds. Beneficial for the Slovak financial sector was the fact that asset growth was funded not only through borrowing but also through a commensurate increase in own funds. In what is a good sign for financial stability, several financial market segments, including the banking sector, reported an increase in the own funds to total assets ratio in 2012.

#### THE FINANCIAL SECTOR'S CREDITOR POSITION VIS-À-VIS PARENT GROUPS INCREASED MODERATELY

A key aspect of the growth increase is the use of funds from the Eurosystem or from parent financial groups. In the case of the Slovak banking sector, both of these financial flows are partially related. On the one hand, the position of the banking

Chart 11 Ratio of own funds to total assets or



Chart 10 Financial market segments by their share of the financial sector's total assets and assets under management





Source: NBS.







sector as a net provider of intra-group liquidity increased sharply over 2012, from  $\in$ 700 million at the beginning of the year to  $\in$ 2 billion at the end. On the other hand, the sector's debtor position against the Eurosystem increased slightly, reflecting banks' use of central banking funding to repay intra-group liabilities. A detailed analysis is given in the section "Interbank Market".

## DIFFERENCES BETWEEN THE PROFITABILITY OF SEGMENTS INCREASED

The profitability of financial institutions in 2012 was affected by several different factors. The positive developments in financial markets contributed to higher sales of collective investment funds and also boosted profits in the pension scheme sector. The effect of interest-rate movements on profits was mixed. On the one hand, supplementary pension funds benefited from the upward effect of falling interest rates on bond prices. On the other hand, low interest rates made the position of insurance companies more difficult and put downward pressure on banks' interest income.

In the banking sector, a new special levy on financial institutions (the so-called bank tax) was also a factor in the sector's aggregate profit falling to its lowest level since the onset of the financial crisis.

All financial market segments benefited from the relatively favourable situation of households,

which increased their borrowing (especially in the form of housing loans) and also increased their investments in deposits, fund shares/units, and life-insurance products.

#### HOUSEHOLD FINANCIAL ASSETS INCREASED

The growth of household financial assets was relatively robust during 2012. Except in the first quarter, when households' total assets in collec-





tive investment funds continued to decline, all the main aggregates of household financial assets recorded uninterrupted growth. Later in the year there was not only an acceleration of asset growth, but also an exceptional combination of high growth in both bank deposits and investment fund shares/units (in the past it was common that deposits would increase at the expense of fund shares/units and vice versa).

The performance of household financial assets also picked up in 2012, especially in the case of asset funds and bond funds, which profited from the buoyancy of financial markets as well as from falling interest rates. At the same time, inter-bank competition prevented the decline in deposit rates from being larger. These factors resulted in an overall increase in returns on households assets, with the average return standing at close to the inflation rate for the first time since the end of 2010. Nevertheless, the average real performance of household financial assets remains in negative territory.

## Chart 15 Performance of household financial assets and consumer price inflation (%)



Note: The chart shows the average return on a basket of bank

deposits, insurance products, collective investment funds and pension funds.

Table 1 Select	ted financia	al relationsh	ips in the S	lovak econd	pmy (EUR n	nillions)							
			Dome	estic financial se	ector		Domest	ic non-financial	sector		Rest of tl	he world	
	NBS	Domestic banks	Insurers	Pillar II and Pillar III funds	Mutual funds	Other financial corporations	Households	Enterprises	General government	Non-resident banks	Non-resident mutual funds	Foreign general government and international institutions	Other
NBS		1,463 - 1,996	0 - 0	0-0	0 - 0	0-0	11 - 11	3.6 - 3.6		12,276 - 11,236		3,539 - 2,672	1,241 - 488
Domestic banks	671 - 763	613 - 734	0.04	- 16	0 - 0	1,054 - 883	16,352 - 17,839	15,676 - 15,134	12,282 - 12,793	3,288 - 4,083		1,530 - 724	1,876 - 1,891
Insurers	0 - 0	787 - 921			236 - 252				1,735 - 1,940				
Pillar II and Pillar III funds	0 - 0	1,459 - 1,437			88 - 77				1,832- 2,008				
Mutual funds	0 - 0	1,280 - 1,604			234 - 327				570 - 361				
Other financial corporations	119 - 146	39 - 70					1,342 - 1,357						
Households	40 - 38	24,522 - 26,596	3,460 - 3,706	5,766 - 6,778	2,538 - 2,856								
Enterprises	0 - 0	9,358 - 9,559			56 - 80						629 - 630		
General government	0.6 - 2,607	883 - 910			0.2 - 0.9								
Rest of the world	16,046 - 10,059	8,848 - 7,396			56 - 90			45,921 - 47,770					
		A direct relationshi	p is not assumed					Data are not availat	le				
Source: NBS.	Janese Datas	more 1100 red		initian of antonia	to the work of	thomas data	to at Contamp	10100 200					

Notes: Structure of cell data: December 2011 – December 2012 (for liabilities of enterprises to the rest of the world, data are as at September 201. Rows: overview of financial assets (loans and securities) invested in the institutions named in the columns. Columns: overview of liabilities (deposits and loans received) to institutions named in the rows. The figure for insurers represents technical provisions for life insurance and unit-linked products.

#### CHAPTER 2

NÁRODNÁ BANKA SLOVENSKA Eurosystém



### **2.1 THE BANKING SECTOR**

#### 2.1.1 TRENDS IN THE BANKING SECTOR BALANCE SHEET

Lending to households showed signs of recovery in the second half of 2012, though its year-on-year growth rate still lagged behind that observed in 2009. The slower lending growth was probably also a result of low property prices, which affect the volume of loans for house purchase. Despite this, Slovakia recorded the highest rate of housing loan growth in the European Union. The recovery was also stimulated by supply-side and demand-side factors. On the supply side, credit standards were kept unchanged or were eased in some of the banks. The growing demand for housing loans was probably driven to a large extent by falling lending rates, which led to increased loan refinancing and increased investment in housing. Customer interest rates showed a downward tendency as a result of the declining interbank rates, which, along with other factors, passed through to falling Slovak government bond yields.

Retail deposits continued to grow in 2012. They developed in a more balanced way than in the previous year, but the structure of new deposits changed to some extent. After giving preference to time deposits with longer maturities in 2011, households deposited their free funds in shorter-term deposit accounts in the first half of 2012, and in the second year-half they preferred sight deposits. The growing preference for shorter maturities was probably connected with the low level of interest rates. During 2012, also the share of sight deposits held with foreign bank branches increased.

Lending to non-financial corporations weakened, mainly in the second half of 2012, ending the year with an annual decline in the amount of corporate loans of roughly 3.5%. The slowdown in lending was driven by both demand-side and supply-side factors. After showing some signs of revival in the middle of 2012, demand for loans among non-financial corporations fell again. Unlike in the first half of the year, the weakening demand in the second half-year period was also connected with the corporate sector's worsening economic indicators. The slowdown in the year-on-year rate of export growth and sales growth was to a large extent caused by developments in the manufacture of transport equipment. The unfavourable trend in industry, however, was also a result of the worsening domestic environment. The negative expectations regarding the overall economic development in the individual industries or enterprises led to the tightening of credit standards in the banking sector, mainly in the form of a reduction in the maximum amount of a loan or credit line and stricter contractual conditions. These negative trends can be observed in the majority of euro area countries.

The total banks' securities portfolio underwent only minor changes in structure during the year. The dominant position of Slovak government bonds and Treasury bills strengthened to the detriment of foreign bonds. The securities issued by banks in the period under review comprised mainly mortgage bonds, predominantly fixed-coupon or zero-coupon bonds.

The structure of interbank operations was influenced during 2012 by auctions of three-year refinancing operations with the ECB and by the introduction of an extraordinary bank tax for selected financial institutions. As a result, financing from foreign banks and deposits held with banks and the ECB decreased in the first half of 2012. In the second half-year period, financing from foreign banks continued to decline, since the sector settled its interbank liabilities using largely funds received from non-financial corporations and households.

#### 2.1.1.1 CUSTOMERS

#### THE RETAIL SECTOR

#### LENDING SHOWED SIGNS OF REVIVAL; CREDIT STANDARD WERE EASED SOMEWHAT

The second half of 2012 saw a certain revival in retail lending, mainly at the turn of the third

and fourth quarters. Retail loans increased in volume by €926 million in the second half-year period, which was 20% more than in the second half of 2011. In the third quarter of 2012, some of the banks reclassified a significant amount of corporate loans into retail loans for house purchases. After the adjustment for this effect, the net increase in loans in the sec-







Chart 17 Changes in loan demand and in credit standards



ond half of 2012 was less than 10% larger than a year earlier.

Concerning retail loans, the increase was seen predominantly in housing loans (almost 90%). Despite this revival, the year-on-year growth in lending to households reached only 59% of its level observed in October 2008. This was due in large measure to the low property prices, which tend to reduce the amount of housing loans. At the end of 2012, the most rapidly growing housing loan market in the European Union was that of Slovakia.

The volume of loans was significantly influenced by the situation of banks and their lending capacity. While surveys conducted in selected banks in the third quarter of 2012 indicated that credit standards for housing loans continued to be tightened, lending conditions in the sector as a whole remained unchanged, or, in some of the banks, were relaxed. Expectations regarding the economic conditions and property market developments, which were the key factors in the tightening of credit standards for housing loans in the first half of 2012, had a marginal influence in the second half-year period. The easing of credit standards resulted in a decrease in margins for average loans, which was probably connected with the overall decline in interest rates. A positive factor, however, was that the easing of credit standards for house purchase loans was not reflected in the loan collateral requirements.

Concerning consumer loans, the supply side was virtually unchanged in the second half of the year. Although a certain group of banks restricted the provision of consumer loans to less solvent customers, this had no effect on the total amount of consumer loans provided. By contrast, the Slovak banking sector experienced a marked increase in demand for consumer loans in the second half of 2012 and was able to cover it by increased lending. The increase observed in the volume of consumer loans in the second half of 2012 was approximately 14.5% higher than in the same period a year earlier.

## DEMAND FOR LOANS CONTINUED TO GROW IN THE SECOND HALF OF **2012**

Although some of the banks recorded a fall in demand for housing loans in the third quarter of 2012, demand for house purchase loans grew over the second half of the year, though at a slower pace than in the first six months.





The decisive factor behind the growing loan demand was the downward trend in interest rates. Apart from a modest rise in July and August, the average interest rate on house purchase loans followed a falling trend during 2012, mainly in the final quarter, when the average rate for house purchase loans fell below the minimum seen in January 2011.

This scenario affected developments in bank lending in two ways. On the one hand, retail customers started to show increased interest in loan refinancing. A similar development was recorded also in 2011, the only difference being that customers in 2012 responded more sensitively to interest rate changes: after responding with a delay of roughly one quarter in 2011, retail customers in 2012 responded almost immediately.

On the other hand, the low interest rates and relatively stable property prices encouraged households to invest in house purchases. This was indicated by a marked increase in the house purchase loan portfolio, as well as by the increased willingness of households to invest in residential property despite the falling consumer confidence.

# Chart 19 Consumer confidence and expected property investments



## INTEREST RATES ON HOUSE PURCHASE LOANS FELL IN THE FINAL QUARTER OF 2012

The downward trend in interest rates on house purchase loans in 2012 was observed not only



#### Notes: The simulated interest rate is based on a macroeconomic model. Further details can be found in Klacso, J., Analysis of retail lending rates for house purchase loans with a fixation period of up to one year, Biatec, No. 8/2010, Bratislava, 2010.

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in the sector as a whole, but also in individual banks. The average rate was influenced by the interest rate policies of certain large banks, which caused a modest interest rate rise in July and August and a sharp interest rate fall in the final quarter of 2012.

Interest rates in the second half of 2012 reflected the changes in market factors; the fall in interest rates was not a result of competition among banks. The average interest rate in the first and second half-year periods followed the same formula – a reduction in the key ECB interest rates in December 2011 and July 2012, leading to a fall in the price of money in the interbank market and a fall in government bond yields. As a result, interest rates dropped to a lower level at which they stabilised.

#### **R**ETAIL DEPOSITS GREW AT A STEADY PACE; INTEREST RATES DECLINED IN LINE WITH THE MARKET FACTORS

During the second half of 2012, overall retail deposits increased by more than  $\in$ 730 million, which was comparable with the figure for the first six months. Irrespective of the seasonal effects, deposit growth in 2012, mainly in the second half-year period, was more balanced than in 2011.

The year 2012 saw a number of changes in the composition of new deposits. Following a massive shift of funds from collective investment funds and sight deposits into long-term time deposits in 2011, retail customers gave preference to time deposits with shorter maturities in the first half of 2012. In the second half of the year, when part of these time deposits matured, households shifted their funds into sight deposits in particular. Thus, the volume of sight deposits of households returned to the level observed in 2010.

The fact that retail customers kept their funds on sight deposit accounts may be taken as a reflection of the low interest levels.

In the last one and a half years, changes were also observed in the distribution of deposits among foreign banks' branches and domiciled banks. The most significant changes were recorded in sight deposits. At the beginning of 2011, branches of foreign banks held approximately 6% of total sight deposits. This share increased to stand at more than 9.5% in December 2012. In the case of time deposits, branches of foreign banks accounted for less than 4%. This development was mainly influenced by a group of retail-oriented



#### NBS Analysis of the Slovak Financial Sector 2012

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branches. These deposits, however, are not used exclusively for financing in Slovakia; some of them are used abroad.

During 2012, the effect of competition on the average interest rate on time deposits remained unchanged.

#### THE CORPORATE SECTOR

#### MODEST DECLINE IN LOAN DEMAND

Despite showing signs of revival in the middle of 2012, demand for loans weakened again towards the end of year amid negative expectations. The majority of banks expected a further fall in loan demand in the corporate sector at the beginning of 2013. These developments were consistent with the situation in the euro area, where loan demand among firms declined, as well as banks' expectations regarding the first quarter of 2013.

Unlike in the first half of 2012, some of the sector's hard indicators worsened slightly at the end of the year. An important factor in this context was the downturn in numerous European economies towards the end of the year, resulting in a slowdown in the annual rate of export growth to 1.5% in December, compared with the average for the first eleven months (12.1%). The slower export growth was also accompanied by a slowdown in sales growth in the Slovak corporate sector at the end of the year. Paradoxically, this slowdown was caused mainly by a more than 10% sales decline in the manufacture of transport equipment, which is deemed to be a crucial factor in economic growth in the long term. Although such development is not exceptional in the EU (where a sharper average decline was recorded in automobile production than in Slovakia), this sector is vitally important for the Slovak economy.

The slowdown in exports, however, was not the only factor that complicated the situation in industry. Industrial orders decreased in December, from both abroad and the domestic market.

There are numerous other sectors where loan demand did not undergo a revival, despite the continuing fall in interest rates on corporate loans. This was mainly the result of unfavourable news and forecasts regarding macroeconomic developments in the euro area. In this context, the orientation of Slovak exports to the euro area (except for Germany) continued to change gradually in the last few months, in favour of the neighbouring countries.





Note: Left-hand scale shows year-on-year changes.







#### **F**URTHER TIGHTENING OF CREDIT STANDARDS

Besides the fall in demand, the tightening of bank lending standards also contributed to the slowdown in credit flows. Credit standards were tightened mainly in the second half of 2012 in response to expectations regarding the general economic situation and the prospects of specific sectors or enterprises. Like the decline in demand, this trend was very widespread across the euro area. Compared with the euro area, however, the domestic banking sector had enough capital and liquidity, which could contribute to the revival of bank lending under favourable economic circumstances.

The tightening of credit standards was most apparent in the reduced upper limit for loans or credit lines and in the stricter contractual terms and conditions. Interest rate margins were affected to a lesser extent: only in the case of smaller loans provided to small and medium-sized enterprises.

#### **S**LOWDOWN IN THE FLOW OF LOANS

The weakening demand and more prudent lending policy led to a slowdown in lending activity, mainly in the second half of 2012. In December 2012, the volume of loans to enterprises fell yearon-year by 3.5%<sup>1</sup>. In 2012, the net decrease in the loan portfolio was almost twice as large as in the crisis year of 2009. Thus, the volume of loans provided dropped to the level of autumn 2008. Hence, the weight of this loan portfolio continued to decrease slightly in the banking sector's balance sheet, as well as in its overall lending activity.

The decrease in loans was relatively homogeneous and affected most of the main sectors of economy, which points to the macroeconomic character of this phenomenon. As in the past, the only positive exception was the sector of electricity, water and gas supply.

The situation, however, changed somewhat from the viewpoint of financing banks. Concentration increased still further in this sector: three banks with the largest share held more than half of the corporate loans.

#### NO SIGNIFICANT CHANGES IN CORPORATE DEPOSITS

The total amount of corporate deposits showed no clear tendency in 2012. A positive development was a modest increase in sight deposits, which was probably connected with the need for liquidity in the corporate sector.

A certain change, however, was observed in interest rates on corporate deposits. In the past, the average rate for corporate deposits used to be below the level of 1-month Euribor. In 2012, however, the fall in interbank market rates was reflected in corporate deposit rates to a lesser extent. As a result, the rates for corporate depos-

1 After a portfolio reclassification of corporate loans and retail loans in certain banks, the year-on-year decline would be 3.2%.





Chart 28 Bonds issued in selected countries as a share of the overall securities portfolio (%)



its were higher than the one-month interbank rates. The effects of this trend are described in more detail in the chapter 'Financial Position of the Banking sector'.

#### 2.1.1.2 SECURITIES

#### GROWING SHARE OF SLOVAK GOVERNMENT BONDS AND TREASURY BILLS IN THE OVERALL SECURITIES PORTFOLIO

The composition of the securities portfolio underwent only slight changes in 2012. The sector as a whole continued to be dominated by investment in Slovak government bonds. Their dominant position strengthened still further during the year (the share of domestic government bonds in the overall portfolio increased from 81% as at end-2011 to 87% as at end-2012). This was due to an increase in the amount of domestic government bonds and a decrease in that of foreign government bonds. The most significant decrease occurred in March, owing to the restructuring of Greek government bonds. As a result, the volume of investments in foreign government bonds fell from €1.3 billion to €0.9 billion. In the following period the decline in volume continued, but to a lesser extent, owing mainly to the maturity and sales of bonds rather than to a fall in their fair value.

The decline in investments in foreign government bonds was also reflected in the decreasing volume of investments in bonds issued in higherrisk countries. Compared with the end of 2011, investment activity declined mainly in relation to Greek, Italian, and Irish bonds. Thus, the weight of these bonds in the overall securities portfolio decreased still further. Despite their decreasing weight, however, these bonds remained concentrated in several banks.

The portfolio structure remained virtually unchanged: securities held to maturity (HTM) continued to account for 54% to 59%, securities available for sale (AFS) represented roughly one-third of the securities portfolio with a share of 30% to 36%.

#### BOND ISSUANCE CONTINUED TO BE DOMINATED BY MORTGAGE BONDS

In 2012, Slovak banks continued to issue mostly mortgage bonds, which accounted for more than 75% of all securities issued and for more than 87% of all debt securities issued. In addition to mortgage bonds, banks also issued subordinated bonds, other bonds, investment certificates, bills of exchange, and equities.

The main factors affecting the issuance of mortgage bonds during 2012 continued to be the amount of maturing mortgage bonds and the grow rate of mortgage lending. Every bank complied with the statutory requirement set out





Chart 29 Mortgage-bond coverage of

Notes: The chart illustrates the upper quartile, lower quartile, minimum, maximum, and average (weighted by the amount of loans) coverage of mortgage loans in the banking sector.

for the mortgage-bond coverage of mortgage loans.

#### HIGH PROPORTION OF FIXED-COUPON OR ZERO-COUPON MORTGAGE BONDS; THE OTHER PARAMETERS WERE IN LINE WITH THE LONG-TERM TRENDS

More than 90% of the mortgage bonds issued in 2012 were fixed-coupon bonds (including zerocoupon bonds), while the coupons of the remaining bonds were tied to the 3-month Euribor rate (with a margin ranging from 0.9 to 2 percentage points). In the first quarter, banks offered a relatively large part of their mortgage bond issues to retail investors (over 50%), which may explain the high proportion of fixed-coupon bonds. In the following quarters, mortgage bonds were sold largely to institutional investors. Hence, decisions to issue fixed-coupon bond must have been shaped by other factors. One of them was probably the historically low level of interbank rates and domestic government bond yields. Since interbank rates can be assumed to rise in the years ahead (the issues had an average maturity of 3.7 to 5.8 years in the individual quarters), fixed-coupon bond issues constitute a form of hedge against interest rate risk and/or against increased interest expenses in connection with these issues. Decisions concerning the form of the coupon rate were probably also influenced by demand-side factors.

The average maturity and average spread of government bonds followed the long-term trends over the course of 2012.

#### 2.1.1.3 INTERBANK MARKET

## STRUCTURAL CHANGES IN INTERBANK OPERATIONS DURING THE FIRST HALF OF 2012

The structure of interbank operations underwent certain changes in 2012, mainly as a result of two events. The first was the participation of Slovak banks in the ECB's auctions of three-year refinancing operations (3Y LTROs) in December 2011 and March 2012. They used most of the funding to settle their interbank liabilities or other volatile liabilities (borrowings from non-residents, enterprises, general government). To a lesser extent, the funds were placed in overnight deposits with the ECB or invested in securities. Since the banking sector had sufficient funds in 2012, the funding from the ECB was used only in part for financing the real economy through corporate or retail loans.

The structure of interbank operations was, in all probability, affected by the introduction of the additional bank tax. As a result of this tax, general government funding and other more volatile funding became more expensive and therefore less attractive for the banking sector. Hence, interbank liabilities and other claims (deposits from non-residents, general government, and enterprises) recorded a decrease of €2.4 billion as at end-June, which can be assumed to be the result of banks' increased efforts to mitigate the negative impact of the bank tax on their profits. On the asset side, decreases were recorded mainly in deposits held with the ECB (down to €1.8 billion as at end-May, the highest figure since February 2009) and in deposits with other banks.

#### FINANCING FROM FOREIGN BANKS CONTINUED TO DECLINE IN THE SECOND HALF OF **2012**; OTHER ITEMS FOLLOWED THE TRENDS FROM THE PREVIOUS PERIOD

In the following period, the changes in interbank assets and liabilities were less pronounced and more consistent with the trends from the previous period, when interbank assets and liabilities mitigated or eliminated the effects of changes in other more volatile balance-sheet items. During July to September, the volume of deposits taken



from the general government sector continued to decline, as well as the volume of free funds held with the ECB, but at a more moderate pace than in June.

Financing from foreign banks also continued to decline in volume throughout the second half of the year. This was caused to some extent by the closure of several foreign bank branches. The decline, however, was accompanied by an increase in the amount of funds received from other entities (mainly in the form of corporate and retail deposits), rather than by a decrease in the amount of assets (mainly interbank assets). Despite this, the share of interbank funds in the banking sector's total assets decreased still further in 2012, which can be assessed as a positive trend from the view of financial stability.

#### IMPLIED INTEREST RATES REMAINED IN LINE WITH EURIBOR RATES DURING 2012

Implied interbank market rates continued to fall in line with Euribor rates during the year, mainly the rates implied from operations with domestic banks. The rates implied from operations with foreign banks followed a more volatile course and reached higher values, which was probably also due to the falling volume of these operations. The volume of deposits from foreign banks decreased, nevertheless, mostly longer-term intra-group deposits remained in the sector. These deposits provide higher remuneration than short-term deposits. Thus, the higher implied rates for deposits from foreign banks compared with those for operations with domestic banks were caused by structural changes and differences, rather than by an increase of foreign banks' risk perception of domestic banks.

Euribor rates were falling throughout the year (particularly the longer-term rates, i.e. over 4 months), mainly as a result of auctions in three-year LTROs and a reduction in the key ECB rate for the main refinancing operations to 0.75% with effect from July 2012. The entire interest rate curve was below the level of the key ECB rate for the main refinancing operations.



#### Source: NBS.

Notes: Average rate for non-residents – indicates the average interest rate on interbank deposits taken from non-resident banks. Average rate for residents – indicates the average interest rate on interbank deposits taken from resident banks.

The interest rates are calculated on the basis of the stock of shortterm loans and deposits (with maturities of up to one year) received in euro as at the end of each month.

The rates were calculated as an average weighted by the volume of individual transactions.

The spreads were calculated as the difference in interest rates between the bank with the highest average rate and the bank with the lowest average rate.



#### 2.1.2 FINANCIAL POSITION OF THE BANKING SECTOR

The aggregate net profit, according to data reported by banks, declined by almost one-third in yearon-year terms. This was largely explained, on the one hand, by the imposition of an extraordinary bank levy and, on the other hand, by an increase in credit risk costs in the loan and guarantee portfolio. Bank profits were further squeezed by the continuing decrease in interest margins. In an environment of falling interest rates, returns on the corporate loan portfolio declined, while elevated competition was reflected in higher retail deposit costs. Banks were unable to increase lending activity to an extent that would compensate for the lower interest rate margins, and, in addition, their fee income remained flat (after rising in the previous period).

As regards the further development of downside risks to bank profits, it is positive that most banks ensured sufficient provisioning despite a noticeable increase in the amount of non-performing loans. The mitigation of future risks was also supported by the fact that this provisioning substantially exceeded the increase in non-performing loans, particularly in the corporate portfolio, which has a lower loan-to-value ratio. This fact is perceived as positive in the context of the main risks for the banking sector of the EU, as identified by the ECB in its 'Financial Stability Report for December 2012'. One of these risks is uncertainty regarding the adequacy of loan-loss provisioning and the need to monitor the easing of contractual conditions on the part of banks with a view to preventing the occurrence of credit events.

The capital adequacy ratio (CAR) increased in 2012 to its highest level since 2005. This was largely because a significant share of the sector's 2011 profit was retained, and also due to a direct increase in equity capital and to an upward revaluation of debt securities in the available-for-sale portfolio. Banks using the Internal Rating Based Approach for credit risk measurement witnessed a decrease in risk weights for credit exposures to the retail or corporate sectors, which further contributed to the CAR increase. One reason for this trend may partly be the declining trend in the default rate, as well as to banks' active policy regarding the sale of non-performing loans. As a result of these trends, the Slovak banking sector reported adequate self-sufficiency in terms of solvency and in comparison with the banking sectors of other countries.

#### 2.1.2.1 PROFITABILITY

#### **BANKING SECTOR PROFIT DECLINED**

The banking sector's net profit for 2012 amounted to  $\in$ 480 million<sup>2</sup>, representing a year-on-year decline of 29%. Four banks and nine branches of foreign banks ended the year with a loss.

The year-on-year decline in the sector's profit was affected by three factors. The first was the imposition of a specific and an extraordinary bank levy<sup>3</sup>. The second key factor was an increase in credit risk costs. The third factor behind the profit decline was a fall in net interest income. This factor was less significant than the former two. On the other hand, a marked positive effect on bank profits was exerted by the positive trend in the value of debt securities in the portfolio of financial instruments held for trading. After a considerable revaluation loss in the previous year, the value of these securities increased again. A more detailed description of the factors behind the year-on-year change in the banking sector's profit is available in Table 2.

Chart 31 shows that profits in the first three quarters of 2012 were relatively stable, but then fell considerably in the final quarter. This can be explained by the fact that the negative effect of increased expenses related to the depreciation of claims and the effect of bank levy-related expenses occurred in that particular period.

Bank levy (the total sum of the specific and the extraordinary bank levy) for the banking sector as whole in 2012 was collected from the sector in the total amount of  $\in$ 170 million, representing 35% of the reported aggregate profit. With the income tax reduction (by  $\in$ 51 million year-on-year) and deposit insurance reduction taken into account, the total amount of transfers to

- 2 This amount also includes the financial results of those branches of foreign banks that ended their operations in 2012. With these branches of foreign banks left out of account, the aggregate net profit amounted to €488 million.
- 3 The bank levy was introduced on 1 January 2012, in the amount of 0.4% of foreign liabilities except for retail deposits. With effect from 1 October 2012, however, the bank levy has been increased still further; banks are now required to pay a levy of 0.4% on retail deposits too (instead of 0.2%, which was previously paid to the Deposit Protection Fund).





Table 2 Year-on-year changes in the sector's net profit in 2012 (EUR millions)				
	Factor	Amount		
Net profit in 2011		674		
	Net increase in transfers to state budget	-105		
Nogativo offosts	Increase in costs related to credit risk	-126		
Negative enects	Increase in expenses on retail deposits	-51		
	Decrease in return on corporate loans	-77		
Positive effects	Increase in net interest income due to growth in amount of retail loans	52		
	Increase in net income from trading	131		
Other effects		-13		
Net profit in 2012		486		
Source: NBS.				

Chart 31 Quarterly and annual changes in profits (EUR millions)



the national budget increased by  $\in 105$  million. Without this increase (if the bank levy had not been in force), the year-on-year drop in the sector's net profit would have been only 12%.

The ongoing discussions about the introduction of a new tax on financial transactions indicate that the negative impact of transfers to the national budget will probably increase still further in the future. The tax on financial transactions, however, is expected to affect the sector's profitability to a lesser extent than bank levy. Net interest income, which was a key factor contributing to the sector's profitability before 2011, recorded a decrease in 2012. A significant change in comparison with 2011 was the pressure on interest margins in both the retail and corporate sectors, which greatly contributed to the fall in net interest income and fee income (Chart 31). In the retail sector, this situation was caused partly by the relatively strong competition in the banking sector, mainly at the end of 2011 and in the first half of 2012. Another factor was an increase in the share of time deposits to the detriment of current accounts in the first half of 2012. Although both trends were observed in the first half of 2012, they caused the overall cost of household deposits to increase year-on-year from 1.34% to 1.56%. At the same time, returns on household loans remained unchanged. The growing trend in the cost of retail deposits intensified still further during the year of 2012. On the other hand, pressure on interest margins in the corporate sector was mainly recorded on the side of interest income from loans, which reflected the fall in interest rates. On the side of deposits, this fall was not accompanied by a decrease in the cost of deposits, while, towards the end of 2012, interest rates on corporate deposits slightly exceeded the level of average interbank market rates, which was a non-standard development. The rate of return on loans dropped from 4.12% to 3.65%, but the cost of deposits fell only slightly, from 1.35% to 1.30%.



Apart from the decrease in interest margins, the level of net interest and fee income was also affected by the slowdown in lending activity. Although the average outstanding amount of loans in the retail and corporate sectors (average of outstanding amount of loans calculated for the whole year) increased year-on-year in 2012, the contribution of this increase to net income growth was much smaller than in 2011. This trend is likely to continue in 2013 in negative territory, owing to the continuing slowdown in lending activity in the corporate sector, which resulted in a year-on-year fall in the outstanding amount of loans at the end of 2012. Net interest income also decreased in the case of securities, mainly as a result of a downturn in investment in securities.

The overall impact of these changes on banks' balance sheets is illustrated in Chart 33. As a result of slower growth in the ratio of loans to customers to total assets, falling interest rates, and intensifying competition among credit institutions on the side of resources, the growth in net interest income and fee income came to a halt. Apart from the changes in banks' interest mar-



Note: The chart shows the year-on-year changes in the sum of net interest income and net fee income in the individual sectors in 2011 and 2012, broken down by the factor behind the change.

Chart 33 Year-on-year changes in net return on assets (excluding the cost of revaluation to fair value) and their structure (%)



gins, net return on assets (comprising net interest income, fee income, and credit risk costs) was affected by the growing credit risk costs to a far greater extent.

In the corporate sector, loan-loss provisioning costs increased mainly in the fourth quarter of 2012 (Chart 34). In this period, banks recorded a marked increase in provisioning costs, mainly as a result of a marked increase in the amount of non-performing loans. A certain risk in this connection consisted in the fact that net provisioning costs in the fourth quarter of 2012 were lower than the increase in non-performing loans. In the previous quarters, this was the other way around.

Credit risk costs in the retail and corporate sectors differed in amount only in the fourth quarter. Differences in structure were also observed in the first three quarters, when credit risk costs in the retail and corporate sectors were comparable in terms of amount. In the case of retail claims, expenses related to the sale or write-off of these claims accounted for a higher share, so they compensated for the lower amount of provisions in this sector.



Chart 34 Credit risk costs incurred in 2012 compared with the growing amount of non-performing loans (EUR millions)



#### Source: NBS.

Notes: The increase in non-performing loans represents the net change in amount of non-performing loans in the given quarter, not including the decrease in the amount of non-performing loans as a result of sales, so that it can be directly compared with the amount of provisions.

Credit risk costs do not include the creation of reserves, because this cannot be broken down by sector. Reserves in 2012 were created in the total amount of  $\notin$ 36 million.

#### Chart 35 Comparison of net provisioning costs and changes in amount of non-performing loans in 2012 (% of own funds)



#### Source: NBS.

Notes: The chart does not show branches of foreign banks and selected banks.

The horizontal scale shows the changes in amount of non-performing loans (excluding claims writen off or sold) as a share of own funds.

The vertical axis shows the net provisioning costs (excluding net expenses on claims written off or sold) as a share of own funds. Banks illustrated in the lower part of the chart on the right-hand side can be classified as more risky, since the amount of provisions created in 2012 was smaller than the increase in non-performing loans.

#### 2.1.2.2 CAPITAL REQUIREMENTS

The capital adequacy ratio (CAR) of the banking sector as a whole increased to a historical high over the first half of 2012, and remained at that level until the end of the year. In view of the persisting uncertainty surrounding the risks associated with macroeconomic and financial market developments, this was a highly positive trend. At the end of the year, the Slovak banking sector's capital adequacy ratio stood at 15.7%. The core capital adequacy ratio (i.e. Tier I ratio) reached 14.7%. With the lowest individual Tier I ratio standing at 10.9%, every bank complied with the statutory capital requirement with a sufficient margin, as well as with the Recommendation on Capital Adequacy issued by NBS on 16 January 2012 for the support of financial sector stability, according to which bank should maintain a Tier I capital adequacy ratio of at least 9%.

The increase in the capital adequacy ratio (Table 3) was caused by three factors:

## Chart 36 Capital adequacy in the banking sector (%)



Note: The horizontal line represents the regulatory limit set for the capital adequacy ratio (8%).



Table 3 Changes in	Table 3 Changes in the sector's aggregate capital adequacy ratio during 2012			
		Capital adequacy ratio (value / change)		
Capital adequacy ratio	(December 2011)	13.4		
	Share capital and share premium	0.4		
	Revaluation of securities held for sale	0.9		
Changes in amount of own funds	Retained profit / loss from previous years, capital funds, ap- proved current profit or loss in 2012	0.8		
	Surplus of expected loss over provisions	-0.2		
	Subordinated debt	-0.5		
	Increase in capital requirement for credit risk under the standardised approach	-0.1		
Changes in amount of capital	Reduction in capital requirement for credit risk under the IRB approach	0.8		
requirement	Increase in capital requirement as a result of transition to the IRB approach	-0.2		
	Other effects	0.3		
Capital adequacy ratio (December 2012)		15.7		
Source: NBS. Note: Figure are in % or p.p.				

- increase in banks' own funds as a result of retained profits from the previous year and/or a direct increase in equity capital;
- increase in the value of bonds in the availablefor-sale portfolio as a result of a general price increase in the bond market in 2012;
- optimisation of the capital requirement for banks using the Internal Rating Based Approach for credit risk management.

From the view of the banking sector's stability, the first of the above factors was the most significant. This factor contributed significantly to the strengthening of particular banks' capital position, as well as to the resilience of the banking sector as a whole, and is therefore classified as highly positive.

The second factor (increase in the value of bonds in the available-for-sale portfolio) also helped banks to strengthen their capital position. This can be explained by the fact that an upward revaluation of debt and equity securities in the available-for-sale portfolio increases the value of own funds. Thus, the falling interest rates in 2012, which were responsible for the rise in bond prices, strengthened the capital position of banks. The third factor was a reduction in the capital requirement. Such reduction was only reported by three banks using an Internal Rating Based Approach; the other banks left the capital requirement unchanged or increased it somewhat. In the case of banks using an Internal Rating Based Approach, the capital requirement reduction was due mainly to a decrease in the average risk weight, which enabled these banks to reduce the capital requirement while increasing their exposures.

#### **C**APITAL ADEQUACY ALSO IMPROVED IN THE PARENT BANKS

Since the leading banks operating in Slovakia are subsidiaries of foreign banks, the solvency of these parent banks is an important factor for the Slovak banking sector's stability. Although the solvency of parent banks increased to a lesser extent than that of Slovak banks, all the parent banks had an adequate capital buffer on a consolidated basis: the minimum capital adequacy ratio stood at 10.2% as at 30 September 2012 (Chart 37). As a result of capital adequacy improvement in Slovak banks, the difference between Slovak banks and their parent institutions increased.








THE SLOVAK BANKING SECTOR HAS AN ADEQUATE SOLVENCY RATIO WHEN COMPARED WITH THAT IN OTHER COUNTRIES

The international comparison below (Chart 38) shows that the Slovak banking sector maintains its core capital adequacy ratio above the EU av-

erage, which is important for the self-sufficiency of Slovak banks. The chart also indicates that the sector's capital adequacy is at a historical high, but is not excessively high in comparison with that in other countries.



## **2.2 THE INSURANCE SECTOR**

The aggregate profit of insurance companies in 2012 declined by 20% year-on-year. However, this was mainly due to the high profit in 2011. Despite this, the sector's 2012 profit was still relatively high. The number of loss-making insurance companies decreased and the distribution of profits narrowed. The solvency of insurance companies increased markedly due to gains from the revaluation of securities in the available-for-sale portfolio. However, these gains resulting from falling interest rates serve as a buffer against a potential rise in interest rates. From the risk management perspective, insurance companies should in future create provisions for losses from rising interest rates on the revaluation of bonds they are currently purchasing for their portfolio.

The trends in the life insurance segment continued from 2011. Premiums increased as a result of strong growth in unit-linked and supplementary insurance contracts, while traditional life insurance premiums and contracts continued to decline. The amount and frequency of policy surrenders increased in all insurance lines. In unit-linked insurance, claims costs not related to surrenders also rose, as policyholders survived to the age stipulated in their life insurance contracts.

In non-life insurance, premiums fell in motor third-party liability insurance, motor vehicle insurance, and property insurance. Owing to a lower loss ratio, the combined ratio for the non-life insurance segment as a whole decreased and was lower than 100% for each insurance line therein.

After the financial market had calmed, provisions for unit-linked insurance policies began to rise again, owing partly to the allocation of new premiums, as well as to investment income. The deficit provision created on the basis of a provisions adequacy test increased, and its adequacy, during the current period of low interest rates, became a significant factor in risk management in the life insurance segment. The asset-coverage of technical provisions increased sharply, and the share of government bonds recorded the major increase owing to the upward revaluation of these assets.

#### **P**REMIUMS DECLINED SOMEWHAT <sup>4</sup>

After rising slightly in 2010 and 2011, insurance premiums declined somewhat in 2012, particularly in non-life insurance.



The decline in non-life insurance premiums was caused mainly by a sharp fall in premiums in the motor insurance<sup>5</sup> and property insurance lines.

Life insurance premiums continued to grow slowly, mainly in unit-linked insurance and supplementary insurance. There were positive trends in new business in all lines of life insurance, except in pension insurance. The number of life insurance contracts increased slightly.

Premiums in 2012 totalled €2.04 billion, representing a year-on-year decline of 0.1%. Life insurance premiums increased year-on-year by 1.7% to €1.11 billion, while non-life insurance premiums decreased by 2.3% to €0.92 billion.

## LINES OF LIFE INSURANCE

The strongest performing line of business was unit-linked insurance (where the benefit depends on the value of fund units, with the policyholder bearing the investment risk). Unit-linked premiums increased year-on-year

- 4 Insurance premium can be defined as the price agreed in individual insurance contracts irrespective of the method of financial reporting.
- 5 The motor insurance line includes motor third-party liability (MTPL) insurance and motor vehicle insurance.





by 6.3% and thus strengthened its share of the life insurance market still further, to 32.3%. New policy premiums rose to 27.5% of the total annual amount. The number of contracts increased year-on-year by 4.4%. Claim costs in unit-linked insurance increased significantly (by 56.3%), mainly as a result of costs related to policy surrenders and assurance on survival to a stipulated age. The surrender rate rose from 16.1% in 2011 to 26.8% in 2012. The frequency of policy surrenders increased by 2 p.p. year-on-year, to 11.3%.

Traditional life insurance products<sup>6</sup> continued to experience unfavourable developments, with premiums decreasing by 1.6%. New business grew slightly in year-on-year terms, but the number of insurance contracts fell again (by 6.9%). Claim costs increased by 2.1%, mainly as a result of policy surrenders.

In the third largest line of business, i.e. supplementary insurance, premiums grew by 6.4%. Claim costs also increased, by 16.9% (due to policy surrenders).

Pension insurance saw a further marked drop in premiums (by 10.7% year-on-year). The number of contracts decreased by 14.5%.

#### LINES OF NON-LIFE INSURANCE

The negative trend that started at the beginning of 2012 persisted throughout the period under review.

Premiums declined most significantly in motor vehicle insurance (by 5.5% year-on-year). The number of new policies increased by 10.0%, that of extended contracts fell slightly (by 0.9%), and thus the total number of motor vehicle insurance contracts grew by 2.3%. In motor vehicle insurance, premium prices in extended policies fell only slightly, but the average premium price in new policies dropped by 18.2%. Even though the number of claims increased, claim costs in this segment went down by 6.4% year-on-year.

Premiums in motor third-party liability (MTPL) insurance recorded a year-on-year decline of 3.6%. The total number of MTPL insurance policies increased by 1.9%, but while the number of extended policies grew by 4.3%, that of new policies fell by 3.9%, which may be a sign of stabilisation in insurance portfolios. The average premium price fell further, by 5.1% year-on-year (with a decline recorded in both new and extended contracts). The number of claims under MTPL policies decreased year-on-year by a marked 18.7% and the amount of claims fell by 9.5% to stand at €146.8 million as at 31 December 2012.



<sup>6</sup> Traditional life insurance includes assurance on death, assurance on survival to a stipulated age, mixed assurance, and capital life insurance except for unit-linked insurance.







Premiums also declined in another significant line of non-life insurance, i.e. property insurance (by 1.2%). The number of extended policies increased in year-on-year terms, pushing up the total number of contracts to some extent, but the number of new contracts dropped by 9.7%. Claim costs in this line of insurance fell by 22.0% year-on-year.

The long downward trend in premium prices is putting upward pressure on the hard indicators – loss ratio, expense ratio, and combined ratio – used in assessing the rate of return in non-life insurance.

Chart 42 shows the development of these indicators over the last five years for both segments of motor insurance. Motor vehicle insurance appears to be less profitable. It is evident that there has been little fluctuation in the loss, expense and combined ratios of the motor insurance line as a whole and that the two motor insurance lines are interconnected.

## **INSURANCE CLAIM COSTS<sup>7</sup>**

Aggregate insurance claim costs in 2012 remained at the level of 2011 (€1.18 billion). In life insurance, claim costs increased by 10% to €724.9 million, while in non-life insurance they decreased by 12.8% to €451.6 million.



Claim costs in life insurance were driven up mainly by an increase in the amount claimed through policy surrenders in both traditional and unitlinked insurance. The annual rate of growth in life insurance claim costs had been steadily falling since 2008.

Claim costs in non-life insurance are assessed using the loss ratio, i.e. the ratio of claim costs to earned



7 NBS analysed the technical costs of insurance claims in the same way as it did premiums. Hereinafter, the term 'claim costs' means 'technical claim costs'.





## Table 4 The loss ratio, expense ratio, and combined ratio in non-life insurance lines for 2012(%)

	Loss ratio	Expense ratio	Combined ratio
Life insurance – supplementary insurance	34.0	40.9	75.0
Accident and sickness insurance	43.6	40.0	83.6
Motor third-party liability insurance	51.7	28.5	80.3
Motor vehicle insurance	65.6	33.6	99.2
Other transport insurance	42.4	29.8	72.2
Carrier's liability insurance	27.9	32.9	60.8
Property insurance	30.1	35.2	65.3
General liability insurance	31.0	32.6	63.6
Credit insurance, surety insurance, and miscellane- ous financial loss insurance	18.4	44.3	62.7
Legal protection insurance	22.4	74.7	97.1
Assistance insurance	33.4	42.4	75.8
Active reinsurance	34.2	21.1	55.3
Total	46.8	32.9	79.7
Source: NBS.			

premiums. The loss ratio for non-life insurance as a whole fell by 1.6 percentage points compared with the previous period, to 46.8%, its lowest level since 2005. The loss ratio fell in year-on-year terms in all the major lines of business, i.e. in MTPL insurance by 2.7 percentage points, in motor vehicle insurance by 0.1 percentage point, and in property insurance by 1.3 percentage points.

The combined ratio, which takes into account both technical costs and operating expenses related to insurance activities, also fell in year-on-year terms, by 1.7 percentage points to 79.7%.

#### THE REINSURANCE RATIO<sup>8</sup> REMAINED STABLE

The premiums that Slovak insurers ceded to reinsurers in 2012 amounted to  $\in$ 294 million, which was almost identical to the figure for 2011. The reinsurance ratio in non-life insurance increased somewhat (to 30%), as a result of a fall in premiums. In life insurance, the reinsurance ratio remained unchanged, at 1.7%.

The reinsurance ratio also remained virtually unchanged in the majority of insurance lines. The lines of business with the highest reinsurance ratios continued to be active reinsurance, legal protection insurance, and other transport insurance. Low reinsurance ratios were recorded in all lines of life insurance, accident and sickness insurance,

## 40 35 30 25 20 15 10 5 0 00 2010 2011 201 Non-life insurance - reinsurance ratio for premiums Non-life insurance - reinsurance ratio for claim costs Life insurance – reinsurance ratio for premiums Life insurance – reinsurance ratio for claim cost Source: NBS.

Chart 45 Reinsurance ratios (%)

motor vehicle insurance, credit insurance, surety insurance and miscellaneous financial loss insurance.

The reinsurance ratio for claim costs<sup>9</sup> fell by 5 percentage points, mainly because this ratio in property insurance dropped from 65% in 2011 to 43% in 2012. This was connected with the fact that,

- 8 Premiums ceded to reinsurers as a share of total premiums.9 Claim costs ceded to reinsurers as
- a share of total claim costs.

41



in 2012, there were less major insurance events where the effect of reinsurance is most evident.

## THE MARKED INCREASE IN TECHNICAL PROVISIONS WAS COVERED BY GOVERNMENT BONDS

After falling in 2011, the sector's total technical provisions started to increase again in 2012 and ended the year at  $\in$ 4.86 billion. The increase was driven by technical provisions in life insurance, which grew steadily during the year. Provisions in non-life insurance fell again in year-on-year terms as in 2011.

In life insurance, the growth in provisions was caused mainly by unit-linked insurance provisions, which increased year-on-year by  $\in$ 147 million (17%). Provisions for traditional insurance also returned to growth: they increased year-on-year by  $\in$ 94 million (3.6%). Slightly more than half of this increase was caused by growth in the deficit provision (by  $\in$ 52 million) established on the basis of a provisions adequacy test. The growth in this provision was probably connected with the fall in interest rates to historical lows and with the expectation that they will remain low for a longer period.

In non-life insurance, total technical provisions decreased by €27 million year-on-year. Decreases were recorded in all types of provisions, but the most sig-



Chart 46 Composition of technical provision investments<sup>1)</sup> as at the end of 2012

1) Excluding provisions for liabilities arising from investment on behalf of the insured.

nificant was that in claim reserves (by  $\in 17.5$  million). Provisions for incurred but not reported claims (IBNR)<sup>10</sup> decreased by 6.2% year-on-year; these provisions also fell in 2011. It is important that these provisions reflected the actual risk estimate and were not reduced artificially by insurers.

The amount of assets covering technical provisions (not including provisions for liabilities arising from financial investments made on behalf of insured persons) stood at almost  $\in$ 4.6 billion at the end of 2012, representing an increase of  $\in$ 251 million. The asset coverage of technical provisions increased to 119%.

The most significant increases were recorded in Slovak, Polish, and Czech government bonds (by €205 million, €35 million, and €25 million respectively). The volume of bonds increased mainly as a result of bond revaluation in the available-forsale and held-for-trading portfolios. Thus, the share of government bonds in assets covering technical provisions increased to almost 50%. The share of other asset classes decreased, except for term deposits, which increased in volume by 56% (€60 million) and replaced part of the corporate bonds, the amount and share of which decreased. The share of reinsurers in technical reserves, real properties, equities and mutual fund shares/units showed a decreasing tendency.

Chart 47 Composition of technical provision



Source: NBS.

Notes: The chart shows the annual percentage change in investments in the respective instruments.

10 Provisions for losses incurred, but not yet reported.







Source: NBS.

Notes: Left-hand scale: ROE of individual insurers (minimum, lower quartile, upper quartile, and maximum, median and weighted average).

*Right-hand scale: annual percentage change in the sector's total profit.* 

### DESPITE A YEAR-ON-YEAR DECLINE, THE PROFITS OF INSURERS REMAINED HIGH

Insurance companies made a total profit of  $\in$ 155 million in 2012. Although the sector's profit dropped by 20% year-on-year, it was still high given that a record profit was recorded in 2011. In terms of profitability, 2012 was the third most successful year in the sector's history.

Profit results were heterogeneous, but twothirds of them reported a year-on-year increase in profits. Two insurance companies ended the year with a loss. The distribution of return on equity across the sector narrowed (the variability of ROE decreased) and moved towards higher profitability; the median value of ROE rose slightly.

As regard the profit components, the trend from 2011 changed substantially in 2012. The profit was based largely on the financial result and positive technical result achieved in non-life insurance, while the technical result in life insurance was negative. The technical account balance of the life insurance line fell from  $\notin$ 43 million to - $\notin$ 175 million. Such deterioration was reported by almost all insurers. This development was affected by the following factors: unit-linked provi-

sion, deficit provision, modest rise in premiums, increase in claim costs.

The unit-linked provision increased by  $\in 131.5$  million (compared with  $\in 23$ . million a year earlier). Of this amount,  $\in 82$  million can be ascribed to returns on investments, while investments last year resulted in a loss of  $\in 53$  million.

Owing to the fall in risk-free interest rates during 2012, the deficit provision established on a basis of a provisions adequacy test increased by  $\in$ 53 million, to  $\in$ 72 million.

Owing to favourable financial market developments, the overall financial result for 2012 improved by  $\in$ 134 million, to  $\in$ 300 million. Of this amount, investment returns where the risk is carried by the client accounted for  $\in$ 135 million (these rose in all insurance companies) and those where the risk is carried by the insurer for  $\in$ 28 million. The financial result was positive in the case of all insurance companies, though one-third of them recorded a year-on-year decline.

The technical result in non-life insurance was positive, at the average level seen in the last five years. It declined by one-fourth in year-on-year terms, mainly in connection with the decrease in the share of reinsurers in claim costs. Four out of thirteen insurance companies achieved a negative technical result in non-life insurance.

## THE INSURANCE SECTOR'S OWN FUNDS INCREASED AS A RESULT OF REVALUATION IN THE AVAILABLE-FOR-SALE SECURITIES PORTFOLIO

The insurance sector's own funds increased yearon-year by  $\in 120$  (9.1%), representing a huge increase in capital. Own funds, however, increased exclusively as a result of positive valuation differences arising from the revaluation of securities in the available-for-sale portfolio, which accounted for 55% of the sector's total bond portfolio. These increased year-on-year by  $\in 200$  million, owing to a fall in risk-free interest rates. The other components of share capital, such as the economic results for the current period and for previous years, decreased. Thus, growth in own funds was recorded only in the most volatile component.

The increase in own funds has created a capital buffer against a future rise in interest rates. It



should be noted, however, that the bonds that are currently being purchased for the held-fortrading portfolio represent a certain risk. In the event of an interest rate rise, losses on such bonds would be reflected in the own funds, while there are no reserves for the purchase of new bonds. Hence, insurance companies should use gains on the revaluation of bonds in the AFS portfolio to establish a capital buffer large enough to cover any rise in interest rates. Approximately 9% of the bonds in the AFS portfolio were purchased by insurers in 2012.





## **2.3 THE PENSION SECTOR**

The number of savers in the old-age pension saving system (Pillar II) increased by more than 30,000 in 2012. From September, however, Pillar II was opened again to allow people voluntarily to enrol or withdraw from the system. The system was closed again at the end of January 2013. According to data from the Social Insurance Agency, this opening resulted in a net decrease of around 75,000 savers, though the vast majority of movements in this regard did not take place until January 2013. The new option of saving in two pension funds at the same time stoked demand for investment in bond pension funds. The growth trend in the net asset value of Pillar II pension funds decelerated towards the end of 2012, owing to a reduction in the mandatory monthly contribution to the Pillar II system (from 9% to 4% of the assessment base). In the asset structure of eauity pension funds and mixed pension funds, the share of equities and mutual fund shares/units increased notably for the first time after a longer period, while the share of bank deposits decreased. Apparently, the search for yields increased the average residual maturity and duration in virtually all pension funds. In Pillar III of the pension system, there was elevated demand for enrolling in smaller supplementary pension funds with a more specialised investment profile, while the number of participants in large supplementary pension funds decreased. The total amount of assets under management in Pillar III funds increased the most significantly since 2007, and a non-negligible factor in that growth was the return on assets in pension fund portfolios. Both bond and equity investments increased as a share of the asset structure of Pillar III pension funds.

In both Pillar II and Pillar III, the performance of pension funds improved in year-on-year terms, owing in large measure to the rising prices of Slovak government bonds.

## 2.3.1 THE OLD-AGE PENSION SAVING

THE SYSTEM WAS MARKEDLY AFFECTED BY FREQUENT AMENDMENTS TO THE OLD-AGE PENSION SAVING ACT As several times in the past, the changes observed in Pillar II of the pension system in 2012 stemmed mainly from frequent amendments made to the Old-age Pension Saving Act. The first amendment that affected the system in 2012 was adopted in 2011, but some of its key provisions entered into force on 1 April 2012. One of them was the imposition of an obligation on pension funds management companies (PFMC) to establish and manage a fourth type of fund called an index fund, in addition to the existing types of funds (bond, mixed, and equity funds). Another legislative change was the option of saving in two pension funds at the same time. Significant changes with effect from April 2012 were also made in the range and settings of the so-called 'guarantees', which were designed to motivate to such an allocation of assets in pension funds that have the potential to pay higher yields in the long term.

At the beginning of the second half-year period, however, another amendment was made to the Old-age Pension Saving Act. On the basis of this amendment, Pillar II of the pension system was opened to allow people voluntarily to enrol or withdraw from the system, for a period of five months, starting from 1 September 2012. With effect from the same date, the mandatory monthly contribution to the Pillar II system (as a percentage of the assessment base) was reduced. The other provisions of this amendment became effective on the first day of 2013.

The conditions for enrolment to the Pillar II system for persons entering the labour market for the first time were altered twice over the course of 2012. Before March, the system was only joined by persons who had explicitly expressed a wish to participate in saving for retirement. An amendment to the relevant law from 2011 changed the rules with effect from April 2012 by stipulating that persons enrolling to the pension system for the first time are automatically involved in Pillar II, unless they apply for an exemption in writing. With effect from September, however, another amend-



ment restored the state of affairs from the beginning of 2012. Although the period of 'mandatory enrolment' was very short, the number of savers increased year-on-year by 31,000, which was several times more than in the previous years. This figure is based on reports relating to the period ending on 31 December 2012. One month later, however, the situation was already quite different. According to data from the Social Insurance Agency, the opportunity to leave the Pillar II system voluntarily was used by almost 90,000 savers, while only less than 15,000 persons enrolled. With regard to the negative net balance of these shifts (around 75,000 savers) and the fact that most of the movements in this regard did not take place until January 2013, it is reasonable to assume that the number of savers in the system has decreased.

## Owing to the shift of savers and their savings, the relative weight of bond funds increased

The year 2012 saw an interesting trend in the movement of savers between the individual types of pension funds<sup>11</sup>. Savers tended to move from equity and mixed funds to bond funds. As a result, the number of savers in bond funds increased by 119,000, and thus the share of these funds more than doubled (to 14%). The new type of pension fund, i.e. the index fund,



did not attract much interest. As at the end of 2012, there were 3,371 savers registered in index funds.

The total assets of pension funds in 2012 increased by €886 million, which was slightly more than in the previous year and represented a record increase in the calendar year. With effect from September, the monthly contribution of savers was reduced from nine percent to four percent of the assessment base. Thus, the rate of accumulation of assets in pension funds slowed considerably towards the end of 2012. The slower increase in the sector's net asset value was also due to the fact that part of the savers had left the Pillar II system and their savings were transferred to the Social Insurance Agency. As at the last day of 2012, the total amount of assets under management in pension funds stood at €5.48 billion.

For the first time in the Pillar II system's history, the relations between the individual types of pension funds changed substantially in terms of the amount of assets. These changes were in large measure connected with part of the savers' decision to take advantage of the possibility of saving in two pension funds at the same time. The division of new contributions between bond funds and some of the other types of funds in the prescribed proportion necessarily resulted in the division of savings accumulated in personal pension accounts between the relevant funds in the same proportion. In line with the changes in the number of savers as described above, the net asset value of bond funds increased sharply at the beginning of 2012. Thus, the share of bond funds in the total amount of assets in the system increased during the period under review almost threefold, from 4.9% to 13.7%. On the other hand, the proportion of equity and mixed pension funds decreased equally by 4 percentage points, to roughly 60% and 26% respectively (as at 31 December 2012). Owing to the low number of savers and the short period of existence, the assets of index funds as at year-end accounted for only 0.1% of the sector's total assets.

The market shares of PFMCs in terms of the assets under management remained unchanged.

11 In this analysis, the saver is considered to be in the pension fund of a specific type if the share of his contributions to that type of fund is more than 50%. In the case of an equal division of his contributions to two distinct pension funds (50:50), the saver is considered to be in a bond fund. Thus, duplicate registration of savers who save in two pension funds is avoided.





## INCREASE IN THE SHARE OF EQUITIES IN PENSION FUND ASSETS TO THE DETRIMENT OF BANK DEPOSITS

The composition of the aggregate portfolio changed to some extent during the year in line with the distribution of assets among the main asset classes. Debt securities, which represent a dominant component in the pension funds' portfolios in the long term, accounted for roughly 70% throughout the year. In individual pension funds, exposure to debt securities ranged from 58% to 80% at the end of the year. Within the unchanging share of debt securities at the sectoral level, conflicting trends were observed in the two subclasses of assets, i.e. bonds and Treasury bills. In around May, pension funds management companies virtually ceased to purchase new Treasury bills for their pension funds. Revenues from maturing Treasury bills were reinvested mostly into bonds. Hence, the weight of Treasury bills in the sectoral portfolio decreased to 6% at the year-end. The decreasing trend in the weight of this component, which started at the beginning of 2010 (when Treasury bill were the main component in pension fund assets with a share of 40%), thus continued.

The second key component in pension fund assets were bank deposits. Their share in the total net asset value of pension funds fluctuated be-

Chart 50 Composition of funds' assets by



tween 30% and 35% until September. In the final quarter, however, this share dropped to 24% as at 31 December 2012.

The decreasing share and amount of bank deposits in pension fund assets were replaced by equities and mutual fund shares/units. For the first time since the beginning of 2009, equity instruments again became a significant component in the portfolios of pension funds. Until April 2012, the amount of equities and mutual fund shares/units at the sectoral level, as well as in individual pension funds, was practically negligible. The following period, however, saw increased purchases of equity securities, the amount of which gradually increased. On average, the exposure of a pension fund to equities and mutual fund shares/units stood at 6% at the year-end. This component accounted for the highest share in index funds, which invest almost exclusively in exchange-traded instruments linked to equity indices. Equities and mutual fund shares/units accounted for 5% in mixed funds and 7% in equity funds. The highest percentage recorded in individual funds (except in index funds) stood at 13%. Such securities were still not held in the portfolios of mixed and equity funds belonging to two pension funds management companies.

There are several possible reasons why pension funds management companies started to purchase equities and mutual fund shares/units for their pension funds. The first, as it has been already mentioned, was the requirement to establish index funds. The second was the abolition of the so-called 'guarantees' in equity and mixed funds, which means that the risk of increased volatility (which is characteristic of these instruments) no longer represents a threat for pension funds management companies that they would have to replenish the assets of their pension funds. The third reason was of a regulatory nature. The amended law on old-age pension saving stipulates an 80% ceiling on investment in money market and debt instruments, which de-facto means that at least 20% of the assets of equity funds should be invested in equity instruments. This restriction was imposed with effect from 1 January 2013, but the pension funds management companies requested a postponement for one year.



Some of the pension funds also used fixed-term derivative operations for hedging purposes, but, as in the previous periods, in very small measure only.

## THE AVERAGE RESIDUAL MATURITY AND DURATION OF DEBT SECURITIES INCREASED SIGNIFICANTLY

One of the most significant changes that occurred in the portfolios of pension funds in 2012 was an increase in the average maturity of debt securities. At the sectoral level, this indicator increased gradually from 1 year as at end-2011 to 2.5 years as at end-2012, while this trend was most apparent in the second half of the year. The maturity of debt securities increased in virtually all pension funds. Except for the funds of one pension funds management company, all pension funds (bond, mixed and equity funds) recorded an increase of different size, and thus the spread of this parameter across the pension funds increased, too. The most significant increases were recorded in two pension funds of the same pension funds management company, where the residual maturity increased to almost 6 years in a relatively short period (from May to November).

The residual maturity of debt securities was also reflected in the weighted average modified duration of these instruments. At the sectoral

Chart 51 Average residual maturity of debt



level, this indicator of sensitivity to interest rate changes increased during the year from 0.5 to 1.9. At the beginning of the year, the modified duration of debt securities portfolios of all pension funds fluctuated within a narrow range (0.4 to 0.8). By the end of the year, this range had expanded to a great extent, mainly upwards (to 4.5).

The prolongation of debt instruments in the portfolios of pension funds is apparently the response of pension funds management companies to the abolition of the requirement that the assets of pension funds be replenished from own funds in the event of negative performance in the predefined period (for equity and mixed funds). For bond funds, this requirement remained in force, but the predefined period was prolonged from six months to ten years. The new regulatory requirement provided motivation for the purchase of longer-term debt instruments with longer duration, the price of which may fluctuate more widely, but, on the other hand, they pay a higher yield in the long term. This also explains the shift of pension fund assets from Treasury bills to bonds.

The average contractual maturity period also increased in the case of bank deposits, though this increase was far less significant than in the case of debt securities. In the first half of 2012, the average maturity period in the sector was around six months; in the second half of the year, it increased gradually by roughly two months.

The falling interbank market rates in the first half of 2012 were reflected in the average rate of interest on term deposits held by pension funds, which dropped by roughly 0.5 percentage point. While the market rates continued to fall in the second half of 2012, interest rates on the term deposits of pension funds remained unchanged, around 1.5% p.a., which was due partly to the shift of deposits to higher maturity bands. At the sectoral level, the average rate for term deposits was pushed up quite significantly by certain pension funds belonging to the same pension funds management company, where the rate of interest on this asset component rose during the period under review and exceeded 3% at the year-end. These pension funds managed to ensure higher interest yields than their competitors



by depositing funds with foreign banks in Slovenia, Hungary, Bulgaria, and Romania, where the rates of interest were higher. Owing to the ongoing crisis in the Slovenian banking sector and the still complicated macroeconomic situation in Hungary, these exposures may bear higher credit risk. Furthermore, 18% to 20% of the total assets of these pension funds were deposited with three Slovenian banks over a large part of the year.

The amount of pension fund assets, where the counterparty is the government or financial institution of a country with elevated credit risk<sup>12</sup>, remained virtually unchanged, which represented a modest decrease in relation to total assets at the sectoral level, as well in most of the individual pension funds. The largest part of this exposure was directed towards Slovenia.

Investments in the Pillar II system in 2012 were again concentrated in the domestic economy. At the end of the year, however, the previously stable 60% share of Slovak assets decreased almost to 50%, after part of the assets had been converted into equities and mutual fund shares/units, which were issued mostly abroad.

In the debt securities portfolio, there were no substantial changes at the sectoral level from the point of view of the issuer's sector. A modest increase was recorded in the share of corporate bonds. A dominant position in this group (60%) was maintained by government bonds and Treasury bills.

## THE PERFORMANCE OF PENSION FUNDS IMPROVED IN YEAR-ON-YEAR TERMS

In Pillar II of the pension system, a positive development in 2012 was an improvement in the performance of pension funds compared with the previous years, in terms of nominal appreciation. As at 31 December 2012, the average year-on-year performance of equity and mixed funds stood at 3%, while bond funds achieved 2.5%. In 2011, all types of pension funds achieved a nominal appreciation of 1.5%. In the case of index funds, the year-on-year performance could not yet be determined, because they were established in April 2012. From establishment to 31 December

Table 5 Annual rate of return achieved by pension funds as at December 2012 Weighted Min. Max. average (%) (%) (%) Bond funds 1.9 2.5 3.4 Mixed funds 4.5 2.2 3.0 Equity funds 2.2 3.0 4.5 Source: NBS.

Notes: The methodology is described in the part 'Glossary and abbreviations'.

2012, they achieved an average yield of 5.2%, while the spread across funds was relatively wide (2.6% to 15.6%).

The performance of pension funds improved in the period under review in spite of the downward trend in market interest rates. The accelerated rise in the current values of pension points was driven mainly by an upward revaluation of debt securities, resulting from the easing financial market tensions in Europe. The decisive role here was played by Slovak government bonds, the price of which rose throughout the year. Equities and mutual fund shares/units also contributed positively to the yields of pension funds, though this contribution was relatively insignificant since the share of these securities in pen-



12 For the purposes of this analysis, Cyprus, Greece, Ireland, Hungary, Portugal, Slovenia, Spain, and Italy were included in this group.





sion fund portfolios was small (except in index funds).

Pension fund management companies earned a total profit of  $\in$ 5.5 million in the period under review. This represented a marked improvement compared with the profit made in 2011 ( $\in$ 147,000). Thus, a substantial profit was generated in this sector for the first time. On the income side, positive developments were recorded in management fees and, in particular, performance fees. Since the rate of monthly contribution to the Pillar II system was reduced with effect from September 2012, remuneration received for the administration of personal pension accounts fell somewhat.

## 2.3.2 SUPPLEMENTARY PENSION SAVING

## CONTINUING CHANGE IN STRUCTURE IN FAVOUR OF SMALLER SPECIAL SUPPLEMENTARY PENSION FUNDS

The total number of savers in the supplementary pension system increased by almost 9,700 (roughly one percent) during 2012. Thus, the rate of increase slowed somewhat in comparison with 2011. Most new savers (+28,400) were enrolled in smaller contributory funds, which have more specialised investment objectives. This indicates that demand for investment in these funds continued to grow at an accelerating pace. The opposite trend was observed in large contributory funds with a more balanced structure, where the number of savers had been falling for a longer period (-26,500 in 2012), with savers moving to smaller contributory funds or, after the saving phase, to payout funds. Payout funds recorded an increase of almost 8,000 in the number of savers.

## A RECORD INCREASE IN THE AMOUNT OF ASSETS UNDER MANAGEMENT

The amount of assets under management in Pillar III of the pension system increased in 2012 by  $\in$ 127 million (10.8% in relative terms), representing the highest increase since 2007. This was attributable to the contributions of new savers, as well as to the strong performance of supplementary pension funds in the period under review. If part of the savers had not left the Pillar III system (along with their

savings), the increase in assets would have been even higher. In this connection, the total net asset value in the sector fell somewhat in April 2012. In May, the fall continued because of a downward revaluation in part of the asset portfolio, but then a relatively steady rising trend emerged. As at 31 December 2012, the value of assets under management in the sector stood at  $\in$  1.3 billion.

The sector's most dynamic segment comprised smaller supplementary pension funds with a specialised investment profile. The increase in their net asset value accelerated in comparison with the previous period, to 37%. At the end of 2012, the share of these supplementary pension funds reached 13%, which was 2.5 percentage points more than at the beginning of the year. The range of special supplementary pension funds was extended in the year under review to include a new equity fund.

Compared with 2011, the amount of assets under management in large supplementary pension funds increased in 2012. In this case, however, the increase resulted mainly from the appreciation of assets in the funds' portfolios, because the new contributions only sufficed to cover the outflow of assets caused by the departure of savers, or by their switching to other supplementary pension funds. Payout funds, which have the smallest share in the system, recorded an increase in assets, similar in size to that observed in the previous years.

The market share of supplementary pension funds management companies in terms of the amount of assets under management remained unchanged, with all companies recording an increase in assets in their pension funds ranging from 8% to 14%.

## The dominant position of bonds in the structure of assets strengthened still further; the amount of equities and mutual fund shares/units increased too

An analysis of the main asset components in the Pillar III system's overall portfolio revealed that developments in 2012 were, in large part, mirror images of the developments seen in 2011. This means, inter alia, that the position of debt securities within the asset structure strengthened still



further. Their share increased from 59% at the beginning of 2012 to 66% as at 31 December 2012.

On the other hand, bank deposits decreased in terms of both volume and proportion. At the end of December 2012, roughly 16% of the assets of supplementary pension funds were held in bank deposits, compared with around 25% in the first quarter. Interesting developments were also observed in the share of current accounts and term deposit accounts. The volume of term deposits, which used to be a dominant component, dropped to less than half of the figure recorded at the beginning of 2012. Supplementary pension funds held a larger part of their assets on current accounts, whose share in total bank deposits increased from 25% to 60%.

The proportion of investments in equities and mutual fund shares/units was relatively volatile during 2012, depending on whether they were purchased or sold, and/or depending on their market value. In principle, however, the weight of these instruments increased in the sector's aggregate portfolio in the period under review. Supplementary pension funds management companies purchased equities and mutual fund shares/units for their funds at the beginning of the year in particular, then in August and Decem-



Chart 53 Composition of funds' assets by type of investment and type of fund (%)

Source: NBS.

Notes: The classification of funds is based on their investment strategy.

ber, when the equity indices were rising. Roughly two-fifth of the absolute increase in the amount of these assets in 2012 can be ascribed to their appreciation.

The most used derivative instruments under Pillar III in 2012 were currency swaps and forwards, which were used for the closure of currency positions in six supplementary pension funds. Apart from this, one supplementary pension fund purchased for its portfolio interest rate swaps, currency and interest rate options, while another fund held in its portfolio bond futures, equity futures and USD/EUR exchange rate futures.

The trend changes in the composition of main asset classes at the sectoral level were also typical of the individual types of supplementary pension funds. The proportion of equities and mutual fund shares/units increased only in contributory pension funds with a balanced or growth-oriented investment policy. A marked increase was recorded in the case of growth-oriented supplementary pension funds, where the proportion of this component increased by a half and reached almost 60% at the year-end.

The average residual maturity of the sector's bond portfolio was constant, slightly more than four years. The situation in individual supplementary pension funds, however, was heterogeneous during 2012 in terms of this indicator (trend and value). A the end of the year under review, the average residual maturity of bonds in supplementary pension funds ranged from 1.5 years to 10 years. The duration of these instruments at the sectoral level increased somewhat.

The increase in the amount of debt securities in the sector resulted almost exclusively from investment in bonds issued by banks and other financial institutions. With exposure to government bonds remaining virtually unchanged, the share of this sector in the structure of bonds decreased below 50%.

## THE AVERAGE CONTRACTUAL MATURITY OF BANK DEPOSITS IN THE PORTFOLIOS OF SUPPLEMENTARY PENSION FUNDS DECREASED

A significant change in the parameters of supplementary pension fund portfolios was a decrease in the average contractual maturity of



term deposits (by a half, to roughly six months). Although part of these funds recorded a slight increase in contractual maturity, several balanced funds reported a marked decrease, which was large enough to reduce the sectoral average.

The declining trend in interest rates on term deposits was more broadly based. The average deposit rate fell by 0.6 percentage point to stand at 1.7% in December 2012. Since the relative significance of current accounts paying virtually no interest increased in supplementary pension funds, the average interest rate calculated for all deposits fell to an even greater extent. At the end of 2012, bank deposits paid interest at a rate of less than 0.7%.

The proportion of assets denominated in foreign currencies increased in 2012. Financial instruments in a currency other than EUR, excluding derivatives, accounted for less than 15% of the sector's net asset value as at 31 December 2012. The most significant positions were those in the US dollar, the weight of which increased mainly in connection with the growing amount of equities and mutual fund shares/units in several supplementary pension funds. In one of the growth funds, foreign exchange exposure increased to 54% of the fund's assets.

Three supplementary pension funds with a nonnegligible share of assets linked to the public or financial sectors of countries with elevated credit risk<sup>13</sup> at the beginning of 2012 had eliminated these positions completely by the year-end.

## SUPPLEMENTARY PENSION FUNDS SHOWED RELATIVELY HIGH PERFORMANCE OWING TO AN UPWARD REVALUATION OF BONDS AND RISING EQUITY PRICES

The average performance of supplementary pension funds in the calendar year 2012 reached 7.4%, which more than offset the effect of nominal depreciation from the previous year (around -3%). The relatively high nominal appreciation

was achieved owing to an upward revaluation of bonds amid decreasing credit premiums, accompanied by an increase in duration. A large part of the earnings came from the revaluation of Slovak government debt securities. Supplementary pension funds that were exposed to equities also benefited from the rising equity indices.

The rise in the current values of supplementary pension points in certain contributory funds was also stimulated by the disenrollment of a certain group of savers from the Pillar III system. This process entailed one-time payouts of contributions they had accumulated up to that point. They received 80% of their personal account balance as at the date of application. The remaining 20% was partly paid out to the relevant supplementary pension funds management company and a part of it is accounted for as revenue for the supplementary pension fund, from which the leaving savers received compensation.

The individual supplementary pension funds showed diverse performance, ranging from 0.4% (minimum) to 19.4% (maximum).

At the aggregate level, supplementary pension funds management companies generated a record profit in 2012, the highest in the system's history. The profit amounted to €8.4 million and represented a year-on-year increase of almost 50%. The sector's profitability rose mainly as a result of an increase in income from fees and commissions (+20%). A significant contribution came from income derived from the appreciation of assets in supplementary pension funds, which increased by more than sixfold. At the same time, supplementary pension funds management companies spent somewhat less on operations than in 2011. Improved financial results were recorded by three supplementary pension funds management companies (out of a total of four) operating in the local market.

> 13 For the purposes of this analysis, Cyprus, Greece, Ireland, Hungary, Portugal, Slovenia, Spain, and Italy were also included in this group.





## **2.4 COLLECTIVE INVESTMENT**

The amount of assets under management in the Slovak collective investment sector returned to growth in 2012. Net sales, especially of domestic mutual funds, were supported by an increase in asset prices during the period under review. These inflows wiped out the heavy outflows caused by a sudden wave of redemptions in the second half of 2011. The net inflow of assets in this sector reflected two contrary trends: on the one hand, unit-holders were withdrawing funds from standard mutual funds, particularly money market funds; on the other hand, the number of mutual funds increased sharply and the highest net inflows were recorded for special mutual funds. The special funds with the highest net inflows, mostly investments from households, were special real estate funds and special securities funds (in this case, the investment profile was rather similar to that of money market funds). The upturn in financial markets in the second half of the year contributed to positive investment returns in all mutual fund categories.

## The amount of assets under management returned to the end-2011 level seen before the redemptions

The situation in Slovakia's collective investment sector in 2012 was in many respects more positive than in the previous period. A substantial change occurred in the amount of assets under management. While the second half of 2011 saw heavy outflows from mutual funds, the amount of assets in 2012 was growing dynamically again. The total net value of assets under management in domestic mutual funds and foreign collective investment undertakings sold in Slovakia increased by €558 million, rep-



## Chart 54 Net asset value of mutual funds sold in Slovakia (EUR billions)

Source: NBS, SASS.

Notes: The percentage in the box above each bar represents the percentage change in the sum of the amounts of domestic and foreign funds for the respective half-year period. resenting a relative rise of almost 15%. By the end of 2012, the size of the sector had returned to the level seen before the wave of redemptions in 2011.

This increase took place almost exclusively in domestic mutual funds. The year-on-year change in the amount of assets under management in foreign collective investment undertakings was close to zero. The amount of assets was virtually at a standstill over the first guarter, and then began to grow in the second quarter at an accelerating pace. Approximately four-fifths of the increase in the amount of assets resulted from the positive new sales of mutual fund shares/units, but the appreciation of assets also made a positive contribution. There was one more fact that contributed somewhat to the growing trend: the acquisition of domestic mutual fund shares/units of other mutual funds belonging to the same management company. In this way, the funds actually invested in the sector practically multiplied, while the share of cross investments in the total net asset value of domestic mutual funds showed a rising tendency in the last few years. On the other hand, even if the rate of asset growth had been assessed using the socalled 'adjusted net asset value' (adjusted for cross investments), the result would have been a massive increase of roughly €400 million.

Some of the domestic management companies failed to contribute to the sector's growth in the terms of the amount of assets under management. Four management companies recorded year-on-year increases in their mutual funds' net asset value, in the range of 14% to 31%. Howev-





## Chart 56 Net asset value by type of fund as at 31 December 2012 (EUR millions)



er, the management company that recorded the highest increase was, at the same time, the most active user of the so-called 'chaining' of assets invested in mutual funds. The remaining three management companies recorded a decrease in the amount of assets, ranging from 7% to 16%.

The total number of mutual funds offered to customers by domestic management companies stood at 81 as at end-December 2012, which was one less than a year earlier. The fall in the number of standard mutual funds was compensated for by an increase in the group of special mutual funds.

## DOMESTIC STANDARD MUTUAL FUNDS RECORDED A FALL IN ASSETS AS A RESULT OF NEGATIVE NET SALES

One of the most significant events that altered the characteristic feature of Slovakia's collective investment sector, i.e. the dominant position of money market funds, took place at the turn of the years 2011/2012. This event was the reclassification of most of the domestic money market funds into a new category, i.e. short-term investment funds, or in smaller measure into the bond fund category. Out of thirteen domestic money market funds, which had been a pillar of this sector for a long time, only two mutual funds remained in 2012. The reclassification of mutual funds was not the result of a voluntary change in the strategy of management companies, but a reaction to the issuance of NBS Decree No 9/2011 on criteria, limits, and restrictions with which money market funds and short-term money market funds must comply. With the issuance of this decree, the CESR's Guidelines on a common definition of European money market funds were transposed into Slovak legislation. The most important parameters that money market funds must meet under the above guidelines are restrictions on the maximum average maturity and life of financial instruments in portfolios. Since the mutual funds of domestic management companies (previously referred to as money market funds) failed to meet these criteria and the management companies did not adjust the portfolios of these funds to the criteria in the interim period (until 31 December 2011), they decided to reclassify these funds into another category. In January 2012, the amount of assets under management in money market funds was slightly below €300 million, which was roughly one billion less than at the end of the previous year. However, the decrease in the amount of assets in money market funds did not end with this one-time slump. During the period under review, households gradually withdrew their savings from these mutual funds, so the trend that started in the middle of 2010 continued. At



the end of 2012, money market funds owned assets worth only  $\in$ 150 million, indicating that this historically dominant category of domestic mutual funds had become the second smallest category (in terms of the amount of assets) in a short time.

The dominant category (with the highest net asset value) within the domestic segment was the newly established category of short-term investment funds. Even in this case, however, the sales of fund shares/units by households in 2012 slightly exceeded the issuance of new shares/ units, which caused a certain decrease in the amount of assets in this category.

The highest absolute (+ $\pm$ 50 million) and relative (11.4%) increase in net asset value within the category of standard mutual funds was recorded by bond funds. Bond funds represented the only group of standard mutual funds that achieved positive net sales in 2012. An even more substantial factor behind the increase in these mutual funds' net asset value was their relatively high returns on investments.

Chart 57 Changes in the amount of assets under management in 2012 broken down by fund category (EUR millions)



#### Source: NBS, SASS.

Notes: PF + FKI = money market funds + short-term investment funds; DF = bond funds; AF = equity funds; ZF = mixed funds; FF = funds of funds; IF = other funds; SFN = special real estate funds; SFC = special securities funds; SFA = special alternative investment funds; SFP = special professional investor funds. A similar situation in terms of the net asset value was observed in equity and mixed funds. Although both categories recorded slightly negative sales of fund share/units, the amount of assets under management in equity funds and mixed funds increased by 10.6% and 3.3% respectively, owing to the positive performance of these funds.

In domestic funds of funds, the negative trend in redemptions of fund shares/units continued for the fifth consecutive year. The net asset value in this category declined by 16% over the period under review. In the long term, however, the amount of assets in the funds of funds decreased to roughly a quarter of the maximum. Mutual funds of this category are also on the decline in terms of their number in the list of funds offered by domestic management companies. Out of more than twenty funds of funds established in the past, only seven were registered at the end of 2012.

The amount of assets under management in the category of other funds deceased sharply in the year under review (by 29%). This decrease was the second largest besides that recorded in money market funds. It was caused by the negative net sales of mutual funds shares/units. Like the funds of funds, the category of other funds also shows a diminishing market share in the long term, though to a lesser extent.

### MASSIVE INFLOWS INTO A NARROW CIRCLE OF SPECIAL MUTUAL FUNDS

The overall change in the aggregate net asset value of domestic standard mutual funds categorised as described above was negative in 2012 (-€263 million). The increase in the amount of assets in the sector's domestic segment was a result of dynamic growth in special mutual funds. This applied mainly to the category of special securities funds, which recorded an inflow of more than half a billion euros, which was almost five times more than the amount of assets as at the end of 2011. The investors were mostly households and, to a lesser extent, non-financial corporations.

Special real estate funds represented a category with the second highest absolute year-on-year



increase in net asset value ( $+ \in 156$  million). This increase was comparable with that recorded in 2011, when households started to show increased interest in such investments.

The last category of special mutual funds is that of funds specialising in alternative investments. The first two mutual funds falling within this category were established in March 2012, but their total sales soon reached as much as  $\in$ 19 million, which remained in the funds until the end of December. In the following period, their net sales were relatively insignificant. A characteristic feature of these funds was that roughly two-thirds of their liabilities originated from other domestic mutual funds.

A significant contribution to the overall growth in the domestic collective investment sector came from special professional investors funds, the shares/units of which may only be purchased by 'qualified' natural and legal persons meeting the conditions laid down in the Collective Investment Act. The increase in net asset value in their case amounted to  $\in 125$  million, while roughly 16% of the positive net sales was generated by purchases of fund shares/units by other mutual



#### Source: NBS, SASS.

Notes: PF + FKI = money market funds + short-term investment funds; DF = bond funds; AF = equity funds; ZF = mixed funds; FF = funds of funds; IF = other funds; SFN = special real estate funds; SFC + SFA + SFP = special securities funds + special alternative investment funds + special professional investor funds. funds belonging to the same asset management company.

Looking at the overall development of the domestic collective investment sector during 2012, we can say that the period under review was typical of shifts from standard mutual funds to special mutual funds. As in 2011, standard mutual funds recorded predominantly negative net sales in 2012, though in substantially smaller amounts. On the other hand, special mutual funds recorded a marked increase in the amount of invested assets. At the beginning of 2012, special mutual funds represented 17% of the domestic sector in terms of the amount of assets under management. By the end of the year under review, however, this share had increased to 36%. With special real estate funds left out of account, the increase would have been even more dramatic. At the end of the third quarter of 2011, there was only one special mutual fund other than a special real estate fund, while the amount of assets under management in that fund was virtually negligible for the sector. As at the last day of 2012, ten mutual funds, comprising special securities funds, special alternative investments funds and special professional investors funds, managed assets worth more than €850 million.

The unprecedented progress of special mutual funds in the history of collective investment in Slovakia is based on the new regulations, i.e. the new law on collective investment in effect since the middle of 2011, which has introduced new investment opportunities via special mutual funds. Management companies responded to this change as early as in the last few months of 2011, but special mutual funds started to be established in larger numbers in 2012. The second major factor behind the emergence of special funds was the investment and marketing strategies of management companies. Some of the management companies belonging to a bank group made use of the less strict exposure limits of special mutual funds and assigned a large part of the funds obtained to the parent bank, either in the form of deposits or through purchases of mortgage bonds. Within the scope of group optimisation, management companies attempted to redirect the funds of shareholders from money market funds and short-term investment funds to special securities funds, which also pursued



an investment policy oriented to the money market. In so doing, they either used a fee policy or simply ceased to issue new standard money market fund shares/units and replaced them with the shares/units of special funds with a similar investment profile.

Another possible cause of growth in special mutual funds was the more open regulatory environment for standard mutual funds. Under the new law on collective investment, such funds are allowed to merge with foreign funds or they may be managed by a foreign management company. On the other hand, the segment of special mutual funds has remained reserved for domestic management companies.

The net sales of foreign collective investment undertakings in Slovakia was slightly negative in 2012. The decline, however, was offset by the appreciation of assets in these mutual funds. Positive net sales were concentrated in the categories of bond funds and funds of funds. The other categories of foreign mutual funds recorded a smaller or larger outflow of shareholders' funds.

One of the significant changes in the structure of portfolios in 2012 was an increase in the share of bank deposits in money market-oriented funds

and bond funds. In equity funds and mixed funds, the share of mutual fund shares/units increased.

## **ALL CATEGORIES OF MUTUAL FUNDS ACHIEVED NOMINAL** APPRECIATION

Financial market developments favourably influenced the appreciation of mutual fund assets, mainly in the second half of 2012. Positive nominal performance was recorded in all categories of funds, in contrast with the previous year, when most of the mutual funds suffered a loss. In 2012, the highest gains were made by investors investing in equity funds, the shares/units of which appreciated by an average of 14%. An unusually high yield in the given category (almost 10%) was produced by bond funds. The yearon-year performance of mixed funds, other mutual funds, funds of funds, and special real estate funds ranged between 5% and 7%. The average yield of mutual funds oriented to money market investments ranged from one to three percent.

The aggregate economic result of domestic management companies for 2012 was comparable with that achieved a year earlier. The sector's total net profit increased by 6% to stand at €8.4 million. Income from fees and commissions decreased slightly, probably as a result of a yearon-year fall in the average net value of assets



**Chart 59 Asset composition of domestic** 







under management, which was partly offset by lower expenses on fees and commissions. Thus, the sector's improved profitability was in fact caused by a decrease in operating expenses (by 4%), mainly in expenses on administration and write-offs. The situation in individual management companies in terms of profit generation, however, was considerably heterogeneous. Out of a total of seven management companies, five recorded a lower profit in year-on-year terms. In 2011, all management companies achieved a positive economic result. In the year under review, however, one asset management company suffered a loss.



## **2.5 INVESTMENT FIRMS**

The total volume of securities trading declined year-on-year by an average of 16%. The decline took place in all categories of financial instruments. The amount of customer assets managed by companies holding an investment firm licence decreased by 9% over the year under review.

Trading in securities in 2012 declined by a total of  $\notin$ 28 billion, as a result of lower trading in all types of securities. The smallest decrease was recorded in trading in financial derivatives. These were traded in the largest nominal amount and accounted for 84% of all transactions.

A dominant position among investment firms in 2012 was again maintained by banks: 99.6% of all transactions were carried out via banks.

The amount of customer assets managed by entities licensed to manage a customer securities portfolio (investment firms, banks and certain management companies) decreased during 2012 from  $\in$ 2.18 billion to  $\in$ 2.01 billion.



Chart 62 Amount of customer assets managed by licensed entities (EUR billions)







# RISKS IN THE SLOVAK FINANCIAL SECTOR



## **3 R**ISKS IN THE **S**LOVAK FINANCIAL SECTOR

After reaching a peak in mid-July 2012, the adverse situation in financial markets eased markedly in the second half of the year due to a decline in the volatility of risk factors, a significant decrease in credit risk premia, and positive developments in equity markets. Consequently, risk measures declined in most financial market segments. At the same time, risk-free interest rates decreased to all-time lows and the probability of them remaining at these levels over the long-term horizon increased. This may lead to a fall in investment returns and, in the case of insurance companies, may also create pressure to create technical provisions. On the other hand, the exposure of certain financial market segments to market risks increased. The principal segments in this regard were insurance companies and pension funds (in the second and third pillars of the pension system), since the duration of their investment portfolios continued to increase and therefore so did the sensitivity of the portfolios' fair value to interest rate hikes. In addition, the cancellation of guarantees in mixed and equity funds heightened the exposure of these funds to equity and foreign-exchange risk. The banking sector continues to have an ample liquidity cushion and is adequately self-sufficient in regard to funding; this is reducing the sector's exposure to any increase in external funding costs that would accompany a re-escalation of Europe's sovereign debt crisis. It is necessary, however, to monitor the shift in short-term liquidity risk from banks to collective investment funds.

Household credit risk was relatively stable during 2012. The adverse labour market situation continued to be the main component of this risk, although it was not reflected in non-performing loans. Households saw their financial situation come under increasing pressure during 2012, especially towards the end of the year, although they benefited to some extent from the decline in interest rates on housing loans. A positive fact is the stable loan-to-value (LTV) ratio, which is reducing banks' exposure to the residential property market. The financial position of the corporate sector remained largely unchanged in 2012. On the negative side, export growth declined towards the year-end and the construction sector remained in a difficult situation. The default ratio and amount of non-performing loans was affected more by particular loans than by macroeconomic trends. On the other hand, the debt-service burden of firms continued to ease, owing to moderate sales growth, a decline in interest rates, and a slight drop in the outstanding amount of corporate loans.

## **3.1 CREDIT RISK IN THE BANKING SECTOR**

## 3.1.1 CREDIT RISK IN THE HOUSEHOLD SECTOR

## THE RATIO OF NON-PERFORMING LOANS CONTINUED TO DECREASE IN 2012

As a share of the total amount of retail loans, non-performing loans (NPLs) maintained their decreasing trend in 2012. The increase in the amount of NPLs was stable, notwithstanding a moderately higher default rate concentrated in certain banks at the end of the third quarter and beginning of the fourth.

Past due loans as a share of the total amount of loans were stable in 2012 and in the last quarter even fell, from 5.5% to 5.3%, due to seasonal effects.

## The loan-to-value ratio was stable in the second half of **2012**

After a turbulent first half of 2012, the average level of loan-to-value ratio stabilised at around 70%, which corresponds to the average from 2011. The sizeable higher supply of housing loans, analysed in Section 2.1.1.1, was not supported by easing of collateral requirements. Given the fact that when banks compete against each other by increasing the LTV ratio, they substantially heighten their exposure to credit risk, the banking sector can be said to have behaved prudently in 2012. It should be noted, however, that certain large and medium-sized banks remain inclined to lower their requirements for loan collateral.





## sectors



## **UNEMPLOYMENT GROWTH STEADIED IN THE SECOND HALF** OF 2012

Early in the second half of 2012 unemployment growth was still as highly volatile as it had been in the first six month, but over the rest of the year it became steadier. The total number of job seekers who previously worked in middle or lower income occupations declined year-on-year. On the



other hand there was an increase in the number of job seekers who previously worked in higher income occupations.

A change was also observed in the number of employed broken down by income category. According to SO SR data, the number in higher-income occupations is falling due not only to redundancies, but also to people switching to lower-income employment. Although these developments may not have an immediate effect on credit quality, they could in future weigh on the debt-servicing capacity of households.

Sectorally, the most marked decline in employment in 2012 was in manufacturing industry. From the beginning of the second quarter the index of employment expectations was indicating redundancies in the manufacturing sectors, which materialised.

## THE BENEFIT FROM A DECLINE IN INTEREST RATES WAS PARTLY OFFSET BY A FALL IN REAL WAGES

The debt-servicing capacity of households is affected by several factors, which if we disregard total loss of income (loss of employment) include mainly movements in real wages and interest rates. The easing of monetary policy in 2009 and its downward effect on lending rates for house-



holds contributed significantly to households' debt-service burden, which remains far below its pre-crisis level. The debt burden in this period was also eased by stable prices and their upward effect on real income growth.

The situation was different in 2011 and 2012, when the continuing decline in interest rates failed to mitigate the negative impact of price inflation in selected items and the debt-service burden began to increase. The fact remains that monetary policy has a major effect and that if it returned to pre-crisis settings it would cause a marked increase in the household debt burden.



Chart 66 Household debt burden

Notes: The burden is calculated as the ratio of a household's loan payments to its net income adjusted for changes in prices of selected items (housing, food, health-care, transportation and telecommunications). The index is set at 1 for December 2008.

## Box 1

## HOUSEHOLDS' SENSITIVITY TO SELECTED NEGATIVE SHOCKS TESTED ON THE BASIS OF A QUESTIONNAIRE SURVEY

Although data obtained from questionnaires have certain limitations, they provide a sound basis for testing the robustness of households at the micro-level to various risks. The aim of such testing is to gain an idea of how fundamental macroeconomic indicators affect not only the situation of households, but also the banking sector. Among the key factors that affect the capacity of households to service their liabilities towards the banking sector – and in which regard the testing will be carried out – are a decline in employment, a decline in real income and a parallel increase in interest rates.

This analysis is based on the results of the Eurosystem's most recent Household Finance and Consumption Survey (HFCS) in Slovakia, conducted by Národná banka Slovenska in 2010<sup>14</sup>. Unlike the EU-SILC<sup>15</sup> survey, which has been conducted regularly for several years, the HFCS contains information on the financial assets of households which may be used to ana-

## Chart A Empirical distribution function of household income



#### Source: HFCS, INBS.

Interpretation: The value on the left-hand axis represents the share of households whose income does not exceed the respective value on the horizontal axis.

- 14 Project details and the first results of the survey can be found in Matúš Senaj, Tibor Zavadil: The financial situation of Slovak households – survey results, NBS Ocassional paper 2012/1, Bratislava, 2012.
- 15 Since 2003, the Household Finance and Consumption Survey has been conducted on a yearly basis in all EU countries. The EU-SILC questionnaire allows not only a comparison of the developments of conditions in individual countries in time, but also a cross-country comparison of actual living conditions. The collecting of questionnaire data and their evaluation is performed by the Statistical Office of the Slovak Republic.





lyse the resilience of households in terms of their financial reserves.

For the purposes of the analysis, households are divided on the basis of the total monthly income into three income categories (ICs): lower (up to  $\notin$  900 per month), medium ( $\notin$  900– $\notin$  1,300 per month) and higher (more than  $\notin$  1,300 per month). This classification yields approximately the same number of households in each category.

The baseline scenario for the testing of households assumes no change in interest rates, real income and employment. The alternative stress scenarios are:

- A decline in employment: in all sectors and in all occupations employment falls by 8%, which corresponds to an increase in the unemployment rate from the current level of around 15% to around 24%;
- A decline in real income: real income falls by 5% and 10%;
- A parallel increase in interest rates: interest rates rise by 2 p.p. and 4 p.p.

The stress scenario for unemployment is based on current developments in employment and unemployment and on negative expectations for each of them. The impacts of each scenario on the situation of households will be indicated by the following variables:

- Share of households in default: the share of households whose loan payments exceed their disposable income, i.e. income adjusted for current expenditure;
- Default lag: for households that have negative income, the average number of years during which they can make their loan payments using their liquid assets (cash, fund investments, etc.);
- Loan to asset ratio at default: for households in default, the average ratio of their outstanding loan debt to their total assets; the following haircuts are applied to household assets: 30% for real estate, 50% for vehicles 25% for valuables, 30% for participating interests in companies, 0% for bank deposits and securities holdings.

All the values obtained are weighted by the outstanding amount of loans.

When evaluating the stress test results it is important to note that the sample of households with negative income is different for each stress scenario. Consequently, certain indicators point to an improvement that is explained more by the enlargement of the sample by households that are in a better position.

Table A Stress test results for households									
		Lower IC		Medium IC		Higher IC			
Baseline scenario	Share of households in default	34.54%		3.49%		2.12%			
	Default lag		2.21		2.13		0.96		
	Loan to asset ratio at default		94.29%		49.47%		39.87%		
Decline in employment	Share of households in default		38.44%		6.94%		5.08%		
	Default lag		2.62		4.34		4.66		
	Loan to asset ratio at default		95.30%		56.32%		99.32%		
Decline in real income	Scenario	-5%	-10%	-5%	-10%	-5%	-10%		
	Share of households in default	42.65%	46.01%	6.76%	7.69%	3.35%	4.84%		
	Default lag	2.66	4.63	1.80	1.33	5.08	5.58		
	Loan to asset ratio at default	87.51%	85.69%	48.58%	53.16%	60.31%	65.49%		
Parallel increase in interest rates	Scenario	+ 2 p. b.	+ 4 p. b.	+ 2 p. b.	+ 4 p. b.	+ 2 p. b.	+ 4 p. b.		
	Share of households in default	47.49%	55.95%	6.31%	6.76%	3.35%	4.88%		
	Default lag	1.75	2.19	1.23	0.64	1.62	1.22		
	Loan to asset ratio at default	86.60%	120.22%	49.03%	48.58%	60.31%	62.40%		
Source: HFCS, NBS,									



The baseline scenario, which assumes constancy in conditions, indicates substantial divergence in income group characteristics. Whereas in medium and higher income categories the share of households in default is 3.49% and 2.12% respectively, in lower income categories it is disproportionately higher. Furthermore, among lower income categories of households, asset coverage of non-performing loans is minimal. Another interesting aspect of households is their amount of financial reserves that may be used to make loan payments. Whereas households in lower and medium income categories have sufficient cash reserves to cover loans payments for more than two years, those in the higher income category do not have enough for even one year.

The results of the different stress scenarios are relatively specific, and that is the case across all income categories.

In the lower income category, the impact of the stress scenario "Decline in employment" is not significant, which confirms the hypothesis that the unemployment situation in lower income categories is not the most important credit risk factor in this group. The more moderate developments in the stress scenarios "Decline in real income" and "Parallel increase in interest rates" affected more the share of households in default than other variables. A marked divergence is observed, however, between the more negative scenarios - "Decline in real income of 10%" and "Increase in interest rates of 4 p.p.". In the case of a sharp decline in real income, households with substantial financial reserves fall into negative income, thereby raising the average default lag. Where, by contrast, there is a substantial rise in interest rates, the average default lag does not change significantly, but the outstanding amount of non-performing loans exceeds the amount of assets by 20%. Hence it appears that the stress scenario with the most pronounced impact on lower-income households is a parallel increase in interest rates.

In the medium income category, the impact of the stress tests is most apparent in the de-

fault rate of households while other variables are relatively robust. An exception is the impact on the default lag under the scenario "Parallel increase in interest rates of 4 p.p.", where there is a substantial reduction in reserves in the form of cash and strong liquid assets.

It is interesting to compare conditions in the medium and higher income categories. Under the baseline scenario, both these categories show a comparable share of households in default and, within a certain degree of tolerance, comparable household asset coverage of non-performing loans. Under the stress scenarios, however, (particularly "Decline in employment" and "Decline in real income") there is a considerable difference between the income categories in the selected variables, except for an increase in the share of households in default. First of all, the higher income category shows far more sensitivity in terms of asset coverage of loans. This may give the impression that such a result is opposite to the generally held opinion that higher income categories have substantially higher assets. However, on the one hand, the stress test assumes "fire-sale" prices, i.e. assets are depreciated due to the need to sell them quickly. On the other hand, in comparison with the baseline scenario, the scenarios of "Decline in employment" and "Decline in real income" markedly extend the default lag (almost fourfold), though not to such a great extent for the medium-income category (approximately twofold). This means that higherincome households with a negative income still have substantially greater cushion in the form of cash and other liquid assets, which can be used at short notice without being subject to depreciation.

Looking at the impact of the scenario "Parallel increase in interest rates", in contrast with other scenarios, the default lag was not extended in the higher income category. Therefore a decline in employment in combination with (moderately) rising interest rates is considered to be a scenario with very rapid materialisation.



## 3.1.2 CREDIT RISK IN THE NON-FINANCIAL CORPORATIONS SECTOR

## **UNCERTAINTY PERSISTS IN THE CORPORATE SECTOR**

The uncertainty about credit risk that marked the three years prior to 2012 continued in 2012. Although developments were somewhat more optimistic in the first half of the year, several indicators and forecasts had deteriorated by the vear-end. Such alternation between positive and negative economic news (observed in 2011 as well) represents a separate risk factor. It should be noted in this regard that later in the year there was a sales slump in the automotive industry, a slowdown in exports, a decline in new orders, and a worsening of certain confidence indicators. Given the relatively low lending activity of domestic banks to Slovakia's largest exporters, the decline in exports did not affect the banking sector's corporate loan portfolio. Towards the end of the year firms with loans from the Slovak banking sector reported sales growth higher than the average for the corporate sector and higher than export dynamics. For banks, the late-year decline in the automotive industry's performance and, relatedly, in overall export performance therefore constitutes a somewhat indirect factor of corporate credit risk.

A separate factor is the environment of low interest rates, which is significantly changing perceptions of the corporate sector's debt-service burden (Chart P30).<sup>16</sup> Lower interest rates translate into lower loan payments, and therefore they reduce firms' debt-service burden. Disregarding the current favourable effect of low interest rates, firms' debt-service burden in 2012 would be similar to that in 2008. The considerable downward effect of interest rates on the debt burden is apparent when comparing the debt burdens in 2009 and 2012. Even though corporate sales slumped between the two years, the debt burden declined due to a substantial reduction in interest rates. It should be noted, however, that during 2009 and 2010, immediately after a marked decline in the debt burden, banks reported an increase in nonperforming loans. Although credit quality is stable at present, the manoeuvring room for interest rate adjustments is very limited. Consequently, any further shock in corporate sales would be reflected to a greater extent in firms' debt burden.



Chart 67 Annual growth rate of sales in

The weighting of sales by exposure to segments means that sales are weighted by the outstanding amount of bank loans to the given segment.

A moderate increase in credit risk also affected bank lending policies in 2012. Not only were credit standards further tightened, interest rate margins on corporate loans increased slightly. This development was observed mainly in loans of up to  $\in$ 250,000, i.e. loans provided predominantly to small and medium-sized enterprises.

#### SLIGHT DETERIORATION IN THE COMMERCIAL PROPERTY MARKET

The commercial property market remained a significant source of credit risk in 2012. The outstanding amount of loans to this sector was still hovering at around 20% of total corporate loans, making it both the most significant and at the same time highly concentrated segment of the corporate loan portfolio. Furthermore, the combination of low liquidity and a high concentration of supply in the commercial property market led to a situation in which prices in the office segment did not react at all to an increase in the office vacancy rate, from 10.2% to 12.5%, its highest level since December 2009. Although the office vacancy rate in Bratislava is lower than, for example, in Budapest, its increase was a typi-

16 The debt-service burden is calculated as the ratio of the current outstanding amount of corporate loans (at the average interest rate) to total sales of the corporate sector.





cal indicator of a potential rise in credit risk. Furthermore, indicators in the residential segment of the commercial property market deteriorated slightly towards the end of the year. Net sales of new apartments in the first quarter of 2012 were lower than in the previous six quarters and their annual rate of decline was the highest since the last quarter of 2009.

## **S**TABILITY IN LOAN QUALITY

Although the corporate loan portfolio faced several headwinds, its quality as measured by the ratio of non-performing loans did not deteriorate during 2012. The NPL ratio ranged between 7.1% and 7.9%, which was lower than in neighbouring countries and slightly below its peak level in the current financial crisis, recorded at the end of 2010.

The cleansing of the NPL portfolio continued in 2012; however, most of the decline in NPLs was accounted for by their repayment, and only to a lesser extent by selling them off, writing them off, or reclassifying them as standard loans. Another change was that the default rate in terms of the amount of loans markedly increased at the year-end. The total amount of loans that defaulted in 2012 was around €165 million, just above 1% of the outstanding amount of loans. This default rate was approximately the same as that calculated as at December 2012 (Chart P28).



Although the overall macroeconomic situation is currently the main source of credit risk, its impact is relatively heterogeneous across sectors. In the last two years a number of sectors, including industry and wholesale trade, have accounted for a decreasing share of the outstanding amount of non-performing loans. By contrast, the commercial property segment has during this period become the major source of NPLs.



## **3.2 MARKET RISKS AND LIQUIDITY RISK**

## 3.2.1 CREDIT SPREAD RISK

## $\label{eq:credit_spread} \begin{array}{l} \text{Credit spread risk eased significantly in the second} \\ \text{half of } \textbf{2012} \end{array}$

In May and June 2012 escalating uncertainty about future developments in the euro area led to a marked increase in credit spreads on the government bonds of several stressed countries, including the large economies of Italy and Spain. The tensions did not abate until July, when the ECB intervened to positive effect by, on the one hand, committing itself to do "whatever it takes" to preserve the euro area and, on the other hand, launching a government bond purchase programme aimed at lowering yields. In response to these steps, the markets calmed significantly, while credit spreads narrowed quite substantially and remained at low levels until the end of 2012.

## **R**ETURN OF CREDIT SPREADS TO AN UPWARD TRAJECTORY REMAINS A SIGNIFICANT RISK

Despite the relatively calm situation described above there is a significant risk that any re-emergence of uncertainty in financial markets will cause an increase in credit spreads and therefore a decline in the value of government bonds.

Table 6 Investments 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
	XII.11	0.4	0.6	0.3	0.1	0.1	0.0	0.1
	VI.12	0.1	0.7	0.3	0.2	0.0		0.1
	XII.12	0.1	0.6	0.1	0.1	0.0		0.1
	VI.11	0.1	0.6	0.2	0.9	1.0		2.7
SDMC funds	XII.11	0.0	0.5	0.2	0.9	1.3		2.6
SPIVIC IUTIUS	VI.12	0.0	0.6	0.2	1.1	0.8		2.1
	XII.12	0.0	0.7	0.3	1.7	1.2	0.1	0.3
	VI.11		0.9	0.1	0.1	0.9		1.9
DEMC funds	XII.11		0.3	0.1	0.6	0.9		2.4
Privic Turias	VI.12			0.1	0.6	1.4		2.9
	XII.12			0.1	0.9	1.0		1.4
	VI.11	0.1	1.5	0.3	0.4	0.1	0.0	1.5
Mutual funds	XII.11	0.1	1.4	0.1	0.4	0.1	0.0	1.6
Mutual lunus	VI.12		1.5	0.1	0.5	0.1	0.0	1.3
	XII.12		0.9	0.0	0.6	0.0	0.0	0.5
Insurers (excl unit-linked insurance policies)	VI.11	0.1	0.2	0.2	2.5		0.1	0.6
	XII.11		0.2	0.2	2.4			0.6
	VI.12		0.2	0.2	2.3	0.0		0.6
	XII.12		0.2	0.1	2.2	0.0		0.6
Unit-linked insurance policies	VI.11			0.3				
	XII.11		0.1	0.3	1.2			
	VI.12		0.1	0.3				
			0.1	0.3	0.8			

Source: NBS.

Notes: Values are given as percentages and represent debt securities issued by the respective country (or institutions established in that country) as a share of total assets or NAV.

An empty cell denotes a zero value.

The figure 0.0 denotes not a zero value but a negligible value (less than 0.05).

Another stressed country not included here is Cyprus, where the exposure of the banking sector is 0.1% of assets and that of other sectors is zero.



A number of factors could cause credit spreads to widen again. One key factor in this regard is the current situation in financial markets, with yields in global bond markets standing below their long-run average. This situation may be seen as widening the imbalance and, in the event of market participants revising their credit spread demands, it could lead to a systemic decline in the value of assets and a new global increase in risk aversion. A second factor could be the risk that consolidation efforts in certain countries will not be as extensive as promised, potentially eroding the confidence of market participants in the ability of these countries to meet their liabilities in full.

## THE EXPOSURE OF SLOVAK FINANCIAL INSTITUTIONS TO STRESSED EU COUNTRIES DECLINED SLIGHTLY.

Given the risk that prices of bonds issued by stressed EU countries will fall again, it is positive that the exposure of the Slovak financial sector to such countries decreased slightly. A decline in this exposure was observed in the second half of 2012 in each segment of the financial market with the exception of unit-linked insurance, in which the exposure to Italian sovereign debt increased. Even in unit-linked insurance, however, the overall exposure to stressed countries remains low. The SPMC funds sector saw some change in its exposure to stressed countries in that its exposure to Slovenia was partially replaced by exposure to Italy and Spain.

In no sector of the Slovak financial market do overall investments in debt securities of stressed countries exceed 5% of total assets. At the level of institutions, however, such exposure is relatively concentrated.

## 3.2.2 OTHER MARKET RISKS IN THE SLOVAK FINANCIAL SECTOR FROM A SYSTEMIC PERSPECTIVE

## SEVERAL SEGMENTS CONTINUED TO REPORT AN INCREASE IN AVERAGE PORTFOLIO DURATION

All financial market segments reported an increase in average portfolio duration in the first half of 2012. In the insurance sector and in the pension sectors of Pillar II (PFMC) funds and Pillar III (SPMC) funds, this trend continued in the second half of 2012. The increase in average duration stemmed mainly from investment in fixed-coupon debt securities with longer maturities. Thus the overall portfolios of PFMC funds and SPMC funds increased markedly in their average duration, from, 0.4 to 1.4 years and 1.5 to 2.1 years, respectively. In the shortterm horizon this trend heightens the exposure of these investments to interest rate increases, but in the long term any downward revaluation of these securities would be offset by a rise in net interest income. A lengthening of duration therefore means that a sudden hike in interest rates would have a more negative impact on profitability and/or performance, and the consequent rise in interest income would come only later. On the other hand, in the case that rates decline, institutions will maintain the current level of interest income for a longer period. One reason for this change in investment strategy may therefore be the intention to minimise the adverse effects of any further longer-lasting reduction in interest rates.

## **PFMC** FUNDS INCREASED THEIR EXPOSURE TO EQUITY AND FOREIGN EXCHANGE RISK

In addition to the above-mentioned rise in sensitivity to interest rates changes, PFMC funds became substantially more exposed to equity and foreign exchange risk, too. As regards foreign exchange risk, their exposure was almost entirely confined to a depreciation of the US dollar.

### THE RISK OF A PROLONGED PERIOD OF LOW INTEREST RATES INCREASED

Sovereign bond yields declined in the second half of the year, as they had in the first half. Sovereign bond yields for higher-rated countries again reached all-time low levels. Given macroeconomic developments, it may be assumed that the period of exceptionally low interest rates will continue.

Low interest-rate risk is most pronounced in the insurance sector. Low interest rates increase the fair value of liabilities, and insurance companies are expected to create technical provisions to cover the increased value. In this regard, it is also necessary to point to the Solvency II regulation, which introduces fair-value valuation of insurance liabilities. Therefore, insurers are now



ent segments of the financial market								
		Banks	Insurers	PFMC funds	SPMC funds	Collective invest- ment	Unit-linked products <sup>1)</sup>	
	VI.11	0.3	2.6	0.0	22.1	19.3	82.0	
Equities and common fund shares/ units	XII.11	0.3	3.0	0.0	16.7	15.3	78.6	
	VI.12	0.4	2.7	1.0	17.6	17.1	77.3	
	XII.12	0.3	1.4	6.0	19.2	20.6	77.0	
	VI.11	0.2	2.2	0.1	10.1	12.5	21.1	
Foreign-exchange	XII.11	0.0	1.7	0.2	15.3	13.9	13.0	
positions	VI.12	1.4	1.0	0.0	12.2	11.7	12.2	
	XII.12	0.1	0.8	2.4	17.0	18.5	13.2	
	VI.11	25.2	69.8	70.1	58.0	46.3	17.1	
Share of debt	XII.11	24.4	71.4	71.2	59.2	45.6	20.1	
securities	VI.12	24.8	72.6	69.0	64.8	36.6	19.7	
	XII.12	23.8	72.7	68.7	64.8	31.6	21.7	
	VI.11	3.3	6.0	0.4	2.6	1.3	5.0	
Duration of debt	XII.11	3.1	5.9	0.5	2.8	1.2	4.5	
securities	VI.12	3.2	6.3	1.0	3.1	1.7	4.7	
	XII.12	3.2	6.8	1.9	3.4	1.8	4.6	
Duration of entire portfolio	VI.11	1.0	5.6	0.4	1.5	0.6	0.9	
	XII.11	0.9	5.3	0.4	1.5	0.6	0.8	
	VI.12	1.1	5.7	0.8	1.9	0.8	0.9	
	XII.12	1.0	6.1	1.4	2.1	0.8	0.9	
Residual maturity of debt securities	VI.11	4.3	8.0	1.1	4.1	2.2	5.3	
	XII.11	4.0	7.9	1.0	4.1	2.0	5.0	
	VI.12	4.1	8.0	1.6	4.0	2.3	5.1	
		4.0	8.6	2.5	4.0	2.4	5.0	

Table 7 Changes in the share of equity, foreign-exchange and interest-rate positions in different segments of the financial market

Source: NBS, Reuters, Bloomberg.

Notes: Values are given as a percentage share of total assets (or NAV) and represent the asset-weighted average for the given group of institutions. Foreign exchange positions are given as a percentage share of assets (or NAV); they were calculated as the sum of the absolute values of the positions for each institution.

Equity positions are given as a percentage share of assets (or NAV); they do not include participating interests in subsidiaries and affiliates.

Durations and residual maturities are given in years.

1) Assets invested by insurers under unit-linked insurance policies.

expected to create additional provisions so that they do not have to increase them sharply when the new regulation enters into force.

In an environment of low interest rates, it is difficult for insurance companies to generate returns that would cover the returns guaranteed in life insurance contracts. So far Slovak insurers seem to have been coping with this problem. As Charts 69 and 70 show, the average investment return is still higher than the average guaranteed rate. However, in 2012 yields on 10-year Slovak government bonds fell below the average guaranteed yield. Chart 70 shows whether insurers are able to achieve an investment return in life insurance that is higher than the average guaranteed return in life insurance. It is apparent that the situation even improved in 2012, with the lower half of the distribution shifting towards positive territory. Nevertheless, some insurers have in recent years not been earning a sufficient investment return.

Although insurers have so far managed to generate sufficient investment returns, this situation could change in future if interest rates remain at low levels. A particular risk is that maturing



## Chart 69 The guaranteed interest rate in comparison with the actual return (%)



 Investment return on assets covering technical provisions for life insurance
Yield on 10-year Slovak government bonds

#### Source: NBS.

1) Since the average guaranteed rate data for 2012 are not yet available, the data for 2011 are used as an estimate.

Chart 70 Distribution of the insurance sector's coverage of guaranteed returns with actual returns (p.p.)



#### Source: NBS.

Notes: For each insurance company the difference is calculated between, on the one hand, the investment return on assets covering technical provisions in life insurance (where the risk is borne by the insurer) and, on the other hand, the average guaranteed rate pertaining to technical reserves in life insurance (excluding unit-linked insurance).

The left-hand scale shows the maximum, minimum, interquartile range, median, and average of this variable in the insurance sector. Only life insurance companies are included.

A positive value means that the return is higher than the guaranteed rate in life insurance.

1) Since the average guaranteed rate data for 2012 are not yet available, the data for 2011 are used as an estimate.

## Chart 71 Profile of insurers' bond portfolio maturities (%)



#### Source: NBS.

Notes: The horizontal scale shows bond maturities in years. The left-hand scale shows the share of the overall portfolio accounted for by bonds covering technical provisions (excluding provisions for unit-linked insurance).

bonds are replaced with new investments while interest rates are low.

Long-term interest rates began to fall substantially from the second quarter of 2012. As at 31 December 2012 bonds purchased during the period of falling interest rates constituted 12% of the portfolio of bonds covering technical provisions (excluding provisions for unit-linked insurance). A further 20% of this portfolio is due to mature in 2013 and 2014, and these securities will have to be replaced with new investments. If low interest rates persist for the next two years, approximately one-third of the bonds in the portfolio will be purchased in the environment of such low interest rates.

## 3.2.3 THE MOST SIGNIFICANT MARKET RISKS IN PARTICULAR FINANCIAL MARKET SEGMENTS

## INTEREST RATE RISK IN THE TRADING BOOK REMAINS LOW IN MOST BANKS

In the banking sector as a whole, the share of debt securities revalued to fair value remains relatively low, standing at 1.7% as at the end of



2012. Given the relatively low average duration of these securities (1.2 years), the negative effect of any interest rate hike on their revaluation would be relatively limited.

In some banks, it is not only debt securities in the held for trading portfolio that affect the impact of interest rate movements on the revaluation of the trading book, but also other balance-sheet items revalued to fair value, as well as interest rate derivatives, which in most cases amplify this impact. In no bank, however, does the loss arising from revaluation of the trading book in the case of a parallel rise in interest rates of 1 p.p. exceed 0.2% of the value of total assets.

## BANKS' MAIN EXPOSURE IN THE BANKING BOOK IS TO THE EFFECT OF PRICE COMPETITION FOR FUNDING

As Chart 72 shows, the average duration of the banking sector's balance sheet, taking into account interest rate derivatives is relatively stable at around 1 year. This means that a parallel rise in interest rates would cause the economic value of the banking sector's balance sheet to decline by around 1%.

Developments in 2012 confirmed that banks' interest income is at present sensitive mainly to the extent of competition in the bank deposit market, in both its retail and corporate segments. It may therefore be assumed that any further de-



cline in rates would squeeze banks' interest rate margins even more, and could consequently reduce their profitability.

### FOREIGN EXCHANGE RISK AND EQUITY RISK REMAIN NEGLIGIBLE IN MOST BANKS

Across the banking sector as a whole, exposure to equity risk and foreign exchange risk is almost negligible. Overall in the sector the open foreign exchange position stands at 0.6% of own funds, and the exposure to equities and mutual fund shares/units at 3.7% of own funds.

## 3.2.4 MEASURING MARKET RISKS USING VALUE AT RISK (VAR)

## **OVERALL VAR FELL, DUE MAINLY TO DECLINING** VOLATILITY IN EQUITY MARKETS

The significant calming of financial markets in the second half of 2012, and accompanying decline in volatility (see Chart P45 in the annex) contributed to a decrease in Value at Risk (VaR). As Chart 73 shows, the most marked declines in



#### Source: NBS, Reuters, Bloomberg, internet.

Notes: VaR represents the worst expected loss over a given number of working days at a given confidence level.

 The figure for insurers does not include assets covering unit-linked insurance policies and risks arising from the revaluation of reserves.
VaR was calculated as the worst expected loss over a period of 10 working days at a confidence level of 99%.

Interest rate risk and foreign exchange risk include also indirect interest rate and foreign exchange risk, i.e. the risk to which individual institutions or funds are exposed through investments in mutual fund shares/units.


VaR occurred in the sectors of SPMC funds and collective investment funds, which have a greater exposure to equity risk. This is largely caused by an actual decline in risk: for example, the 10-day 99 % VaR for investments in the Eurostoxx 50 equity index fell over the second half of the year, from 7.5% to 3.8%.

#### LENGTHENING DURATIONS CAUSED INTEREST RATE RISK TO INCREASE IN SEVERAL FINANCIAL MARKET SEGMENTS

On the other hand, VaR for interest rate risk increased moderately, with the highest rises observed in the PFMC funds sector and in the risk of revaluation losses on insurer's assets, and to a lesser extent in the SPMC funds sector. In such institutions, the increase in VaR for interest rate risk was driven by lengthening of the average duration of the debt securities portfolio. In the case of PFMC funds this increase even caused a rise in the VaR for the sector's overall portfolio.

As regards PFMCs, the overall VaR in their mixed and equity funds is relatively homogeneous, but in two of the bond funds the VaR stands at 0.6%.

Chart 74 VaR of mutual funds and of assets

invested under unit-linked insurance policies

(percentage shares of NAV)

#### Source: NBS, Reuters, Bloomberg, internet.

Notes: Unless otherwise stated, the data are as at 31 December 2012 (the value of the total risk as at 30 December 2011 is stated for comparison).

VaR was calculated as the worst expected loss over a period of 10 working days at a confidence level of 99%.

As previously mentioned, the breakdown of investments in different funds changed substantially in 2012, most notably with an increase in investments in newly established special mutual funds. It should be noted in this regard that this change did not increase the risk exposure of the overall portfolio of investments in collective investment funds; on the contrary, this exposure declined as financial markets became calmer. It is, however, apparent that the profile of some types of special fund corresponds more to their regulatory profile than to the profile of their asset structure and therefore the risk in these funds is relatively heterogeneous. In the case, for example, of special securities funds, the median and average risk in these funds is at the level of risk in money market funds, but in some funds the risk is higher (see Table 9).

## 3.2.5 LIQUIDITY RISK IN THE BANKING SECTOR

#### THE SLOVAK BANKING SECTOR CONTINUES TO REPORT A HIGH LEVEL OF FUNDING SELF-SUFFICIENCY

Among banking sectors in euro area countries, the sector in Slovakia reports the lowest ratio of loans to primary sources of funding in the form of customer deposits and mortgage bond issues. This is further confirmed by the stability of the loan-to-deposit ratio (LTD),17 which during 2012 oscillated at around 82% (see Chart P51 in the annex). A stable LTD ratio makes it easier (i.e. cheaper) for banks to obtain funding from other sources (e.g. by borrowing from interbank market or issuing securities), which is particularly important at current times of elevated risk. Although European banks saw their funding risk ease slightly in 2012 due to developments in European financial markets, they could in future again face reduced access to wholesale funding and therefore Slovak banks will continue to have a large advantage in the sufficiency of their customer funding.

It should be noted in this regard that the availability of primary sources of funding is also reflected in low asset encumbrance (i.e. the share of assets that banks provide as collateral for secured funding). Whereas among large European banks the median asset encumbrance is between 25% and 30%,<sup>18</sup> and was increasing in 17 The loan-to-deposit (LTD) 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 selfsufficiency of the banking sector.

18 Source: Annex to the Recommendation on Fundina of Credit Institutions issued by the European Systemic Risk Board (ESRB). The data are as at December 2011. Given the risks related to high asset encumbrance in certain banking sectors, the ESRB on 18 February 2013 issued a recommendation to supervisory authorities, the European Banking Authority, Member States and the European Commission for intensification in the monitoring and transparency of asset encumbrance and bank funding in general.



Table 8 VaR in financial market segments (%)							
	Lower quartile	Median	Upper quartile	Weighted average			
Insuerers	0.3	0.8	1.0	0.9			
PFMC funds	0.2	0.4	2.0	0.4			
mixed funds	0.3	0.4	0.4	0.4			
equity funds	0.3	0.4	0.4	0.4			
bond funds	0.2	0.2	0.5	0.3			
index funds	5.6	6.2	6.9	6.0			
SPMC funds	0.6	0.9	1.2	1.0			
payout funds	0.5	0.8	0.8	0.6			
contributory funds	0.7	1.0	1.6	1.0			
Mutual funds	0.5	1.1	2.7	1.3			
short-term investment							
funds	0.1	0.1	0.2	0.2			
bond funds	0.8	1.0	1.6	1.2			
special real estate funds	0.0	0.0	0.8	0.5			
special securities funds	0.1	0.2	0.7	0.2			
mixed funds	0.8	1.5	4.9	2.6			
funds of funds	1.4	1.9	3.0	2.3			
equity funds	9.0	9.6	9.7	9.0			
Source: NBS.							

Notes: The values are given as a percentage share of total assets (or NAV); they represent quartiles or the asset-weighted average for each group of institutions.

VaR was calculated over a period of 10 days at a confidence level of 99%.

recent years, among Slovak banks it stands at approximately a half of the European median. Around half of the total amount of encumbered assets in the Slovak banking sector comprises mortgage loans pledged as collateral in mortgage bond issues. The rest are made up of encumbered securities, such as securities pledged as collateral in repo transactions with the central bank.

#### BANKS CONTINUE TO MEET REGULATORY REQUIREMENTS FOR SHORT/TERM LIQUIDITY

The liquid asset ratio, measuring the size of the banking sector's liquidity buffer against any substantial outflow of funds from volatile sources, remained largely unchanged in 2012, at just under 1.5 (see Chart P52 in the annex). Only in some smaller banks and branches of foreign banks did this ratio increase to any significant extent. It should be noted, however, that in the case of certain banks the liquid asset ratio may be partially affected by an increased transfer of funds within the banking group, by shifting retail customer deposits to collective investment funds. If these funds had been redeposited in the bank in the form of deposits with an agreed maturity of over one month, the bank's liquid asset ratio would have increased. The liquidity risk would then shift to the respective collective investment fund, which, however, is not subject to any regulatory liquidity requirements.<sup>19</sup>

Looking at pension funds and mutual funds managed by subsidiaries of Slovak banks, the total share of these funds' investments in intra-group banks stands at 14% of the amount of assets under the funds' management. In case of massive outflows from these funds, banks may face a risk of an implicit obligation to support these funds.

19 The European Systemic Risk Board has identified this absence of regulatory liquidity requirements for liquidity in money market funds as a potential future source of systemic risk. Therefore, on 18 February 2013, the ESRB published a recommendation to introduce minimum regulatory liquidity requirements for money market funds in respect of both daily and weekly liquidity.





# MACRO STRESS TESTING OF THE SLOVAK FINANCIAL SECTOR





## **4** MACRO STRESS TESTING OF THE **S**LOVAK FINANCIAL SECTOR

As in previous analyses, the stress testing in the present analysis is conducted using three scenarios. The baseline scenario follows NBS's official forecast, while the two stress scenarios assume that developments in the global economy and financial market will be more adverse and will weigh on domestic macroeconomic indicators. The baseline scenario assumes that the domestic economy will grow, albeit more moderately (particularly in 2013) than previously predicted, that the inflation will decline and that the unemployment will fall slightly. The stress scenario "Economic Downturn" includes the negative effects of a slump in external demand which reflects worse than expected global economic performance. Under the scenario, domestic demand falls in 2013 and does not make any substantial improvement in the following year. Unemployment increases during this stress period, while inflation does not deviate significantly from its trajectory under the baseline scenario. The stress scenario "Sovereign Crisis" assumes that the world economy's slump will be more moderate in 2013 but that the slump will continue until the end of the stress period. In addition, the euro area's sovereign debt crisis escalates under the scenario, causing adverse effects on the domestic economy and depreciation of the euro against the US dollar, while the downturn in the Slovak economy lasts until the end of the stress period.

The banking sector's resilience to headwinds from the real economy and financial markets would be based mainly on its strong capital adequacy ratio, which is reaching levels not seen since 2005. According to estimates, no bank would report a capital adequacy ratio of less than 8% under the baseline scenario, while one would do so under the Economic Downturn scenario and Sovereign Crisis scenario. The total additional amount of capital required so that all banks meet the 8% threshold would be  $\in$ 7.6 million under the Economic Downturn scenario (0.15% of own funds as at 31 December 2012) and  $\in$ 11.2 million under the Sovereign Crisis scenario (0.23%). The assumed ability to generate net interest income is another factor, besides the strong capital position, that is expected to help individual banks mitigate the impact of losses on different types of risk.

Of these risks, the most significant for the sector as a whole is corporate credit risk. Under all scenarios, overall losses on corporate loans exceeded losses on other portfolios in total. In certain banks, however, household loan losses or market risk losses would exceed corporate loan losses. In a notable change from previous stress tests, market risk losses under the Sovereign Crisis scenario would exceed household loan losses. Market risk losses include mainly losses on the revaluation of Slovak government bonds. Some banks would, however, also report substantial losses on the equity portfolio.

Funds managed by pension fund management companies would not be greatly affected by the stress scenarios; only index funds would be impaired to any significant extent, owing to the composition of their assets and their high sensitivity to changes in equity indices.

The stress test results show that SPMC funds are also relatively resilient to negative shocks, due mainly to their long open foreign exchange position, especially in US dollars. Given that the Sovereign Crisis scenario assumes not only a marked decline in the equity market and increase in credit spreads, but also a sizeable depreciation of the euro against the US dollar, the downward revaluation of securities is partially offset by the exchange-rate channel. In this regard, however, it should be noted that the SPMC funds sector could be exposed to a relatively high loss if the euro area sovereign debt crisis re-escalated and the euro's exchange rate against the dollar, instead of depreciating and offsetting the effects of the crisis, remained approximately stable.

A quite substantial share of collective investment funds would not face any significant difficulties under the stress scenarios since they follow a conservative investment strategy. Other funds would face relatively high exposure to equity losses but, as in the case of SPMC funds, these losses would be partially offset by the assumed appreciation of the US dollar against the euro and the consequent upward revaluation of dollar investments.



Insurance companies would be affected mainly by interest rate risk and to a lesser extent by equity risk. While the impact of an increase in risk-free rates would be partially mitigated by a decline in technical provisions, an increase in credit spreads would not be offset. Even under the baseline scenario, insurers' overall losses on the revaluation of securities would exceed their annual profit. In the event of a combined shock in non-life insurance and in financial markets, all insurers would incur a loss and the sector's overall loss would be around 28% of own funds under the Economic Downturn scenario and 44% of own funds under the Sovereign Crisis scenario.

#### 4.1 DESCRIPTION OF SCENARIOS USED

As before, the purpose of conducting macro stress testing is to assess the financial sector's resilience to headwinds from macroeconomic developments and financial markets. Scenarios are designed to simulate the impact of the largest number of risk factors that appear to be relevant to the Slovak financial sector.

As usual, the stress testing employs a baseline scenario and two stress scenarios. Each scenario refers to a two-year period covering 2013 and 2014 and uses data as at 31 December 2012.

Since stress tests require a relatively large number of simplifying assumptions, the results should not be construed as a forecast of future developments.

#### **B**ASELINE SCENARIO

The baseline scenario is based on the official Medium-Term Forecast of Národná banka Slovenska<sup>20</sup>. Under this scenario, growth is more modest compared to previous growth forecasts, principally because export growth is supposed to be lower in 2013 than in 2012 (due to weaker foreign demand growth) and because domestic demand was revised down due to subdued consumer demand. Export performance is expected to pick up in 2014, reflecting increases in global demand, and household final consumption.

The unemployment rate increases in 2013, amid negative expectations for the economy, and declines slightly in 2014.

Inflation declines due to low consumer demand, slow growth in labour costs, and the stabilisation of prices on commodity markets.



#### SCENARIO: ECONOMIC DOWNTURN

The scenario assumes that external demand will decline during the first year of the stress period due to global economic performance being worse than expected. For external demand a substantial upward correction is not expected in the second year. Financial markets are affected by headwinds from the world economy, as equity prices fall, interest rates increase and government bond yields are pushed up by higher credit spreads. The euro's exchange rate against the dollar does not differ significantly from its rate under the baseline scenario.

The above-mentioned developments should be reflected in monetary policy, which is expected to remain expansive during the stress 20 In this case, it follows the Revision of the December 2012 Medium-Term Forecast published in January 2013 (MTF-2012Q1R). http://www.nbs.sk/\_img/Documents/\_Publikacie/PREDIK/2013/ MTF-2012Q4\_a.pdf







period, and although adverse developments in the global economy would have a disinflationary effect, the combination of an accommodative monetary policy and assumed difficulties in the Middle East would put upward pressure on inflation. Hence the inflation rate does not differ significantly from the rate under the baseline scenario.

Under the scenario, GDP declines in 2013 amid a slump in external demand, weak domestic demand and the efforts of fiscal consolidation measures, without a substantial correction in 2014.

Domestic inflation under this scenario is largely unchanged from that under the baseline scenario. Unemployment increases gradually over the stress period due to the economy's weak performance.

#### SCENARIO: SOVEREIGN CRISIS

The Sovereign Crisis scenario assumes that the developments described in the Economic Downturn scenario will be adversely amplified by a further escalation of the euro area sovereign debt crisis. Under the scenario, the slump in external demand at the beginning of the stress period is more moderate due to a lower downturn in the global economy, but it continues through 2014 and causes Slovakia's economic performance to decline throughout the stress period.

Under this scenario, negative sentiment in financial markets is more pronounced and the euro depreciates against the US dollar in 2013. Due to weakening of the currency, the inflation rate is higher than the rate under baseline scenario and Economic Downturn scenario, particularly in 2014. Unemployment increases as under the previous scenario.



#### **4.2 SCENARIO IMPACTS**

At the end of **2012** the banking sector reported relatively strong resilience to headwinds from the real economy and financial markets, thanks largely to its high capital adeouacy ratio

In the latest stress tests, as in previous ones, the banking sector reported relatively strong resilience to adverse developments in the real economy and financial markets. Under the baseline scenario, no bank would have a capital adequacy ratio (CAR) of less than 8% at the end of the stress period, while under both the Economic Downturn and Sovereign Crisis scenarios one bank would fall below this threshold. The total additional amount of capital required so that all banks achieve an 8% CAR would be  $\in$ 7.6 million under the Economic Downturn scenario (0.15% of own





Source: Source: NBS, Register of Bank Loans and Guarantees, ECB, Reuters, Bloomberg.

Notes: The chart shows quartiles of the estimated profit/loss-to-asset ratio resulting from the application of the respective scenarios as at 31 December 2013.

In the case of banks, the quartiles refer to the ratio of the total estimated net profit for the 2-year period under review to net assets as at 31 December 2012.

The data for insurance companies include only the change in the fair value of assets and negative repercussions of insurance risks on their profitability. The stress testing does not include assets covering technical provisions for unit-linked insurance policies. Chart 79 Aggregate capital adequacy ratio of the banking sector under different scenarios (%)



Notes: Estimates as at the end of each year include the share of profits for that year which are to be retained to increase capital.

funds as at 31 December 2012) and €11.2 million under the Sovereign Crisis scenario (0.23%).

The average CAR at the end of the stress period would be 15.9% under the baseline scenario, 16.3% under the Economic Downturn scenario, and 15.5% under the Sovereign Crisis scenario. Whereas the CAR result under the baseline scenario is caused by increases in the amount of total capital and risk-weighted assets (due to a higher amount of lending to households and enterprises), the CAR result under each stress scenario reflects declines in capital and risk-weighted assets, as the movements in risk-weighted assets stem mainly from an assumed decrease in the amount of lending to customers.

The main factor behind this favourable result was the sector's high CAR at the end of December 2012, standing above 15.0% (15.7%) for the first time since 2005. Assuming that a certain part of the sector's profits for 2012 is retained as equity,<sup>21</sup> the average CAR increases to 16.6% and no bank reports a CAR of less than 12.3%.

21 This assumption is based on the percentage of earnings that each bank retained as equity over the previous three years.



#### THE SECTOR'S PROFITABILITY DECLINES MARKEDLY UNDER THE STRESS SCENARIO DESPITE ITS ASSUMED ABILITY TO GENERATE NET INTEREST INCOME

The test results of the sector as a whole were positive, despite the fact that sector's projected profitability under the stress scenarios was relatively negative. For the two-year stress period, the sector would make an aggregate profit of €600 million under the baseline scenario, but a profit of only €31 million under the Economic Downturn scenario and a loss of €245 million under the Sovereign Crisis scenario. The number of banks reporting a loss for the two-year stress period would be four under the baseline scenario, nine under the Economic Downturn scenario and eleven under the Sovereign Crisis scenario.

In these stress tests, as in previous ones, banks' losses would be substantially mitigated by their assumed ability to generate net interest income. Although the amount of net interest income is lower under the stress scenarios than under the baseline scenario, largely due to lower lending, it still constitutes a significant proportion of the sector's profit and loss statement. It should be noted that neither stress scenario assumes an increase in competition that could lead to a drop in net interest income.

Chart 80 Projected profit/loss of the



#### Chart 81 Main factors affecting the level of own funds under different scenarios (EUR billions)



Notes: Figures represent estimates as at 31 December 2014. The second, third and fourth bars show the contributions of different profit items to the increase/decrease in own funds. Other income/expenditure comprises mainly general operating expenses which reduce profit.

#### **C**ORPORATE CREDIT RISK REMAINS THE MOST SIGNIFICANT RISK TO THE BANKING SECTOR AS A WHOLE; MARKET RISKS ARE MORE SIGNIFICANT THAN HOUSEHOLD CREDIT RISK UNDER CERTAIN SCENARIOS

As in previous stress tests, credit risk on loans to non-financial corporations is the most significant risk to the banking sector as a whole. Under the Sovereign Crisis scenario, the sector's loss on corporate loans for the two-year stress period would be almost €550 million, equivalent to 11% of its own funds as at 31 December 2012.

Unlike in previous stress tests, the aggregate market risk loss under the Sovereign Crisis scenario (comprising losses on the revaluation of debt securities and losses on equity and foreign exchange investments) would exceed losses on household loans and amount to almost €294 million or 6% of own funds as at 31 December 2012. In some banks, market risk losses would even exceed losses on corporate loans. In most banks, market risk losses stem largely from the revaluation of debt securities, but in some banks they arise mainly from the equity portfolio. Revaluation losses on debt securities reflect mainly an assumed increase in yields





Chart 83 Impact of the baseline scenario and stress scenarios on PFMC funds



on Slovak government bonds, which at the end of 2012 were at all-time low levels.

Household credit risk is the second most significant risk to the sector as a whole under the baseline scenario and Economic Downturn scenario, but only the third most significant risk under the Sovereign Crisis scenario. In case of the Sovereign Crisis scenario, the overall loss on household loans over the stress period would be €270 million (6% of own funds as at 31 December 2012). In some banks losses on household loans would exceed losses on corporate loans.

#### THE STRESS SCENARIOS HAVE A LIMITED IMPACT ON **PFMC** FUNDS WITH THE EXCEPTION OF INDEX FUNDS

As Chart 83 shows, the impact of each stress scenario on bond, mixed and equity PFMC funds would be relatively low. Under the Economic Downturn scenario, each of these three types of fund would report a positive performance, albeit weaker than under the baseline scenario. Under the Sovereign Crisis scenario, all three fund types would make a loss due to the increase in credit spreads, although by the end of the second year their average performance would also be close to its level under the baseline scenario. The impact on index funds managed by PFMCs would be far more adverse, given the composition of the funds' investments and the fact that each stress scenario assumes a relatively sharp decline in the equity market. Since index funds account for only a small share of investments in PFMC funds, this impact would not have any significant effect on the average value of PFMC funds as a whole.

#### THE IMPACT OF THE STRESS SCENARIOS ON **SPMC** FUNDS IS SUBSTANTIALLY MITIGATED BY **USD**-DENOMINATED INVESTMENTS

The stress testing showed that the SPMC funds would also not suffer any significant drop in net asset value under the stress scenarios. This is mainly because the SPMC funds have a long open foreign-exchange position amounting to around 17% of their net asset value, and the bulk of that position is based on USD-denominated investments. Given that the Sovereign Crisis scenario assumes not only a marked decline in the equity market and increase in credit spreads, but also a sizeable depreciation of the euro against the US dollar, the downward revaluation of securities is partially offset by the exchange-rate channel.



Chart 84 Impact of the baseline scenario and stress scenarios on SPMC funds



rotes: The left-hand scale shows the average of the index of the current pension-point value weighted by the net asset value of individual funds.

In this regard, however, it should be noted that the SPMC funds sector could be exposed to a relatively high loss if the euro area sovereign debt crisis re-escalated and the euro's exchange rate against the dollar, instead of depreciating and offsetting the effects of the crisis, remained approximately stable. In that case, the sector's aggregate loss in the first year of the Sovereign Crisis scenario could be as high as 6% of net asset value. Chart 85 Impact of the baseline scenario and stress scenarios on collective investment funds (%)



Source: NBS, ECB, Bloomberg, internet.

Notes: The left-hand scale shows the estimated profit or loss as a share of the net asset value, weighted by the net asset value of individual funds.

#### SINCE MOST MUTUAL FUNDS HAVE A RELATIVELY CONSERVATIVE INVESTMENT STRATEGY, ONLY SOME OF THE RISKIER FUNDS WOULD BE SIGNIFICANTLY AFFECTED BY THE STRESS SCENARIOS

A relatively large proportion of domestic mutual funds (in terms of their share in the overall net asset value) would not be significantly affected by the stress scenarios. Most of these funds, particularly money market funds, short-term investment funds, bond funds, and special securities

2013 (%)								
	Profit	Loss (% of NAV)						
		0 – 5	5 – 10	10 – 20	20 – 30	30 – 40	more than 40	
"Conservative funds"	75.7	22.6	1.7	0.0	0.0	0.0	0.0	
Special real estate funds	32.0	65.2	2.8	0.0	0.0	0.0	0.0	
Bond funds	60.2	23.8	1.0	0.0	15.0	0.0	0.0	
Mixed funds	36.8	45.0	10.7	0.6	6.9	0.0	0.0	
Equity funds	19.5	0.6	26.1	5.0	10.8	24.1	13.8	
Funds in total	58.7	30.3	4.2	1.0	3.6	1.4	0.8	

## Table 9 Impact of the Sovereign Crisis scenario on collective investment funds as at 31 December 2013 (%)

Source: NBS, ECB, Bloomberg, internet.

Notes: "Conservative" funds include money market funds, short-term investment funds and special securities funds.

In the table, the net asset value of funds that recorded a profit or loss in the stated range under the Sovereign Crisis scenario as at

31 December 2013 is shown as a share of the total net asset value of mutual funds in the respective category.



funds, have a comparatively conservative investment strategy. Other funds would face relatively high exposure to equity losses but, as in the case of SPMC funds, these losses would be partially offset by the assumed appreciation of the US dollar against the euro and the consequent upward revaluation of dollar investments.

Given its less significant losses on an increase in credit spreads, this sector, unlike other sectors, would be less negatively affected by the Sovereign Crisis scenario than by Economic Downturn scenario. This is because the assumptions for the Economic Downturn scenario do not include a positive impact from the exchange rate channel.

#### SEVERAL INSURERS WOULD MAKE A LOSS IF INSURANCE RISK INCREASED IN CONJUNCTION WITH A DETERIORATING SITUATION IN FINANCIAL MARKETS

As regards the financial risks facing insurance companies, the most significant under the stress scenarios would be interest rate risk and, to a lesser extent, equity risk. While the impact of an increase in risk-free rates would be partially mitigated by a decline in technical provisions, an increase in credit spreads would not be offset. Even under the baseline scenario, insurers' overall losses on the revaluation of securities would exceed their annual profit.<sup>22</sup> Given the longer duration of the portfolio, the impact of the stress scenarios on interest income would be small.

The size of the loss on non-life insurance under the stress scenario is comparable with the financial losses under the Economic Downturn scenario. The probability of a simultaneous increase in losses in all lines of non-life insurance is, however, small, owing to the low correlation between the different types of insurance claims.

A highly unfavourable situation for insurers would be a combined shock in non-life insurance and in financial markets. In that case, every insurer would make a loss, and the sector's aggregate loss as a share of own funds would be around 28% under the Economic Downturn scenario and 44% under the Sovereign Crisis scenario. The losses would be partially offset by a reduction in the value of technical provisions.



Source: NBS, ECB, Bloomberg, Reuters, internet.

Notes: The left-hand scale shows the estimated profit/loss as a share of assets (except for assets covering technical provisions for unit-linked insurance), weighted by the asset value of individual insurance companies.

The chart shows only financial risk losses, not insurance risk losses. The impact of stress scenarios on the value of liabilities was not taken into account.



#### Source: NBS.

Note: CC LI – claim costs in life insurance; CC NI – claim costs in non-life insurance.

22 Since the majority of the securities are held in the available-for-sale portfolio, losses on their revaluation would be included not in the financial result, but directly in own funds.





Table 10 Stress	s test paramete	rs						
			Base	eline	Economic Downturn		Sovereign Crisis	
			scenario		scenario		scenario	
			2013	2014	2013	2014	2013	2014
	Change in externa	l demand	3%	6%	-20%	1%	-15%	-15%
	Change in USD/E	UR exchange rate	2%	0%	2%	0%	-30%	0%
	Change in exchange rates of the CHF, JPY, GBP, DKK, CAD, HRK, LVL against the EUR		0%	0%	-10%	0%	-30%	0%
	Change in exchange rates of other currencies against the EUR		0%	0%	0%	0%	30%	0%
	Change in equity	prices	0%	0%	-35%	0%	-50%	0%
	Change in the EC	B key rate	-25 b. p.	15 b. p.	0 b. p.	0 b. p.	0 b. p.	0 b. p.
	Change in the 3-r	nonth EURIBOR	5 b. p.	16 b. p.	75 b. p.	0 b. p.	93 b. p.	-1 b. p.
	Change in 1-year	discount rate (EUR)	102 b. p.	19 b. p.	118 b. p.	14 b. p.	114 b. p.	18 b. p.
	Change in 2-year	discount rate (EUR)	119 b. p.	18 b. p.	135 b. p.	15 b. p.	131 b. p.	18 b. p.
	Change in 5-year discount rate (EUR)		135 b. p.	20 b. p.	149 b. p.	18 b. p.	147 b. p.	20 b. p.
Baseline	Change in the 5-year iTraxx Senior Financials index		-32 b. p.	0 b. p.	182 b. p.	0 b. p.	282 b. p.	0 b. p.
assumptions	Change in 5-year German government bond yields		30 b. p.	44 b. p.	18 b. p.	18 b. p.	-2 b. p.	-2 b. p.
	Change in 5-year Slovak government bond yields		23 b. p.	37 b. p.	85 b. p.	18 b. p.	337 b. p.	-2 b. p.
	Increase in 5-year credit spreads of PT, IE, ES, IT		0 b. p.	0 b. p.		0 b. p.	500 b. p.	0 b. p.
	Increase in 5-year credit spreads of SK, SI, BE, HU		0 b. p.	0 b. p.		0 b. p.	300 b. p.	0 b. p.
	Increase in 5-year	credit spreads of CZ, PL	0 b. p.	0 b. p.	Return	0 b. p.	200 b. p.	0 b. p.
	Increase in 5-year credit spreads of AT, FR		0 b. p.	0 b. p.	to value as at	0 b. p.	100 b. p.	0 b. p.
	Increase in 5-year credit spreads of GB, CH, US, FI, NL		0 b. p.	0 b. p.	30 September 2012	0 b. p.	50 b. p.	0 b. p.
	Increase in 5-year credit spreads of DE, JP		0 b. p.	0 b. p.		0 b. p.	0 b. p.	0 b. p.
	Increase in the slope of the credit spread curve <sup>1)</sup>		0 b. p.	0 b. p.		0 b. p.	Increase to max. 2012 level	0 b. p.
Modelled	Annual real GDP g	Annual real GDP growth		3.3%	-6.0%	-4.4%	-3.7%	-9.1%
macroeconomic variables	HICP inflation		2.0%	1.7%	2.5%	1.2%	2.9%	1.9%
	Unemployment		14.6%	14.1%	16.0%	17.4%	15.7%	17.4%
Credit risk	Annual	Non-sensitive sectors	0.6%	0.6%	1.3%	2.4%	1.4%	1.9%
variables	probability of	Less sensitive sectors	1.5%	1.3%	2.1%	3.4%	2.2%	4.1%
estimated using	default	Sensitive sectors	4.2%	3.8%	5.2%	9.0%	5.6%	9.8%
macroeconomic variables	Non-performing loan ratio for house- hold loans		5.6%	5.5%	7.1%	7.7%	7.0%	8.6%

Source: NBS. 1) The slope of the credit spread curve is in this case defined as a difference between the 5-year and 1-year credit spread.

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# MACROPRUDENTIAL INDICATORS OF THE FINANCIAL SECTOR





### **MACROPRUDENTIAL INDICATORS OF THE FINANCIAL SECTOR**

#### **GENERAL NOTES:**

The formulation, index: 31 December 2011 = 1' means that the given index was set in such a way that its value as at 31 December 2011 was 1.

#### **MACROECONOMIC RISK INDICATORS**





Source: Bloomberg.

Notes: A definition of the indicator is given in the section "Glossary and abbreviations".

Source: Bloomberg.

Notes: A definition of the indicator is given in the section "Glossary and abbreviations".







Source: Bloomberg.

Notes: The Chart refers to US consumer confidence indices produced by two different institutions.





Notes: A definition of the indicators is given in the section "Glossary and abbreviations".



## Chart P6 Consumer price inflation in selected economies (%)









**Chart P9 Public services balances of EU** countries in 2012 (%)







#### FINANCIAL MARKET RISK INDICATORS

Chart P11 Price commodity indices (31 December 2011 = 1)













the yield to maturity on 10-year and 3-month government bonds.















Chart P21 Credit spreads on 5-year government bonds issued by stressed countries (p.p.)



Notes: The left-hand scale shows percentage differences between yields on 5-year bonds issued by the different countries and 5-year OIS rates, representing a 5-year interest rate on high-rated bonds. Chart P22 Credit spreads on 5-year government bonds issued by selected central European countries and Germany (p.p.)



Source: Bloomberg, NBS calculations.

Notes: The Chart shows percentage differences between yields on 5-year government bonds denominated in the domestic currencies of the countries and 5-year swap rates for the respective currencies.



#### **CORPORATE CREDIT RISK INDICATORS**





Chart P25 Sales in selected sectors compared with their level for the period June 2007 to June 2008





**Chart P26 Labour productivity and wages** 

Sales / number of hours worked – current prices (left-hand scale)
Sales / number of hours worked – 2006 prices (left-hand scale)

#### Source: NBS, SO SR.

in industry





Notes: The spread is defined as the difference between the monthly EURIBOR rate and the average rate on new loans in the respective category.

















## Chart P34 Liabilities of non-financial corporations (%)







#### HOUSEHOLD CREDIT RISK INDICATORS

Chart P35 Household indebtedness in Slovakia and in selected countries – total debt to disposable income ratio (%)





Chart P37 Changes in the number of unemployed by income category



Left-hand and right-hand scales: numbers of job seekers.

ry and abbreviations".









## Chart P41 Consumer confidence index and its components





Notes: Left-hand scale: ratio of non-performing household loans to total household loans.





Notes: The ratio is defined in the section "Glossary and abbreviations".

#### MARKET RISK AND LIQUIDITY RISK INDICATORS



Notes: The data represent the highest loss (as a percentage of the given investment) that would be expected over a period of 10 days at a confidence level of 99%. This loss was determined on the basis of a risk factor volatility calculation, using exponentially weighted moving averages.



tion "Glossary and abbreviations".



0.

Data as at 31 December 2012 Data as at 30 June 2012

under each scenario of the sensitivity analysis. The sensitivity

analysis is described in more detail in the section "Glossary and abbreviations".

nterest rate risk

(revaluation)



#### **Chart P47 Sensitivity to different risk** Chart P48 Sensitivity to different risk types in the sector of PFMC funds types in the SPMC funds sector Foreign exchange risk 2.0% 1.5% 1.0% Equity Credit Credit 0.5% risk spread risk spread risk 0.0% nterest rate risk Interest rate risk Interest rate risk (change in (revaluation) (change in economic value) economic value) Data as at 31 December 2012 Data as at 30 June 2012 Source: Bloomberg, NBS calculations.

Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. The sensitivity analysis is described in more detail in the section "Glossary and abbreviati-

ons".

#### Source: Bloomberg, NBS calculations.

Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. The sensitivity analysis is described in more detail in the section "Glossary and abbreviations".

Data as at 31 December 2012

Data as at 30 June 2012

Foreign exchange risk

Equity

risk

Interest rate risk

(revaluation)

2.0%

1.5%

1.0%

0.5%

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#### Chart P49 Sensitivity to different risk types in the collective investment sector



#### Source: Bloomberg, NBS calculations.

Notes: The data represent the loss (as a percentage of NAV) under each scenario of the sensitivity analysis. The sensitivity analysis is described in more detail in the section "Glossary and abbreviations".

#### Chart P50 Sensitivity of insurers' assets to different risk types



#### Source: Bloomberg, NBS calculations.

Notes: The data represent the percentage decline in the value of assets under each scenario of the sensitivity analysis. The sensitivity analysis is described in more detail in the section "Glossary and abbreviations".





#### Source: NBS.

*Notes: ARDAL – Debt and Liquidity Management Agency.* 









#### **GLOSSARY OF TERMS USED**

AFS portfolio - portfolio of assets available for sale.

Average annual return on pension funds – an indicator calculated as a weighted average of the annual percentage changes (APC) in the daily values (DV) of pension points of the respective pension funds. The year-on-year percentage changes in the daily values of pension points are calculated as at 31 December 2012 (APCDVPP 31.12.2012) according to the following formula:

 $PMZDHDJ_{31,12,2012} = \left(\frac{DJ_{31,12,2012}}{DJ_{31,12,2011}} - 1\right) * 100\%$ 

where PP is the value of a pension point on the given day.

The weight applied is the ratio of the respective fund's net asset value (NAV) to the sum of NAVs of funds of the same type. The return is given in nominal terms, which means that inflation is not deducted. As a rule, the return on various types of investment is calculated in nominal terms, according to the standard statutory methodology.

This return, however, is not identical to the return in the saver's personal pension account, which is determined on an individual basis. The input data were the pension point values from the different pension funds reported to Národná banka Slovenska by pension funds management companies for 31 December 2011 and 31 December 2012, which are available on the website of Národná banka Slovenska.

Average return of market rivals – the average of the moving averages of the following: the year-onyear percentage changes in the daily pension point values of the pension fund's market rivals calculated for the previous 24 months and rounded up to 2 decimal places.

Average return on a PFMC's pension fund – the moving average of the following: the year-on-year percentage changes in the daily pension point values of a pension fund managed by a pension funds management company, calculated for the previous 24 months and rounded up to two decimal places.

Capital adequacy ratio - ratio of own funds and 12.5 times the capital adequacy requirement.

*CLI index* – an index of the weighted average of composite leading indicators for selected countries, with each country weighted according to its share of Slovak exports. Published by the OECD, the CLI is a composite indicator of changes in economic activity.

Combined ratio - the expense ratio and loss ratio relative to earned premiums.

*Cost-to-income ratio* – the ratio of total operating costs and net income from banking activity: (purchased performances + staff costs + social costs + depreciation) / (amortisation of tangible and intangible assets + taxes and fees/revenues from equities and ownership interests + net income from fees and commissions + net income from securities transactions + net income from derivative transactions + net income from foreign exchange transactions + net income from other transactions).

*CR n index* – the concentration of the *n* largest banks, i.e., the sum of their assets as a share of total assets.

Cumulative gap - the sum of open positions (long or short) in certain time bands.

Default rate / delinquency rate - the percentage of loans defaulting over the period monitored.

*Deleveraging* – the process of reducing the share of borrowed funds, or increasing the share of own funds (capital), in a balance sheet.

*Emerging markets* – developing markets undergoing rapid growth and industrialisation.

Enterprises – non-financial corporations.

*ESI (Economic Sentiment Indicator)* – an indicator of economic sentiment produced by the European Commission.

*Euro Libor/OIS spread* – an indicator that takes account of how banks perceive the credit risk of interbank lending.

Expense ratio - ratio of operating expenses to earned premiums.

*Financial intermediation* – for the purpose of this analysis, financial intermediation stands for financial flows between entities and not the mediation of financial services.

General government - central and local government bodies.

*Herfindahl index (HHI)* – an index representing the sum of the squares of the shares of individual banks' assets in total assets.

Household disposable income – an indicator calculated as the sum of the components of the gross personal income of all members of a household (gross financial income from employment and closely related income, gross non-financial income from employment, gross financial gains or losses from self-employment [including royalties and fees], unemployment benefits, old-age pension benefits, survivor's pension benefits, sickness benefits, invalidity benefits and contributions for education) plus components of the gross income at the household level (income from rented assets or land, family benefits and contributions paid to families with children, the social exclusion not classified elsewhere, housing benefits, financial transfers regularly received between households, interest, dividends, capital gains from a non-registered business, income of persons younger than 16 years of age less regular property taxes, regular paid financial transfers between households, income tax, and social insurance contributions).

Household income categories – a categorisation based on the KZAM employment classification and KZAM income data; it consists of three categories: higher-income category (income of over  $\in$ 800 per month) – legislators, senior officials and managers, scientists, professionals, technicians, health professionals, and teaching professionals; middle-income category (income between  $\in$ 600 and  $\in$ 800 per month) – office workers, craft and skilled workers, processors, and plant and machinery operators; lower-income category (income of up to  $\in$ 600) – service and retail workers, agricultural and forestry workers, auxiliary and unskilled workers.

Households - the population, i.e., the accounts of individuals.

Housing affordability index – an index representing the ratio of disposable income to loan instalments. The calculation of disposable income takes into account the average wage and average expenditure of households; the calculation of the instalment amount takes into account the average apartment price, average interest rate, average maturity, and a constant LTV ratio (75%). The calculation methodology for the housing affordability index is set out in the following paper: Rychtárik, Š., Krčmár, M. (2011), "Vývoj na trhu úverov na bývanie a jeho interpretácia" (Developments in the housing loan

NBS

market and their interpretation), Nehnuteľnosti a bývanie 2010 (Real Estate and Housing), Vol. 2, Bratislava, 2010.

HTM (held to maturity) portfolio – portfolio of financial instruments held to maturity.

Inflation-linked swaps – swap transactions in which one counterparty pays a fixed rate (a swap price) and the other pays a rate corresponding to the return on a selected price index (e.g. the euro area HICP or the US consumer price index). The inflation-linked swap price is calculated on a non-coupon basis (i.e., both payments are made when the swap matures).

*Interest rate spreads* – the difference between lending rates/deposit rates and the respective interbank rates.

*iTraxx index* – an index of credit default swaps.

*Liquid asset ratio* – the ratio of liquid assets to volatile liabilities over a horizon of one month. Its level should not fall below 1.

*Loans at risk (LAR)* – an indicator of corporate credit risk that measures the share of corporate loans provided to enterprises whose financial position has sharply deteriorated. LAR represents the share of total corporate loans that comprises loans to enterprises which in the given quarter have reported a net loss and a drop in sales of more than 30%. The reference period is from July 2007 to June 2008.

*Loan-to-deposit ratio* – the ratio of loans to customers and the sum of retail deposits, deposits of enterprises, deposits of financial corporations, and issued mortgage bonds. It indicates the extent to which loans are financed with stable funds from customers. The lower the value, the greater the extent to which loans are financed with customer deposits, and therefore the lesser the extent to which they are financed through the more volatile financial markets.

Loan-to-value ratio – the loan volume divided by the value of the collateral used.

Long position – a position in which assets are greater than liabilities.

Loss ratio - the percentage ratio of:

- the sum of claims cost and the change in the gross technical provision for claims, to
- earned premiums, i.e., the gross premium after deducting the change in the gross technical provision for unearned premiums.

*Net balance-sheet / off-balance-sheet position –* the difference between foreign exchange assets and liabilities in the balance sheet/off-balance sheet.

*Net interest rate spread* – the difference between the rate of return on loans (interest income on loans as a share of total loans) and the cost of deposits (interest expenses on deposits as a share of total deposits).

*Net percentage share* – a figure used in the evaluation of responses to the Bank Lending Survey; it is calculated by taking the lending of banks that relaxed lending standards and those that tightened lending standards and finding the difference between the percentage share of each in total lending. The individual responses of banks are weighted by the average volume of loans of the respective type.

*Non-bank financial corporations (NBFCs)* – other financial companies, financial intermediaries, pension and mutual funds, insurance companies.

*Non-performing loans* – loans with impairment of more than 50% of their value or with payment past due by 90 days or more.

*Open position for up to 3 months* – the difference between, on one hand, the sum of claims against customers and debt securities issued by banks and enterprises which have a residual maturity of up to 3 months, and, on the other hand, the sum of liabilities towards customers and issued securities which have a residual maturity of up to 3 months.

*PMI (Purchasing Managers' Index)* – an indicator of the economic health of the manufacturing or service sector: an index value of more than 50 represents expansion, while a value of below 50 represents contraction.

*Premium* – the price agreed in individual insurance contracts regardless of the method of their financial reporting.

*Provisions for unit-linked insurance policies* – technical provisions created for life insurance business associated with investment funds in the A4 insurance line.

Retail sector - households, sole traders and non-profit institutions mostly serving households.

Sensitivity analysis – an analysis of sensitivity which includes four scenarios as follows: share prices declining by 10%; other currencies weakening against the euro by 5%; interest rates increasing in parallel by 0.3 percentage point; and credit spreads on bonds issued by Greece, Portugal, Ireland, Spain and Italy widening by 2 percentage points. In the case of interest rate risk, the impact on the revaluation of instruments valued at fair value is calculated, as is the impact on the economic value that represents the revaluation of all financial instruments. Individual risk types include also indirect risks that institutions are exposed to by virtue of their investments in mutual fund shares/units. The calculation of these indirect risks was based on the mapping of the different types of fund units/ shares into the set of risk factors.

Short position – a position in which liabilities are greater than assets.

*Total net position* – the sum of the net balance-sheet position and net off-balance-sheet position.

*VSTOXX* – an indicator of implied volatility for the Dow Jones EURO STOXX 50 index, derived from options in this index. The higher the value, the higher the level of volatility.

ZEW survey – a survey of economic sentiment conducted by Zentrum für Europäische Wirtschaftsforschung (Centre for European Economic Research), a private economic research institute based in Germany.

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#### **ABBREVIATIONS**

APCDVPP	year-on-year percentage change in daily values of pension points
BF	balanced fund
b.p.	basis point
CAR	capital adequacy ratio
CBRE	CB Richard Ellis
CF	conservative fund
CI	collective investment
CLI	composite leading indicator
CMV	comprehensive motor vehicle (insurance)
CR n	index of the concentration of n largest institutions
CZK	Czech koruna
EBF	European Banking Federation
ECB	European Central Bank
ECJ	Court of Justice of the European Union
EIB	European Investment Bank
ETF	exchange traded funds
EU	European Union
EUR	euro
Furibor	Euro Interbank Offered Rate
GDP	gross domestic product
GE	growth fund
HECS	Household Finance and Consumption Survey
нні	Herfindahl index
IF	investment firm
IRR	internal rating based (approach)
K7AM	Klasifikácia zamestnaní / Employment Classification
	loans at risk
	loss aiven default
	life insurance
	longer-term refinancing operation
	loan-to-value (ratio)
	mortgage bend
	motor third party liability (insurance)
	notor third-party liability (insurance)
	Nérodné banka Slovenska
INR2	
OECD	Organisation for Economic Co-operation and Development
OF	own funds
PFMC	pension funds management company
p.p.	percentage point
RBLG	Register of Bank Loans and Guarantees
ROA	return on assets
ROE	return on equity
SASS	Slovak Association of Asset Management Companies
SKP	Slovenská kancelária poisťovateľov / Slovak Insurers' Bureau
SMEs	small and medium-sized enterprises
SPF	supplementary pension fund
SPMC	supplementary pension funds management company
SO SR	Statistical Office of the Slovak Republic
SR	Slovak Republic



Tier 1, Tier 2,

- Tier 3 types of capital measured for the purposes of capital adequacy ratios
- ULC unit labour costs
- UPSVaR Office of Labour, Social Affairs and Family
- USD US dollar
- VaR value at risk





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