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Financial Stability Report

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The aim of this *Report* is to assess financial system stability in Poland. Financial system stability is a situation when the system performs its functions in a continuous and efficient way, even when unexpected and adverse disturbances occur on a significant scale. The stability of the financial system is a necessary condition for ensuring sustainable economic growth.

The stability of the banking system is of particular importance for financial system stability. Banks play a crucial role in financing the economy and settling payments. They also perform another important function, by providing products that allow other entities to manage their financial risk. Therefore, special emphasis is put on the analysis and assessment of banking system stability.

Financial system stability is of particular interest to the NBP due to its statutory tasks to contribute to the stability of the domestic financial system and to establish the necessary conditions for the development of the banking system. Financial system stability is closely related to the primary task of the central bank, i.e. maintaining price stability. The financial system plays a key role in the transmission of monetary impulses to the real economy. Financial system instability may hamper the efficient implementation of the monetary policy. The analysis of the financial system stability also constitutes a necessary element of an efficient regulatory and supervisory policy, in the development of which the NBP plays an important role and which, together with the monetary policy, contribute to maintaining sustainable economic growth. Another reason for the involvement of the National Bank of Poland in activities supporting the stable functioning of the financial system is the fact that the central bank is entrusted with the task of organising monetary clearing. One of the necessary conditions for the smooth operation of payment systems is the stable functioning of financial institutions that are integral components of these systems.

The "Financial Stability Report" is primarily addressed to financial market participants as well as to other persons and institutions interested in the subject. The aim of the *Report* is to present conclusions from analytical and research work on financial system stability, including the assessment of its resilience to potential disturbances. Disseminating this knowledge should support the maintenance of financial stability through, among others, better understanding of the scale and scope of risk in the financial system. This enhances the probability of a spontaneous adjustment of the behaviour of those market participants that undertake excessive risks, without the necessity of public entities' intervention into market mechanisms. Thus, the information policy of the central bank is an important instrument for maintaining financial system stability.

The analysis conducted in this *Report* is based on data available up to 31 October 2013 (cut-off date). The *Report* was approved by the Management Board of the National Bank of Poland at a meeting on 19 December 2013.

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Chapter 1.

A synthetic assessment of Poland's financial system stability

The "Financial Stability Report" discusses the current situation of the most important segments of Poland's financial system and the results of analysis of main economic risks that institutions operating in the Polish market are exposed to. The *Report* also presents an assessment of the resilience of major financial institutions to the materialisation of these risks.

1.1. Assessment of financial stability and its outlook

In the period analysed in the *Report*[1], the Polish financial system functioned in a stable manner, and the condition of its major segment, the banking sector, was favourable. The situation in the Polish economic environment is the most important risk factor for the stability of the domestic financial system. Domestic risk factors associated with a less favourable situation of some financial institutions were less significant. The substantial resilience of key segments of the domestic financial system to shocks leads to the assessment that despite a relatively low economic growth rate outlook and a persistent euro area debt crisis, the risk of materialisation of threats to domestic financial system stability has declined somewhat since the publication of the last edition of the *Report*.

Conditions in the economic environment of the Polish financial system have improved slightly. Poland's economic growth remained low – after a decline from 4.3% in 2011 to 1.9% in 2012, and amounted to 0.5% and 0.8% in the first two quarters of 2013. However, preliminary data on GDP growth in the third quarter of 2013 (1.9% y/y) show that the period of the most severe economic slowdown ended in the first half of 2013.

Outlook for the environment of the Polish economy, which will affect the operating conditions of Poland's financial system, improved since the publication of the previous edition of the *Report*. Growth forecasts for the world economy, most notably in the euro area, for 2014–2015 have not changed substantially (according to the autumn European Commis-

[1] In this *Report*, the analysis is focused on data available in the period from the cut-off date of the previous edition, i.e. 31 May 2013.

sion macroeconomic forecasts, GDP in the euro area is expected to grow by 1.1% in 2014 and by 1.7% in 2015, compared to GDP growth of 1.2% in 2014 in the spring 2013 projection). Euro area GDP data show that in the second and third quarter of 2013, GDP grew, in quarter on quarter terms, after six successive quarters of falls. Despite forecasts of an acceleration in economic growth in 2014, the recovery remains fragile due to lower-than-in-the-past economic growth rate in large emerging economies and low economic activity in some large euro area economies. It can be said, however, that the probability of a recurrence of a severe economic slowdown has diminished, which is a positive development.

Despite the prospect of only a gradual increase of economic growth, persistent problems of public finance and a difficult situation of the banking sector in some euro area countries, financial market participants remained optimistic, which was pointed out also in the previous edition of the *Report*. The expansionary monetary policy of major central banks helped to calm down the situation in financial markets. The changing expectations of the timeline of the expansionary monetary policy of the Federal Reserve coming to an end had a significant impact on the financial market sentiment.

The impact of these phenomena on the developments on the domestic financial market, most notably the government bond market, was smaller than for other emerging markets. This shows that the impact of future changes in monetary policy in major developed economies on emerging markets may largely depend on the assessment of country-specific fundamentals. Therefore, Poland's stable macroeconomic situation implies that this impact should be limited. Low Polish government bond risk premium, reflected in CDS premia, indicates that Poland's solvency is rated positively by investors. As the portfolio of government bonds held by domestic banks is almost exclusively composed of Polish bonds[2], it can be said that risk to domestic financial system stability associated with sovereign credit risk is very low.

The November NBP macroeconomic projection indicates that Poland's GDP growth will accelerate in 2014–2015 compared to 2013. However, employment will grow and the unemployment rate will decline only in 2015. The growth outlook is slightly better than in forecasts made in mid-2013, when the former edition of the *Report* was being developed. Despite the acceleration of economic growth, due to a lagged response of the labour market to an improvement of economic conditions, the effects of economic slowdown from 2012-2013 are likely to reduce the profitability of financial institutions in the coming quarters (i.a. via the impact of credit risk materialisation costs). These trends may lead to tensions in some weaker financial institutions.

In the second and third quarter of 2013, the banking sector's earnings and profitability ratios were slightly lower than in the period analysed in the previous edition of the *Report*. The net interest margin continued its downward trend, which began in 2012, which was associated with a continued strong competition for deposits and a fall of market interest rates, linked to monetary policy decisions. The scale of the decline of the net interest margin did not, however, endanger banking sector stability. On the other hand, the ratio of credit risk costs to assets slightly declined, and the quality of the portfolio of loans to the financial sectors slightly improved. Lending growth remained at a stable, albeit, low level related to a relatively low economic growth rate and reduced demand amid a cautious lending policy of banks. The consumer loan market showed signs of improvement.

The loss absorption capacity of banks improved in the period analysed in the *Report*. The average cap-

[2]The share of debt instruments issued by foreign entities in the Polish banking sector's assets is 0.2%.

ital adequacy ratios of banks increased, mainly due to an increase of regulatory capital of the majority of banks. Since the onset of the global crisis in 2008, no bank in Poland has required recapitalisation with public funds. The capital adequacy ratio of the Polish banking sector is close to the average for EU countries, however conservative risk weight calculation and high quality of banks' capital result in a low and stable level of leverage of the domestic banking sector and in its high resilience to shocks.

The results of macro stress tests prove that a large portion of domestic commercial banks hold sufficient capital to absorb the effect of a severe economic slowdown and to maintain high capital adequacy levels. The results of shock analysis for liquidity risk show that the resilience of banks to liquidity risk improved. It should be pointed out that the analyses were performed according to very restrictive assumptions; the probability of these assumptions materialising can be termed as low.

The current financial condition of the cooperative banks sector as a whole can be assessed as stable, similarly as the condition of commercial banks. The quality of the loan portfolio of cooperative banks was better and their net interest margin was higher, however as cost efficiency was significantly lower their profitability was slightly lower than that of commercial banks. The value of the capital adequacy ratio of cooperative banks was lower than this ratio for commercial banks. An overwhelming majority of cooperative banks have a surplus of deposits over loans, which makes them unexposed to risk associated with the use of market funding. However, the falling profitability of the cooperative banks sector points to the challenges it faces. Low cost efficiency associated with a small scale of operations of a portion of cooperative banks is one of the challenges. Another challenge is the model of cooperation with the associating banks, which – in many cases – results in the transfer of business risk from cooperative banks to the associating bank. However, the stable condition of the sector provides a supportive environment for making the necessary adjustments, including a tighter integration of the associations, which would allow to mitigate the current risks. Lack of closer integration, or even a disintegration of the associations, would increase the risk in the operations of the cooperative banks.

The "Financial Stability Report" presents an analysis of risk related to banks' mutual exposures as well as the interconnectedness between banks and other financial institutions. The analysis indicates that besides the interconnectedness between cooperative and associating banks – which results from the model of operation of cooperative banking – other types of connections are no substantial source of risk to financial stability. In particular, due to a relatively minor scale of interconnectedness between insurance companies, investment fund management companies (TFIs), pension fund management companies (PTEs) and credit unions with banks, the impact of these institutions on Poland's banking sector is limited and they do not generate systemic risk.

The situation of insurance companies, TFIs and PTEs posed no major threats to financial system stability. In the first half of 2013, the technical and financial results of the life insurance sector declined compared to the corresponding period of 2012, which was primarily driven by the reduced sale of insurance investment instruments. The technical profitability of the non-life insurance sector improved. The decline in the solvency ratios of insurance companies, related to the payout of part of capital as dividend by the PZU group, which is characterised by very high capital adequacy – did not pose a risk to the stable functioning of this sector. The planned amendments to the pension system will reduce the scale of operations of open pension funds, which will probably lower the

Table 1.1. Synthetic assessment of domestic financial system stability

Area of assessment	Change since the previous edition of the *Report*
Banks' current financial standing	►
Banks' shock absorption capacity	▲
Non-bank financial institutions current financial standing	►
Outlook for environment of Polish economy	▲
Synthetic assessment of outlook for domestic financial system stability	▲

Notes: ▲▲ – significant improvement, ▲ – improvement, ► – no change, ▼ – deterioration, ▼▼ – significant deterioration. Outlook for the environment of the Polish economy takes account of both most likely developments and a risk of the materialisation of a significantly more unfavourable scenario. In this Table, non-bank financial institutions include institutions discussed in Chapter 4.
Source: NBP expert assessment.

profitability of PTE operations in the long run. The proposed changes will not adversely affect financial system stability.

The financial condition of the credit unions sector in the first half of 2013 was regarded by KNF as difficult, especially as far as the sector's capital levels are concerned, that are assessed as inadequate[3] The liquidity position of the credit unions sector improved in the first half owing to a faster rise in deposits than loans and earmarking the funds obtained for an increase in the holding of liquid assets. The credit union sector needs restructuring, and the process will be additionally supported by the fact that deposits of credit union members are covered by the BFG guarantee. At the end of the first half of 2013, 44 credit unions were required by KNF to develop rehabilitation programmes, and it appointed administrators at 3 credit unions to carry out their restructuring. Due to a minor share in the financial system and a small scale of interconnectedness with other financial institutions, in particular with the banking sector, the situation of credit unions should not generate systemic risk.[4] The weak capital position of the credit union sector increases its vulnerability to shocks and may lead to a decrease of confidence of clients in financial institutions, through reputational effects. Moreover, a smooth restructuring of the sector is desirable as credit unions play a significant role of a financial services provider for some client categories.

1.2. Systemic risks

Cyclical risk

Risk factors viewed from the cyclical perspective (time dimension of systemic risk) are associated with uncertainty about future macroeconomic trends. In the Polish economy there are presently no significant macroeconomic imbalances whose adjustment could negatively affect the situation of the real sector and a stable operation of the financial system. At present, the sources of risk from the time dimension perspective concern primarily developments in the European Union countries and other developed countries. The banking crisis, coupled with the public finance crisis, persists in several euro area countries. These negative developments are accompanied by excessive private sector debt, which is mostly the legacy of the property market boom of the pre-crisis period.

The most likely scenario for global economic climate remains a gradual acceleration of economic growth, albeit lagged compared to past forecasts. The autumn European Commission economic fore-

[3]The KNF opinion was presented in the report "Informacja o sytuacji spółdzielczych kas oszczędnościowo-kredytowych w I półroczu 2013 r." [Information on the condition of credit unions in H1 2013], available on the KNF website www.knf.gov.pl
[4]For definition of this term, see *Glossary*.

cast shows that the majority of countries in economic distress will post low, albeit, positive GDP growth in 2014-2015. However, the forecasts are highly uncertain. It is difficult to say when these economies will return to the path of sustainable economic growth. Neither a renewed strong GDP decline in Poland's main trading partners nor a prolonged continued slow pace of economic growth would be good for the Polish economy. Such developments cannot be dismissed, although the latter is more likely.

The expansionary monetary policy of major central banks helped to ease tensions in financial markets and boosted optimism of market players. In the euro area, the possibility of ECB intervention in the government bond market under the Outright Monetary Transactions programme – the option that has not been used so far – is of great importance. Investor optimism may, however, be dampened if longer-term recession persists in the euro area or new problems emerge in reaching a political agreement in the United States over fiscal policies.

A lasting recovery of investor confidence in fiscally-distressed countries is necessary for the euro area as a whole to return to the path of sustainable economic growth. A recurrence of recession would hinder improvement of the public debt—to-GDP-ratio in the euro area peripheral countries and could trigger a resurge in the yields of their bonds. This would contribute to an intensification of a negative feedback, where the mutually reinforcing concerns regarding the solvency of countries and institutions lead to a deeper recession, a decline in financial market liquidity, capital outflow and problems with debt refinancing by financial institutions.

The risk of such a feedback may be reduced, if the euro area puts in place effective solutions in the area of supervision of financial institutions, deposit guarantees and resolution of these institutions (the so-called banking union proposal). Besides these institutional solutions, strengthening of the capital and liquidity positions of European banks remains an important challenge. The Comprehensive Assessment conducted jointly by ECB and EBA of the financial condition of banks covered by ECB supervision may play an important role here. This assessment will include an asset quality review – meant to provide detailed and standardised information on the current condition of banks, and stress tests that should assess banks' resilience to a deterioration in their environment.

If the scenario outlined above were to unfold, this could lead to the materialisation of funding risk and an increase in credit risk cost in the Polish banking sector. A recurrence of turmoil in global financial markets would contribute, via its negative impact on the economic condition of developed markets, to a slowdown in Poland's economic growth, which would eventually result in a deterioration in loan quality. A significant share of high LtV loans in banks' loan portfolios is the factor that may increase the potential impact of the slowdown on credit losses in the portfolio of housing loans.

Economic slowdown would also have an adverse impact on the condition of public finance and Poland's perceived credit risk. A relative fall in the attractiveness of the yield on domestic government bonds for global investors and, consequently, a potential reduction in demand for these instruments or even their sale by foreign investors in the secondary market would result in a surge of their yields and a paral-

[5] Such phenomena may also occur amid strengthened expectations for an improvement in the condition of major global economies and the end of an expansionary monetary policy. The response to the phasing out of the liquidity provision programmes by major central banks may significantly push up market interest rates in major economies. This situation would lead to a relative fall in the attractiveness of domestic government bonds, increase in their yields and a simultaneous depreciation of the zloty. The investor response in individual markets should, however, depend on fundamental factors that determine a relative country-specific risk assessment. A good situation of the Polish economy should result in a relatively low impact of these processes on Polish financial markets.

lel depreciation of the zloty.[5]

A rise in risk aversion in global markets could result in zloty depreciation and zloty exchange rate volatility growth and, in effect, in domestic banks' higher cost of hedging against exchange rate risk and interest rate risk associated with FX loan portfolios, or in difficulties with renewing swap transactions. The need to satisfy margin requirements on FX risk hedging transactions would therefore translate into a rise in banks' liquidity needs.

A surge in risk aversion would also involve more pressure on the European banks to deleverage, evidenced by a further rise in the cost of market funding, its reduced availability and shorter maturities. In such an environment, the cost and availability of funding provided by strategic investors to Polish subsidiaries could deteriorate, thus leading to the so-called deleveraging or reducing credit exposures to residents of the host country.

As the situation of Poland's economy and banking system is stable, the potential effects of deleveraging should be smaller in Poland than in other countries of the region. The value of banks' liabilities towards foreign financial institutions in Poland has diminished in recent quarters. These changes are not abrupt and exert no significant influence on bank lending [6], and in the case of some banks they are associated with shifts in the funding structure aimed at increasing the share of deposits of domestic clients. An additional factor that constraints the demand for foreign funding is the decreasing value of the portfolio of foreign currency housing loans that were foreign funded at some banks. The reduction in the share of liabilities towards foreign financial institutions in the banking sector's funding structure limits the potential negative effects of deleveraging of the parent banks of Polish lenders.

Although the materialisation of macroeconomic risk and funding risk discussed above should not jeopardise financial stability, it may, however, pose a significant challenge to some financial institutions. The implications of the materialisation of credit risk for the stability of Poland's financial system were analysed in stress tests. Their results prove that the resilience of the Polish banking sector is high. Owing to a minor role of credit exposures to foreign counterparties, any rise in credit risk costs in Poland's banking sector would primarily stem from a slowdown in the domestic economy.

The impact assessment of the materialisation of funding risk and market turmoil risk on the situation of the banking sector depends, inter alia, on changes in the financial condition of strategic investors of banks operating in Poland as well as on measures taken by economic policymakers in the home countries of these institutions. The Polish financial system has to date demonstrated considerable resilience to market turmoil. The results of the stress tests that examined funding risk indicate that a gradual reduction of the reliance of some domestic banks on funding from foreign parent entities would be favourable to domestic financial stability. This observation stems from the fact that some Polish banks do not have sufficient liquidity buffers that could cover a potential outflow of funds in a restrictive scenario involving a withdrawal of foreign capital.

Structural risk

Some strategic investors of Polish banks, despite the good and stable profitability of operations in Poland, may choose to sell Polish subsidiaries as part of their restructuring programmes. The scale of the required further restructuring will be determined by the outcome of the Comprehensive Assessment of the situation of European banks supervised by the European Central Bank. In order to maintain the stability of

[6] A detailed analysis of the issue is contained in Box 5 of "Financial Stability Report. July 2013", pp. 70–74.

the Polish banking sector, it is essential that such processes are taking place in an orderly manner, and potential new bank owners ensure their stable functioning.

Ownership changes may bring about a rise in concentration in the banking sector. The greater role played by the largest institutions in the banking system may lead to an emergence of the problem of institutions that are "too big to fail". The financial condition of the largest institutions and the risk they take have to be particularly closely monitored, and these institutions should demonstrate an increased capacity to absorb the effects of risk materialisation. In this context, a substantial regulatory change made in the period analysed is CRD IV directive, adopted on 26 June 2013, that enables supervisory authorities to impose an additional capital buffer on domestic systemically important institutions.

1.3. Recommendations

In addition to analysis of risks in the financial system, the role of the *Report* is to offer solutions aimed at containing such risks. It is one of the activities that Narodowy Bank Polski performs when fulfilling the mandate to support the stability of the domestic financial system. Furthermore, the recommendations formulated in the *Report* form part of general macroprudential policy actions[7].

Narodowy Bank Polski indicates that the following measures would contribute to a reduction of systemic risk and a further strengthening of the stability of the domestic financial system:

1. In order to fulfil the "Recommendation of the ESRB of 22 December 2011 on the macroprudential mandate of national authorities" (ESRB/2011/3) and to strengthen the institutional framework of the domestic safety net, **a speedy creation of the Systemic Risk Council – the institution responsible for macroprudential supervision of the domestic financial system – should be pursued. Its form and competences should ensure efficient conduct of macroprudential supervision.**

2. Average capital adequacy and leverage ratios in the banking sector provide high resilience to shocks. **Banks with below average resilience to shocks should increase capital.** A lower resilience to shocks may be linked to lower capital resources of a bank or an above average riskiness of its business profile. As the economic climate and loan demand are improving, the banks that expand the scale of their operations should not substantially increase leverage. Retention of a significant portion of their profits will help banks to develop their business in a safe way.

3. **Banks whose liquidity position is sensitive, should increase buffers of liquid assets.** This may in particular concern banks which exhibit a high share in liabilities of counterparty-concentrated liabilities towards non-residents. To reduce the funding structure risk, it is essential that banks further limit funding concentration in the counterparty and product dimensions, while ensuring a safe continuity of funding.

4. A significant part of housing loans originated in the past, especially FX ones, exhibits high current LtV. **Banks should take into account – in their capital policy and when calculating credit risk costs – the risk arising from this portion of their loan portfolio.** Banks should

[7] More on the need to conduct macroprudential policy in "Financial Stability Report. December 2011", 2011, NBP, Box 1.

avoid taking actions that may increase the likelihood of borrowers losing their loan servicing capacity. The risk related to the LtV of newly originated loans will be reduced by the provisions of the amended Recommendation S.

5. **In order to strengthen the cooperative banking sector it is desirable to pursue its closer integration and transformation of associations into associations with an Institutional Protection Scheme that covers banks' liquidity and capital.** A closer integration will help cooperative banks to better utilise their potential to expand, including local market knowledge, reducing, at the same time, the currently observed trends to transfer business risk to the associating banks.

6. The capital position of credit unions can be assessed as difficult. For this reason, **the restructuring actions should be continued, aiming to increase the operational efficiency of credit unions and to increase their capital, while utilizing the internal resources of the credit union system in an optimal way.**

7. **The EU initiatives serving to contain systemic risk that may be generated by the activities of CCPs should be supported**, in particular relating to the establishment of the recovery and resolution mechanism for the entities and their appropriate capital levels. It is desirable to introduce amendments to the Act on Narodowy Bank Polski and implement ownership changes in KDPW Group, as these changes will make it possible for the central bank to provide liquidity to local CCPs when the stable operation of the domestic financial system may be jeopardised.

The condition of public finance is a potentially important risk factor to financial system stability. Consolidation implemented in 2011-2013 led to a decline of this risk in Poland. Such measures should continue without additionally contributing to a weakening of the growth rate. This relates both to the scale of tightening and the expenditures structure which should be growth-oriented to the maximum extent possible. A credible and sustainable consolidation of public finance will improve Poland's creditworthiness, which will support both sustainable long-term growth and the related domestic financial stability.

The current capital position of the majority of banks, most notably low leverage (a large share of regulatory capital in banks' balance-sheet total), is the Polish financial sector's strength, which is confirmed, inter alia, by the Moody's upgrade of the Polish banking system outlook in October 2013. The banking system's low and stable leverage levels contribute to the sector's stable operation across the business cycle, reducing the room for banks' pro-cyclical behaviour. The leverage also reduces the probability of problems occurring with solvency of banks that potentially might require support with taxpayers' money. As the use of internal methods to estimate the capital requirements is becoming more common, the leverage ratio that uses no risk weights will play an important role in ensuring that banks are appropriately resilient to turmoil. This limit has not yet been set by EU regulators, however it should be deemed desirable to set it at a more restrictive level than that proposed by the Basel Committee. The option to change the leverage cap should become one of the macroeconomic policy tools at national level.

Box 1. Financial system stability — concept and definitions

NBP's financial system stability mandate

NBP's mandate to sustain stability of the financial system is enshrined both in national and EU regulations. In addition to the main objective, which is to maintain price stability, one of NBP's[1] tasks is to pursue the stability of the national financial system. Pursuing this objective complements the conduct of monetary policy and achieving other objectives such as establishing the necessary conditions for the development of the banking system, regulating the liquidity of the banks and providing them with refinancing facilities, as well as organising monetary clearing. Moreover, Article 127 of the Treaty on the Functioning of the European Union (TFEU) indirectly imposes on the NBP (through participation in the ESCB) objectives such as price stability, promotion of smooth operation of payment systems and smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system. However, neither the NBP mandate nor the TFEU precisely define what financial system stability means.

The typology of financial system stability definitions

In the literature, there is no universal agreement as to the definition of this phenomenon[2], which may be related to the complex nature of financial system stability and the multitude of factors determining it. When reviewing the definitions, it can be said that from very general ones they are gradually becoming more and more specific. There are two approaches to defining financial system stability. Wide approach bases on enumerating financial system features that allow assessing it as stable, in particular naming functions to be performed by the financial system and in which conditions.[3] It may be problematic to relate the definitions constructed according to such approach to a specific condition of the financial system, because this approach uses concepts that are difficult to measure. A narrow approach in turn bases on defining financial system stability – *a contrario* – as a situation (state) where there is no financial crisis. Some researchers also point out the desirable features of a financial stability definition.[4]

The review of financial system stability definitions used by ESCB central banks leads to conclusion[5] that most of them developed their own definitions according to a wide approach and often refer to them in the first (or each subsequent) edition of financial stability reports (FSR) and in other forms of public communication (e.g. on the website). Most of the time, ESCB central banks associate financial system stability with a proper functioning of the financial system, even in case of shocks. Also, a pre-crisis survey by M. Čihak[6] of FSRs concludes that central banks in their definitions focus on the disruptions in the performance of the financial system functions, structural vulnerabilities and adverse impact of instability on the real economy. The IMF[7] survey conducted after the outbreak of the crises, demonstrates that central banks in their definitions stress the system's resilience to shocks and its smooth functioning, understood as performance of its functions. Moreover, central banks often additionally present their approach to including financial system stability and systemic risk in their operations (e.g. the issue of growing imbalances in asset markets), on their websites and in documents[8] other than the FSR.

NBP's interpretation

NBP has been defining financial system stability since the first publication of the Financial Stability Report (January 2000 – June 2001). Initially, financial system stability was understood as the situation in which the financial system as a whole does not exhibit tendencies towards a lasting shortage of liquidity, or in extreme cases – towards insolvency. After that, it has been presented according to the narrow approach – as the absence of a threat of financial crisis. Since 2006, it is defined according to a wide approach, i.e. financial system stability is a situation when the system performs all its functions in a continuous and efficient way, even when unexpected and adverse disturbances occur on a significant scale. It is also emphasised that the stability of the financial system is a necessary

precondition for sustainable economic growth. The condition of the banking sector is crucial because it plays a key role in the national financial system.

Comparing the definition adopted by NBP to the definitions of other ESCB central banks, it does not diverge from the standards adopted by most of them. It is also in line with the wide approach and emphasises the most common aspects, i.e. the resilience to shocks and ability of financial system to perform its functions.

The functions of the financial system

An integral component of the definition adopted by NBP are the functions performed by the financial system, which is a core component of the definition according to the wide approach. J. G. Schinasi[9] differentiates the following functions of the financial system:

- efficient and smooth allocation (geographically and over time) of economic resources, which is financial intermediation,
- correct assessment, allocation and management of financial risk.

The classification stresses the significance of financial intermediation through which a stable financial system supports the economic growth. An open issue is perceiving a credit crunch as the disturbance of the functioning of the financial system. A rise in risk aversion during recession or an expected economic slowdown may cause a sharp fall in credit supply. In such situation, credit supply may respond to the central bank's monetary policy and market rates in a limited manner. Despite existence of credit demand and sufficient creditworthiness of potential borrowers, banks tighten their lending policies or even refuse to lend. Lending to the economy and the financial intermediation function is distorted, which can lead to a conclusion that it is performed to an insufficient extent. Credit crunch may be understood as a market failure, and even if perceived as equilibrium, such equilibrium is not optimal from the point of view of the role that financial system should play in the economy.

However, not only financial intermediation may be considered as an important function of the financial system, because the standard of deferred payment understood as a smooth flow and availability of money is also essential. It is warranted by, i.a. the safety and efficiency of the payment system overseen by a central bank, the disruption of which may undermine confidence to money. The functions of the financial system may be therefore associated with functions performed by money in the economy, especially standard of deferred payment, medium of exchange, common measure of value and store of value. A broader classification of functions of the financial system may be adopted from Z. Polański[10], which enumerates a monetary function (supporting the role of money as medium of exchange), capital and redistributive function (financial intermediation) and control function (control of cash flows). Those functions are interrelated and their fulfilment by the financial system is essential for the smooth functioning of the economy and economic growth.

When assessing financial system stability, one cannot exclude failures of individual institutions or financial market volatility, which are a natural component of development of the financial system and financial cycle. Financial system stability is disrupted only when problems of a single institution (or groups thereof) hinder the functioning of the system as a whole. A stable financial system should therefore be able to absorb shocks and on its own return to a (new) equilibrium through market forces or with minor intervention of safety net institutions.

The concept of financial system stability is closely related to the concept of systemic risk. It can be generally interpreted as a threat to financial system stability or a threat of "unexpected and adverse disturbances occurring on a significant scale", as in the NBP's financial system stability definition. Systemic risk may materialize as a consequence of build-up of past imbalances in the financial system or real economy[11], or in case of a sudden shock e.g. default of a systemically important institution or drying-up of liquidity in the whole market, which occurred in some countries during the crisis. The act on the macroprudential supervision of the domestic financial system defines systemic risk[12] as a possibility of occurrence of such tendencies in the functioning of the financial system,

which may lead to build-up of macroeconomic imbalances threatening the stability of economic growth or trigger other negative consequences for the national economy.

Conclusions

The definition of financial system stability adopted by NBP does not diverge from European standards, and the envisaged increase of NBP's role in systemic risk mitigation[13] – through assigning it the leading role in macroprudential supervision[14] – will be a natural development of the hitherto efforts to ensure the stability of the national financial system. Research on procyclicality of the financial system and systemic risk, which would help define the sources and channels of contagion, should be continued. Their results would be a valuable contribution to countercyclical framework of macroprudential supervision and its optimal coordination with NBP's monetary policy and other economic policies (incl. fiscal policy).

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[1] Pursuant to Article 3 sub. 6a of the Act of 29 August 1997 on the National Bank of Poland (Journal of Laws of 2013, item 908, as amended, consolidated text).

[2] J. G. Schinasi, "Defining Financial Stability", 2004, IMF Working Paper, WP/04/187, IMF, pp. 3-4.

[3] P. Smaga, "Istota stabilności finansowej" [The Nature of Financial Stability], 2013, Studia i Prace Kolegium Zarządzania i Finansów [Studies of the Management and Financial Sciences], Zeszyt Naukowy 124 [Working Paper 124], Warsaw School of Economics, Warsaw, pp. 108-109, M. Iwanicz-Drozdowska, "Definicje i determinanty stabilności finansowej" [Definitions and Determinants of Financial Stability], 2011, Educational Part "Stabilność finansowa od a do z" [Financial Stability A-Z], Bank and Credit 1/2011, NBP, p. 3. Apart from the above-discussed aspects, definitions present in the literature also indicate that a stable financial system is not the same as a static system. They also emphasise the capacity of the system to absorb shocks, through self-correcting mechanism, which hinders their transformation into financial crisis. See O. Szczepańska, "Stabilność finansowa jako cel banku centralnego" [Financial Stability as the Central Bank Objective], 2008, Wydawnictwo Naukowe SCHOLAR, Warsaw, pp. 34-35.

[4] Firstly, a good definition of financial stability should clearly be related to welfare. Secondly, financial stability should be observable (measurable). Thirdly, financial stability should be subject to control or influence by the public authorities. Fourthly, financial stability should be a property of a clearly defined politically-significant entity and with clear allocation of tools. Fifthly, the definition of financial stability should be broad enough and include that it is not only financial institutions, whose collapse can endanger it. Sixthly, the definition of financial stability should not be so rigorously demanding. See W. A. Allen, G. Wood, "Defining and achieving financial stability", 2005, Financial Markets Group, Special Paper no 160, London School of Economics, pp. 4-5.

[5] P. Smaga, ibidem, pp. 107-109.

[6] See M. Čihak, "How Do Central Banks Write on Financial Stability?", 2006, IMF Working Paper, WP/06/163, IMF, p. 7.

[7] See IMF, "Macroprudential Policy: An Organizing Framework – Background Paper", 2011, Monetary and Capital Markets Department, IMF, p. 5.

[8] Examples include: NBP, "Monetary Policy Guidelines for 2014", September 2013, Warsaw; Riksbank, "The Riksbank and Financial Stability 2013", February 2013; De Nederlandsche Bank, "Towards a more stable financial system: Macroprudential supervision at DNB", July 2010.

[9] J. G. Schinasi, "Preserving Financial Stability", 2005, Economic Issues no. 36, IMF, p. 2.

[10] See Z. Polański, "Wprowadzenie. System finansowy we współczesnej gospodarce rynkowej" [Introduction. Financial System in Contemporary Market Economy, [in:] "System Finansowy w Polsce" [Financial System in Poland"], Volume 1, B. Pietrzak, Z. Polański, B. Woźniak (ed.), 2008, Wydawnictwo Naukowe PWN, pp. 18-20.

[11] Therefore, the activities of macroprudential authorities should also limit procyclicality, which is typical for the banking system – excessive volatility of the financial cycle lasting much longer and having a much larger amplitude than the business cycle and being closely associated with systemic banking crises which tend to occur at its peak. See C. Borio, "The financial cycle and macroeconomics: What have we learnt?", BIS Working Papers No 395, BIS 2012, p. 23.

[12] Article 2(2) of the draft act on the macroprudential supervision of the domestic financial system dated 29.05.2013. The draft act is available at BIP website of the Council of Ministers at http://bip.kprm.gov.pl/kpr/form/r548,Projekt-ustawy-o-nadzorze-makroostroznosciowym-nad-krajowym-systemem-finansowym.html

[13] According to the above-mentioned act, NBP will participate in activities designed to mitigate systemic risk and carry out analyses. Monetary Policy Council, already in the monetary policy framework for 2014, points out that the experience of recent years supported the recognition of the macroprudential policy as the second – next to the monetary policy – instrument of countercyclical policy of the central bank. Using this instrument reflects the understanding that, besides traditional business cycles usually dealt with by the monetary policy, in the economy there are also longer financial cycles which should be stabilised by the macroprudential policy, and the central bank has the experience and independence which support its key role in such supervision. For more information about the macroprudential policy, please see P. J. Szpunar, "Rola polityki makroostrożnościowej w zapobieganiu kryzysom finansowym" [The Role of Macroprudential Policy in Preventing Financial Crises], 2012, Materials and Studies, Paper No 278, NBP.

[14] According to recommendations issued by the ESRB and BIS, a central bank should play a key role in macroprudential supervision. See Recommendation of the European Systemic Risk Board of 22 December 2011 on macroprudential mandate of national authorities (ERRS/2011/3) and BIS, "Central bank governance and financial stability", 2011, A report by a Study Group chaired by Stefan Ingves, BIS.

Box 2. Measures aimed at reducing burdening the public sector with costs of possible bank defaults

The experience of the recent crisis demonstrates that the cost of bailing out (e.g. recapitalisation) banks facing default may impose quite a burden on taxpayers. Apart from deterioration of public finance (as in case of Ireland), during the banking crisis, there is a strengthening of the negative feedback loop between financial standing of banks and deteriorating conditions of the fiscal policy in states that plunged into financial crisis. From October 2008 to December 2011, the financial sector aid in the EU equalled EUR 1,615.9 billion (12.8% of EU GDP), of which EUR 322.18 billion was spent on recapitalisation (2.55% of EU GDP.)[1] Part of the proposed reforms of the regulatory and supervisory architecture focuses on solutions reducing not only the probability of a future financial crisis, but also its costs and the burden on taxpayers. The key regulatory proposals include the following concepts:

- the separation of investment banking and retail banking – "the structural separation",
- the implementation of a bail-in as part of resolution regimes for financial institutions,
- higher capital requirements along with proposal of model risk mitigation through implementation of new capital adequacy measure, i.e. limit on leverage ratio.

Structural separation

The first approach assumes structural separation in banking, involving the separation of investment banking (mostly proprietary trading) from retail banking operations. This approach bases on the assumption that investment banking leads to taking excessive risk, being disproportionately high in relation to banks' capital. Banks' ability to obtain cheap funding (mostly from guaranteed retail deposits), coupled with relatively wide possibilities of increasing the scale of trading activities (compared to smaller possibilities of increasing the loan portfolio), leads to accumulation of excessive risk in financial institutions and to an increase in the risk of depositors losing their funds. The conclusion is that overgrown trading activities don't contribute to the financial system properly fulfilling its functions, therefore this activity should not be covered by the safety net. Investment activities are compared with retail banking and payment services, which are considered as socially beneficial and supportive for the economic growth. Separation of those activities is the key recommendation of Vickers and Liikanen reports and forms the basis of the Volcker rule, and some European countries (such as the UK, France and Germany) began to implement similar solutions.

Structural separation aims at reducing the potential burden of financial institutions failure on taxpayers – through decreasing the scope of banks' activities covered by the safety net - and not at directly strengthening the resilience of the financial system[2]. Due to the lack of current experiences concerning the functioning of the financial system in structural separation model, it is difficult to assess its impact of financial stability.

Implementing structural separation might in practice turn out to be difficult and what is more - the idea itself is not flawless. The analysis underlying the separation concept does not include all aspects of systemic risk. For example, credit booms (e.g. loans for real property in Spain) were caused by excessive lending (retail banking). It may also be difficult to precisely classify operations to be considered as not socially beneficial that should therefore be separated to other entities. Some operations of (broadly understood) investment banking may be used to manage and hedge against risk and to allocate funds efficiently (e.g. through market making) and often it is the banks and their clients that decide the purpose of a given operation. Moreover, in the light of a multitude of bank business models and the need to define the nature of links between entities dealing separately with retail and investment banking, the separation of those two types of activities may turn out to be very difficult, result in higher cost of banking services and in limited range of offered products.

The discussed proposals of separating banking activities envisage allowing certain services to be offered by both types of separated entities (retail and investment entities). Such solution, albeit practical, may also cause excessive

complexity of the bank groups' structures. Were both types of entities to operate under the single brand, the risk taken in one part of the group could also spread to the other parts (risk of confidence loss to the group as a whole). If the separation criteria are unclear, there may also be temptation to shift some investment activities to the retail entity, provided that the capital adequacy requirements were the same (for both entities) and cost or availability of funding more favourable for the retail entity.

Resolution and Bail-in

Mitigating the risk of shifting the cost of bank failures to taxpayers is one of the goals of the proposed write down and bail-in mechanisms within resolution of financial institutions. The draft directive[3] implements two key measures[4]: the Minimum Requirement for Own Funds and Eligible Liabilities (MREL)[5] that banks will be required to hold and discretionary powers of the resolution authority to qualify "bail-in-able" liabilities. The MREL shall constitute of additional loss-absorbing capacity beyond the basic capital requirements, however, not only owners but also creditors shall share the burden. Within the MREL requirement, institutions shall maintain an adequate, minimum aggregate amount of own funds and eligible liabilities expressed as a percentage of total liabilities of the institution. It is worth noting that the resolution authority will also be able to demand that a part of the MREL requirement be met through contractual bail-in instruments.

Before the final regulation is approved, it is difficult to state unequivocally its consequences, however, at the present stage, major difficulties related to the implementation of the adopted assumptions can be named. First of all, such regulation may force an issue of a new type of "bail-in-able" financial instruments. This raises certain reservations about fast and effective creation of an efficient market for such instruments, especially in less developed markets. Such risk is particularly important in case of smaller institutions and banks of poorer investment rating compared to the European leaders.

There is also some doubt about the final effect of the allocation of institution's losses among other market participants. It seems that, at least indirectly, this will impact taxpayers' position. For example, the necessity to absorb losses by pension and investment funds will ultimately be a cost of respective participation unit holders, which also include households. It should also be emphasised that if losses are large and bail-in is used, even if these are borne by creditors (e.g. domestic entities), losses will still be adversely affecting economic demand, through deterioration of the creditors' position and contagion risk.[6] This would reduce the effectiveness of the discussed measures. While the direct (budget) loss would be limited, the mechanism could indirectly impair economic activity and contribute to deterioration of public finance.

Eligible liabilities may be therefore considered as some kind of equity substitution, since their role is to absorb losses should a financial institution face problems. Even if investors correctly valued risk connected with those instruments, it is hard to expect that they become popular with yields much lower than the desired return on equity investment. For an issuing institution, an incentive to use such instruments could potentially include tax incentives if coupon payments for investors in a period before conversion were considered as tax-deductible expenses. However, should the main buyers of such instruments be investors active on the fixed-income debt securities market, they might undervalue risk connected with bail-in of eligible liabilities. In such situation negative effects of bail-in for the real economy would be strengthened by the increase in risk aversion on the financial markets triggered by materialisation of previously undervalued risk. It seems, however, that the introduction of eligible liabilities on a large scale would, first of all, complicate the capital structure of financial institutions and reduce transparency for investors. Compared to a situation where the loss-absorbing capacity were attained through an increase in equity capital, both the resilience of institutions to disruptions and loss allocation among entities would be similar.

Capital requirements and leverage ratio

The key measure in building banks' resilience that reduces the probability of their default, is setting capital requirements in a way that will make banks hold the level of regulatory capital corresponding to the scale of activities and their risk exposure. Adequate level of capital helps absorb losses (if any) and reduces the probability of bank failure, thus the burden on taxpayers. In this case, risk related to bank's activities is mostly borne by shareholders. This means that banks' losses would be allocated among entities which consciously take the risk of investing in equity. Moreover, it should be noted that shareholders – unlike creditors – can influence the bank's risk profile using their shareholders' rights.

From 1 January 2014, upon entry into force of CRDIV/CRR[7], the hitherto capital adequacy requirements will be supplemented with a new measure – a leverage ratio, defined in percentage as the relation of Tier 1 capital to the sum of bank's balance sheet total and off-balance sheet exposures, without applying risk weights. This enables mitigating the risk of lowering capital requirements, which may result from, e.g. imperfections of models applied to calculating risk weights using the IRB approach.

EU regulations impose on the supervised entities a reporting obligation requiring calculating the leverage ratio, disclosing its level and reporting to supervisors on items included in its calculation. The data will be used by supervisors to assess the risk and adequacy of the bank's capital. CRR does not specify the required level for the leverage ratio. The Basel standard defines the minimum requirement of 3% for the leverage ratio until its final calibration after 31 December 2016.[8] Banking supervisors in the United States, Switzerland, and the UK plan to introduce a minimum leverage ratio, while indicating that the Basel level is too low.

The policy of supervisory authority in Poland supports the accumulation of top quality capital by banks, thus the leverage in the Polish banking sector equals 10.8 (as defined in this *Report*)[9], which taking into account the conducted analyses, significantly mitigates the risk of shifting costs of bank's failure to taxpayers.[10]

Summary

It could be concluded that the third of the analysed concepts has a significant advantage over the other regulatory proposals. The dividend policy promoted by the supervisory authority in Poland and limited use of bank internal models to calculate capital requirement helped enhance banks' resilience to shocks. Firstly, restrictions in dividend payments resulted in increasing banks' capital levels and thus their resilience, while supporting maintaining credit supply for the real economy. Secondly, standardized approach applied by banks to calculate capital requirements for credit risk did not contribute to banks inadequately reducing the capital requirements to the scale of risk, which occurred in some European banks that were applying advanced methods.

This strategy, however, encounters obstacles imposed by CRDIV/CRR package, which through harmonization, limits flexibility to impose higher capital requirements. While the macroprudential instruments, as defined by the legislator, allow increasing the minimum level of Tier 1 capital over the required minimum (using supplementary capital buffers, Pillar II, regulations on systemic risk at a national level), flexibility of their use is relatively small. Mostly harmonized macroprudential instruments may be used only to prevent specific phenomena (in case of buffers, flexibility of setting them by national authorities is limited above the specific threshold), while preserving restrictive decision-making procedures under CRDIV/CRR or the specificity of national laws. In conclusion, introduction of CRDIV/CRR package significantly reduces the hitherto flexibility of using particular macroprudential instruments.

The limit on the leverage ratio should be supplemented by the capital requirements relying on risk weights. Given the potentially significant role of the leverage ratio in mitigating banks' default risk, its complementary nature to the capital adequacy ratio, it is worth considering making the national macroprudential authority able to set the

limit on the leverage ratio.

[1] European Commission, "Commission Staff Working Paper", Autumn 2012 Update, COM (2012) 778 final, SEC(2012) 443 final, Brussels 21.12.2012, pp. 29-32.
[2] Ch.A.E.Goodhart, "The Vickers Report: An Assessment" mimeo, 2011, s. 1.
[3] In European legislation, the regulatory framework for resolution is being prepared as part of work on the Directive of the European Parliament and of the Council, establishing framework for the recovery and resolution of credit institutions and investment firms.
[4] The draft directive also lays down the requirement for preparation of recovery and resolution plans for credit institutions and investment firms established in the European Union, taking into account the proportionality principle, i.e. depending on the size of an institution, its risk profile, its interconnectedness with other institutions and markets or its funding conditions. Recovery plans are to be prepared and updated by institutions and later approved by the supervisory authority. Recovery plans include arrangements and measures which an institution might take on its own in response to a shock in order to restore its long term viability. Resolution plans, on the other hand, are to be prepeared by the resolution authority in coopeartion with the competent supervisor. Those plans should describe several scenarios, both idiosyncratic and systemic, as well as identify key functions of an institution and the financing sources for the resolution process. On that basis possible resolution measures and application of specific resolution tools (i.e. asset transfer to the bridge bank or bad bank, or activation of bail-in) are proposed. Those measures and tools are implemented when the financial standing of the institution has deteriorated so much that conditions for triggering resolution are met.
[5] Eligible liabilities are liabilities of an institution, which may be written down or converted into equity under the directive. The Minimum Requirement for Own Funds and Eligible Liabilities (MREL) shall be determined by a resolution authority (national or group) after having first consulted the competent supervisory authority.
[6] Ch. A. E. Goodhart, D. P. Tsomocos, "The Role of Default in Macroeconomics", 2011, IMES Discussion Paper Series No. 2011-E-23, Bank of Japan, pp. 17-18.
[7] Directive 2013/36/EU of the European Parliament and the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC and Regulation of the European Parliament and the Council (EU) No 575/2013 of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012, OJ EU L/176, 27.06.2013
[8] BCBS, "Consultative Document Revised Basel III leverage ratio framework and disclosure requirements", June 2013, http://www.bis.org/publ/bcbs251.pdf
[9] The leverage ratio may also be expressed as a percentage (the given value corresponds to the leverage ratio of 9.3%). It has to be noted that the estimation is not directly comparable to the Basel requirement of 3% for the minimum leverage ratio. The calculation of the ratio does not include data on all banks' exposures, as referred to in the Basel Committee guidelines and Articles 429-430 CRR.
[10] US supervisory authorities are considering introducing a minimum leverage ratio of 6%. The analyses of the Bank of England also suggest that the 3% defined by the Basel Committee significantly diverges from the optimal level of the leverage ratio. The recommended leverage ratio for British banks should be 10%.

Chapter 2.

Financial institutions' economic environment

Global economic data show that growth in the economy accelerated in the period analysed in the *Report*, although the economic situation improved mainly in developed countries. The GDP growth rate in Poland picked up slightly, but remains lower than the potential growth rate. Further development of the economic situation in Poland will depend on the global economic situation, including the pace at which euro area countries will achieve sustainable economic growth.

Since the publication of the previous *Report,* the sentiment in the global financial markets has improved. Concerns about earlier-than-expected reduction in the scale of the quantitative easing programmes and a likely increase in interest rates by the Fed led to a temporary rise in risk aversion. The concerns, coupled with a fall in market expectations for further cuts in NBP interest rates and the low rate of Poland's economic growth, which negatively affected the situation of public finance, contributed to reduced interest of non-residents in domestic government bonds and a transitory fall in their prices. The domestic money market operated smoothly, and the zloty exchange rate against the euro was stable. In the period analysed, domestic equity market indices rose, which reflected trends in the global markets.

Prices in the property market rose slightly, mainly on the back of a rebound in demand and a decrease in oversupply of flats offered by developers.

2.1. Macroeconomic developments

In the first half of 2013, global economic growth accelerated. Improvement in the economic situation was mainly observed in developed economies, in particular in the United States. In the second quarter of 2013, euro area GDP growth, following a decline for several quarters, was positive. Economic activity growth continued to decline in the largest developing countries remaining at historical lows.

Since the publication of the previous *Report*, the prospects for economic growth in the Polish economy's external environment stabilized. The economic growth rate in Germany, Poland's largest trading partner, accelerated. In a number of euro area peripheral countries, most affected by the debt crisis (Spain, Italy), economic activity was rising but, due to a fall in domestic demand, the GDP growth rate remained negative. A stronger than expected slowdown in leading developing countries, particularly in China, may become a risk factor for global economic growth. The November projection of the European Commission assumes that in 2013 a shallow recession will persist in the euro area and in 2014 and 2015 economic growth will gradually accelerate. The forecast for euro area economic growth in 2013-2014 is similar to forecasts available at the time of preparing the previous edition of the Report, however the likelihood of a scenario with yet another strong economic slowdown was reduced.

After a period of a strong slowdown, the economic growth rate in Poland slightly accelerated in the second quarter of 2013 to 0.8% y/y against 0.5% y/y in the first quarter of 2012. The higher GDP growth was associated with an increase in net exports contribution to GDP and increased public consumption, as well as - to a lesser degree - individual consumption. On the other hand, a fall in investments, adversely affected GDP growth. Preliminary data on GDP growth in the third quarter of 2013 (1.9% y / y) indicate, however, that the period of the strongest slowdown in economic growth ended in the first half of 2013.

In the period analysed, the growth of number of employed was low due to weak GDP growth. LFS data indicate that in the second quarter of 2013 employment slightly rose in quarterly terms. At the same time, the growth in labour force participation was insignificant and, only to a limited degree, contributed to unemployment rate growth. In the second quarter of 2013, the LFS unemployment rate did not change compared to the first quarter of 2013 and amounted to 10.6% (seasonally adjusted data). The nominal growth rate of wages remained low due to a lower demand for labour. The influence of the above processes on the quality of the banking sector's claims on households is discussed in greater detail in Chapter 3.3.2.

In the period analysed, corporate investments continued to decrease. As shown by NBP's analyses[8], enterprises did not expect a substantial recovery in investments, although the production capacity utilization rate is, considering the current phase, at a relatively high level. Uncertainty as to the future economic situation is a factor contributing to low investment activity.

In the second quarter of 2013, the financial standing of enterprises stabilised. Net result on sales rose slightly (3.3% y/y). The return on sales, which reflects the profitability of enterprises' core activities, increased slightly and amounted to 4.5% in the second quarter compared to 4.3% in the first quarter. Corporate net financial result rose substantially (by 17.6%

[8] See: "Information on the condition of the enterprise sector, including the economic climate in 2013 Q2 and forecasts for 2013 Q3", NBP, 2013.

y/y), but the rise resulted, to a large degree, from high dividends received by enterprises from their subsidiaries. Corporate liquidity remained good. Liquidity ratios remained at high levels and the cash liquidity ratio increased slightly mainly driven by a rise in cash held by enterprises. The impact of the situation of enterprises on the quality of bank's claims on enterprises is discussed in greater detail in Chapter 3.3.1.

According to the autumn fiscal notification, the general government deficit in 2013 is expected to rise to 4.8% of GDP, mainly due to the low growth of tax revenue. In accordance with the Information on measures undertaken by Poland to implement Council recommendation under article 126.7 of the Treaty on the Functioning of the European Union of 21 June 2013, published in October 2013, in 2014 a temporary surplus of 4.5% of GDP is expected resulting from the planned changes in the pension system and in 2015 the general government balance will again turn negative and amount to -3% of GDP. In November 2013 the EU Commission recommended the Council to extend the deadline by which Poland should correct the excessive deficit from 2014 to 2015.

The second quarter of 2013 saw a surplus in the current account, which was driven by a surplus in goods trade arising from a further decline in imports and a rise in exports. The value of Polish exports was higher than the value of imports for the first time since the early 1990s.

According to the central path of the projection from the November "Inflation Report", Poland's real GDP growth will amount to 1.3%, 2.9% and 3.1% in 2013–2015, respectively. The European Commission forecast of November 2013 indicates that Poland's GDP will grow by 1.3% in 2013, 2.5% in 2014 and 2.9% in 2015.

In the coming period, the GDP growth rate in Poland will rise, remaining, however, lower than potential GDP growth. The situation will largely depend on economic developments across the world, including on the pace at which euro area countries will be able to achieve sustainable economic growth. The further development of these processes in the future will be the major factor influencing the situation of the Polish financial sector.

2.2. Developments in financial markets

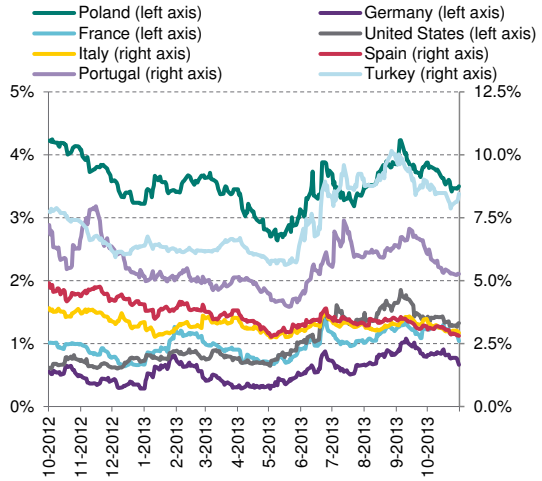
2.2.1. Global markets

The improvement in the US economic outlook in the first half of 2013 increased the probability, perceived by market participants, of the earlier-than-previously-anticipated reduction of the scale of quantitative easing programmes and a possible interest rate increase by the Fed before the end of 2014. This resulted in an increase in the price volatility of financial instruments, with the trend gaining momentum in June following the statement of the chairman of the Fed after the FOMC meeting. A significant growth in the yields on government bonds in developed markets (see Figure 2.1) and sharp price falls in global stock markets (see Figure 2.2) were observed at that time. The second period of a significant rise in investor risk aversion was the turn of August and September 2013. Price movements in global financial markets were, at that time, negatively affected by both uncertainty over the timing and scope of the shift in the Fed's hitherto monetary policy and by concerns about a possible military intervention in Syria.

The June 2013 release of worse-than-expected data on China's industrial output aggravated a relative decline in emerging markets' investment attractiveness resulting from the above mentioned growth in government bond yields in developed markets. This led to the outflow of capital from the emerging to developed markets, which was reflected, inter alia, in a rise

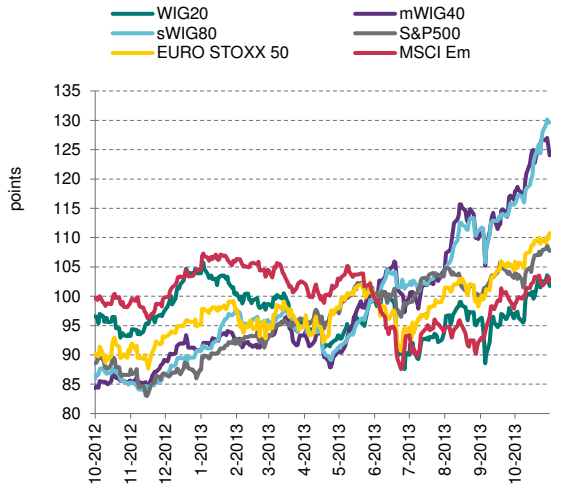
in bond yields of these countries and a weakening of their currencies.

Figure 2.1. Yields on 5-year government bonds of selected countries



Source: Thomson Reuters.

Figure 2.2. Selected stock market indices

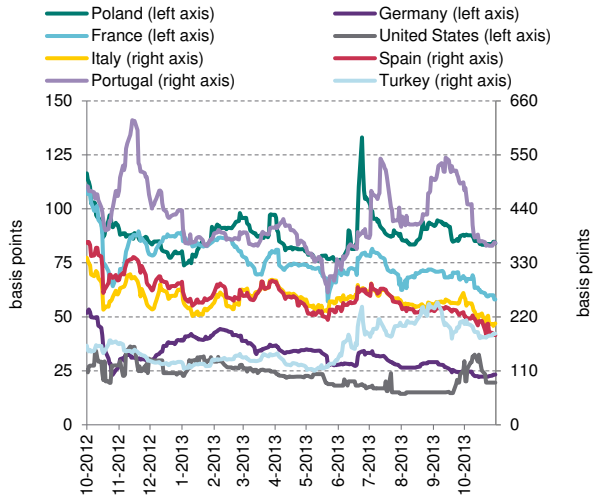


Note: data normalised to 100 points as of 31 May 2013.
Source: Thomson Reuters.

The majority of market participants were taken by surprise by the US macroeconomic data released in early September 2013, which were below expectations, and the Fed's decision of 18 September 2013 to keep the level of the asset purchase programme unchanged. These developments, combined with the political crisis in the United States in the first half of October 2013, associated with the lack of agreement on raising the debt limit and the country's budget liquidity risk, postponed the expected monetary policy tightening by the Fed. This led to a decline in the yields on Treasury debt securities in developed markets and a strengthening of the upward trend, observed in July-October 2013, in global stock market indices (S&P500 and DJIA indices reached their historical highs in October).

The euro area also saw an improvement in the economic outlook, although to a lesser extent. In the second quarter of 2013, the euro area emerged from the recession lasting from the end of 2011. The above mentioned improvement, coupled with the continuation by the ECB of expansionary monetary policy (reflected in interest rate cuts in early November 2013), the adoption of regulations allowing a single supervisory mechanism for banks to be established and the results of the September parliamentary election in Germany, ensuring a continuation of the hitherto policy, had a positive impact on calming market participants' negative sentiment. As a result, despite the persisting public finance problems in some countries and in Spanish banking sector, perceived credit risk declined in some euro area countries (see Figure 2.3).

Figure 2.3. CDS premia on government bonds of selected countries and 5-year Polish Eurobonds

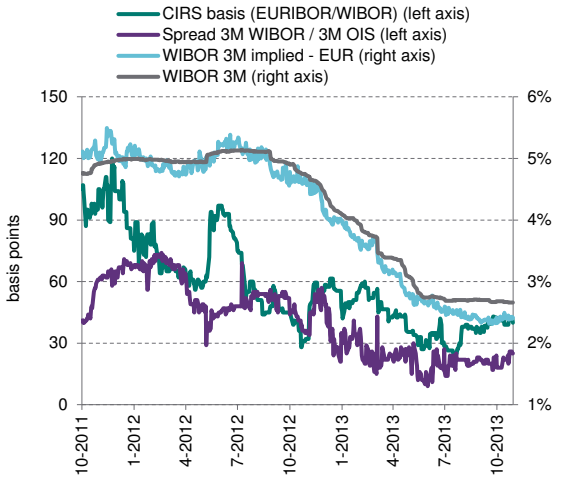


Source: Thomson Reuters.

2.2.2. Domestic markets

Since the publication of the previous edition of the Report, the Polish money market has been operating smoothly. WIBOR 3M/OIS 3M spread, which reflects the level of perceived credit risk in the domestic interbank unsecured deposits market, has stabilised (see Figure 2.4). Average daily net turnover in this market amounted to 5.5 billion zlotys in June-October 2013 (a fall by approximately 11% compared to the period between November 2012 and May 2013) and its term structure was dominated by one-day transactions, constituting 90% of the turnover. The POLONIA rate remained at a level close to the NBP reference rate.

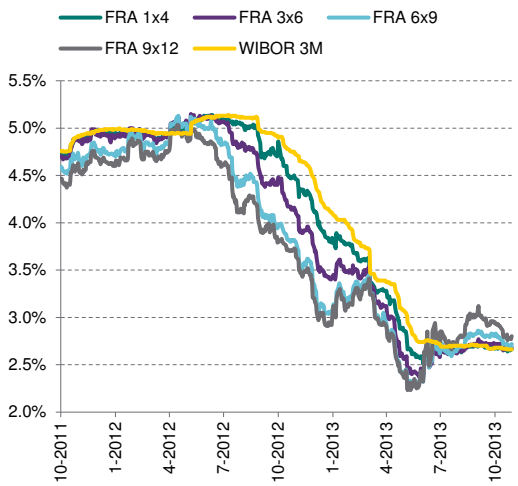
Figure 2.4. Premia in the CIRS basis and fx swap market



Note: for CIRS basis transactions, the premium is defined as the margin paid above the EURIBOR rate in exchange for the WIBOR rate; implied WIBOR is calculated on the basis of 3M EUR/PLN fx swap rates, taking the EURIBID 3M rate as the interest rate on euro deposits.
Source: NBP calculations based on Thomson Reuters data.

In June and July 2013, the Monetary Policy Council lowered NBP interest rates by 25 basis points each time, thus ending the monetary policy easing cycle that had begun in November 2012. At the same time the majority of Monetary Policy Council members assessed that the current level of interest rates reduced the risk of adverse effects of excessive interest rates cuts on the financial system and the economy[9]. Moreover, it was indicated that the NBP interest rates should not change until the end of 2013 (forward guidance). This bolstered the market consensus with respect to the level of NBP interest rates remaining at a historically low level at least until the year-end. Macroeconomic data published in July and August 2013 that show a possible economic recovery in Poland and the euro area were conducive to a temporary increase in market participants' expectations for monetary policy tightening in the second quarter of 2014, which was reflected in FRA rates (see Figure 2.5). However, in October 2013, the expectations weakened on the back of, inter alia, unfavourable data on the domestic labour market. The above mentioned weaker market participants' expectations were supported with the information after the November Monetary Policy Council meeting, according to which the NBP interest rates should remain unchanged at least until the end of the first half of 2014.

Figure 2.5. Current and expected WIBOR rates



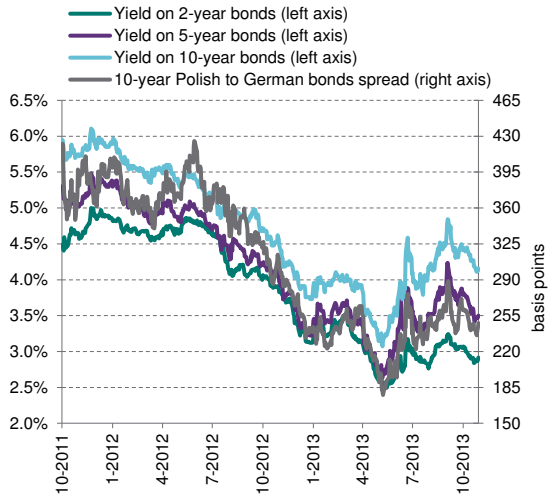
Source: Thomson Reuters.

In June-September 2013, price volatility of domestic government bonds increased significantly and the yield curve moved upwards considerably. Yields on

[9]See: "Minutes of the Monetary Policy Council decision-making meeting held on 3 July 2013", http://www.nbp.pl

10-year bonds grew by over 120 basis points, and on 2-year bonds – by around 50 basis points (see Figure 2.6). There was also an increase in CDS premia on Poland's government Eurobonds (see Figure 2.3). The weakening of market participants' expectations as regards NBP interest rate cuts, observed in June, was supported by negative trends in global financial markets, which contributed to a relative decrease in the domestic government bond market investment attractiveness and, as a result, a fall in foreign investors' demand for these instruments. However, the impact of these trends on the yields on domestic government bonds was slightly weaker compared to other emerging markets, which could be related to high liquidity of the secondary market for these instruments (between June and September 2013, the average daily value of outright transactions amounted to 13.5 billion zlotys) and the market for zloty-denominated interest rate derivatives, as well as to a diversified investor structure, both in terms of their geographical location and type.

Figure 2.6. Yields on domestic government bonds and spread between yields on Polish and German government bonds



Note: spread for bonds denominated in local currencies.
Source: Thomson Reuters.

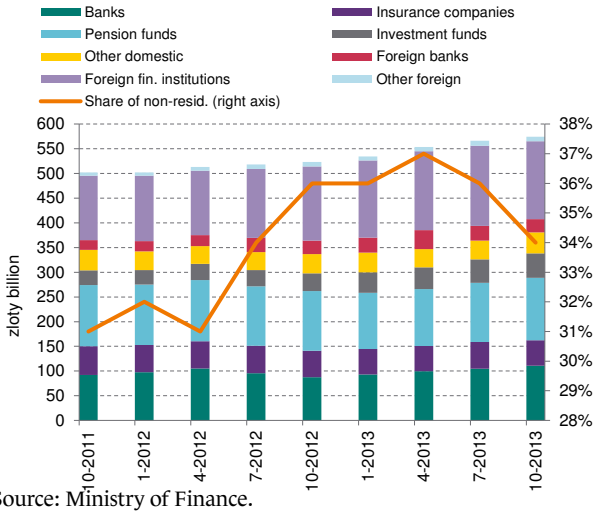
A slowdown in Poland's economic growth rate, which translated into a fall in tax revenues of the State budget and a higher-than-planned partial execution of the budget deficit for 2013, also may have had an impact on the decline of government bond prices. Therefore, it was necessary to amend the *budget act* and widen the planned deficit to 51.6 billion zlotys. In addition, due to difficult condition of public finance the prudential thresholds relating to the public debt/GDP ratio, as provided for in the *Act on public finance*, were suspended. This was one of the reasons for lowering Poland's credit rating outlook by Fitch to stable from positive on 23 August 2013. Moreover, work intensified on the pension system reform, which, according to the assumptions, is to be implemented at the beginning of 2014 and lead to a significant reduction of the State Treasury debt as an effect of a transfer and redemption of government bonds held in the investment portfolio of open pension funds (OFEs) to the Social Insurance Institution (ZUS).

The reduction in risk aversion in global financial markets observed in September 2013 contributed to a decline in the yields in the domestic market for government debt securities, thus significantly reducing their previous rise. As a result, from the beginning of June to the end of October 2013, the yield on Polish 10-year government bonds increased by 54 basis points, and on 2-year bonds – by 19 basis points.

In the period analysed, foreign investors' exposure in the domestic market for government bonds fell from 207.0 billion zlotys to 193.6 billion zlotys, i.e. from 36.6% to 33.7% of the Treasury State debt due to government bonds. Both the primary and secondary market saw a lower demand of non-residents for Polish government bonds. In June and October, there was the strongest outflow of foreign investors, but it occurred gradually. From June to October 2013, mainly pension funds (by 9.7 billion zlotys to 126.5 billion zlotys) and domestic banks (by 4.9 billion zlotys to 110.7 billion zlotys) increased their exposure

in the domestic government bond market. Foreign non-bank financial institutions remained the largest investor group in this market – at the end of October 2013 the value of their bond holdings amounted to 157.7 billion zlotys, i.e. 8.5 billion zlotys less than at the end of May 2013 (see Figure 2.7).

Figure 2.7. Structure of investors in the Polish government bond market

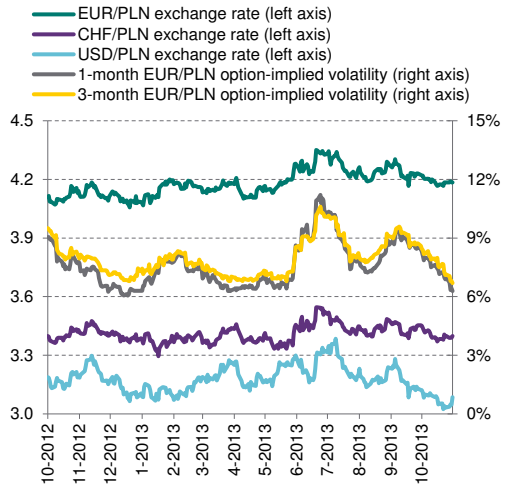


Source: Ministry of Finance.

Domestic stock market indices followed the trends in global markets. In the period analysed, WIG20 rose by 1.8%, and sWIG80 and mWIG40 – by 29.6% and 24.0%, respectively. This was the result of, inter alia, large net inflow of funds to domestic equity funds of small and medium-sized companies. A relatively weaker demand for the shares of WIG20 companies could have arisen from the uncertainty persisting from the end of June to September 2013 over the final proposal of the pension system reform and its impact on open pension funds' exposures in the domestic equity market. These funds have a significant share in the capitalisation of domestic companies listed on the WSE markets (21.1% at the end of September 2013) and shares of WIG20 companies are the main component of their equity portfolio.

From June to October 2013, the zloty exchange rate against the euro was stable and its implied, as well as historical volatility declined substantially. The temporary spells of zloty depreciation and increased volatility of its exchange rate observed in June and at the turn of August and September resulted mainly from the aforementioned growing expectations for earlier-than-anticipated reduction of the quantitative easing programmes by the Fed (see Figure 2.8). In the light of elevated zloty exchange rate volatility, NBP sold a certain amount of foreign currencies for zlotys on 7 June 2013. The October 2013 decline of the zloty exchange rate against the US dollar to its lowest level in over two years was driven by the weakening of the US dollar against the euro, which was connected with the on-going political crisis in the United States.

Figure 2.8. Zloty exchange rate and its volatility



Source: Thomson Reuters.

The reduction of foreign investors' exposure in the domestic capital market and a stable zloty exchange rate observed in the period analysed resulted in their diminished demand for funding in the zloty via short-term fx swaps. This contributed to an increase in the difference between WIBOR reference rates and zloty interest rate implied in fx swap transactions (see Figure 2.4). Despite temporary fluctuations the cost of obtaining foreign currencies for the zloty in CIRS basis transactions, used by domestic banks to alleviate the mismatch in the currency structure of their assets and liabilities, were, in the period analysed, lower on average than from November 2012 to May 2013 – premia in the CIRS basis market amounted on average to slightly below 40 basis points.

Box 3. Central Counterparty and financial system stability

Although the use of over the counter (OTC) derivatives was not the direct cause of the recent global financial crisis, it contributed to the turmoil in the financial markets observed in 2008–2009. A surge in activity in the OTC derivatives market in the last ten-odd years made it possible to increase the use of leverage and led to the emergence of a complex chain of mutual counterparty credit risk exposures that were not always appropriately collateralised. This made it difficult to determine the scale of risk taken by individual entities and, as a consequence, after the collapse of Lehman Brothers investment bank, led to a significant rise in counterparty credit risk aversion and a sharp decline in liquidity in the global money market. This threat was not identified in time by regulators and supervisory authorities due to very low transparency of the OTC derivatives market, arising mainly from its decentralised character.[1]

Bearing the above in mind, G20 leaders decided at the Pittsburgh summit in September 2009 that it was necessary to reform the global OTC derivatives market. One of the reform's key elements was the agreement to have standardised OTC derivative contracts cleared through clearing houses with the status of a central counterparty (CCPs).

CCP operating rules

Central counterparty is a clearing house that assumes the rights and obligations resulting from the concluded transactions, and becomes the buyer to every seller and the seller to every buyer in relations with its direct members. This occurs as a result of using novation or open offer. In the former, the original agreement between the buyer and the seller expires and is replaced by two new contracts – between the CCP and the buyer and between the CCP and the seller. When open offer is applied, the CCP becomes a party to transaction automatically at the moment the buyer and the seller agree on the terms of a transaction (no contractual relationship between the buyer and the seller arises). CCP calculates the value of transactions accepted for clearing on a current basis and determines the amount due and the obligations arising from them for each direct member. To mitigate credit risk, a CCP imposes, at least once a day, and collects margins from direct members. CCP guarantees the clearing of trades with its own capital.

As a result, in the post-transaction phase the structure of the OTC derivatives market changes significantly. Bilateral relations between the original parties to OTC derivative transactions, which are regulated by master agreements, disappear and CCP takes the central position as a party to each transaction to be cleared through it. This enables the CCP to clear transactions using multilateral netting, which consists in calculating the net amount due from or to each clearing member (direct member of a clearing house) that arises from all its transactions submitted for clearing in the CCP. This mechanism allows CCP members to significantly reduce, compared with bilateral arrangements, total credit exposures arising from the OTC derivative transactions and lower the demand for financial instruments posted as collateral for the obligations arising thereof.

As CCPs are exposed to a number of significant risks they are required by regulators to have a properly constructed clearing guarantee system. The purpose of the system is to protect CCPs against the effects of risk materialisation associated with clearing members defaults that may occur despite applying stringent access requirements. CCP direct members are typically large financial institutions, including in particular banks and investment firms that are obliged to meet specific criteria related, inter alia, to the level of capital, prudential standards and operational and technical capacity.

Entities that have received the status of a CCP direct member are required to post initial margin to the clearing guarantee system as well as a variation margin, together with a contribution to a default fund established for the event of a default by a clearing member. The initial margin is used to cover a CCP's future potential credit exposure to a direct member resulting from a change in the value of cleared transactions until the next valuation

of the variation margin is carried out. In turn, the variation margin is collected to cover the member's current exposures and is calculated by the CCP on a daily basis to reflect the transaction's current value. These margins may be posted in cash or in highly liquid financial instruments. In addition to the aforementioned margins and the default fund, the clearing guarantee system also includes the CCP's own financial resources. In accordance with international standards [2], the resources collected in the system should be sufficient to cover losses arising from the default of two clearing members to which CCP has the largest exposures.

Drawing on the resources collected in the abovementioned clearing guarantee system activates when one of the CCP direct members defaults on its obligations. The order in which these resources are called upon by the CCP is the so-called default waterfall. First, defaulting member's collateral posted to meet margin requirements and default fund contribution are used. If these resources are insufficient to settle a given transaction, part of a CCP's own capital – skin in the game (SIG) – is used. Where these resources are not sufficient to cover the defaulter's obligations, a CCP will proceed to the non-defaulting members' default fund contributions, which means losses are mutualised, and, subsequently, to CCP's remaining capital. The CCP may also require its direct members to provide additional, but ex ante limited, contributions to the default fund.

Systemic risk associated with CCPs' functioning in the light of the EMIR

The abovementioned OTC derivatives market reform will result in a change in risk distribution in the financial system and the centralisation of counterparty credit risk, liquidity risk and operational risk in CCPs. The role of CCPs in the financial system will increase significantly. Therefore, CCPs will be subject to prudential standards, including those relating to the minimum capital requirement, and supervision by competent authorities. In the EU these standards have been laid down in the European Market Infrastructure Regulation, EMIR[3] and the accompanying regulatory and implementing technical standards adopted by the European Commission. The regulations focus primarily on micro-prudential requirements and standards which are to ensure the safety of CCPs' operation. Still, such a change in the structure of the functioning of the OTC derivatives market and the concentration of risk in CCPs generate new systemic risks. Discussed below are several issues associated with CCPs' activities that may result in these entities not contributing to the expected strengthening of the resilience of the financial system against risks arising from the default of active participants of the OTC derivatives market.

Procyclicality of margins and haircuts

In accordance with Article 41 of the EMIR, CCPs impose margins, call and collect them to limit their credit exposures to clearing members. In addition, Article 46 of the EMIR provides that a CCP "shall accept highly liquid collateral with minimal credit and market risk to cover its initial and ongoing exposure to its clearing members." Both the amount of margins and the reduction in the value of assets accepted as collateral (so-called haircut), depend, inter alia, on market conditions (price volatility of financial instruments). This may contribute to an increase in risk aversion of market participants resulting in a rise of price volatility and a significant decline in the liquidity of financial instruments accepted by CCPs, which may prompt CCPs to require clearing members to post the additional collateral. As a consequence, clearing members may be forced to the fire sales of other assets, thereby deepening the overall decline in financial instruments' prices and exacerbating a rise in their volatility.[4] Procyclicality in margining and haircutting mechanism constitutes an important source of risk to financial system stability.

The EMIR identifies this risk and Commission Delegated Regulation No. 153/2013 supplementing the EMIR [5] sets out that CCPs should adopt forward-looking margin methodologies that limit the likelihood of procyclical changes in margin requirements, without undermining the resilience of the CCP. Pursuant to Article 28 of the regulatory technical standard, this means, inter alia, avoiding, wherever possible, disruptive or big step changes in the margin requirements and establishing transparent and predictable procedures for adjusting these requirements in response to changing market conditions. In doing so, the CCP may, inter alia, apply a margin buffer equal to at least 25%

of the calculated margins which it allows to be temporarily exhausted in periods, when the calculated margins are rising significantly. The requirements provided for in Article 41 of this technical standard are aimed at avoiding significant and unexpected adjustments of the collateral value. According to Article 41 the haircuts applied should take into account a potential need to liquidate collateral under stressed market conditions and the time required to liquidate it.

The requirements for CCPs laid down in the EMIR may limit the risk associated with procyclical changes in financial instruments' prices if CCPs apply a sufficiently conservative methodology to calculate the margins and haircuts. This aspect should be taken into account by supervisory authorities while carrying out regular and stringent assessments of risk management framework in CCPs.

Interoperability arrangements between CCPs

Interoperability arrangements enable the clearing members of CCPs that have established such form of cooperation to clear contracts (executed typically on a cross-border basis) with their home CCPs. Such arrangements may, however, expose a CCP to additional risk, including credit, operational and legal risk. In particular, the interoperability arrangements may result in the transfer of risk, when one of the interoperable CCPs applies less stringent standards relating to risk management than the other. This may generate systemic risk arising from a significant impact of one of the CCPs' default on the financial situation of other CCPs with which it entered into such arrangements. Therefore, the EMIR lays down prudential requirements for CCPs that establish interoperability arrangements. CCPs are required, inter alia, to identify, monitor and manage the risk arising from such arrangements. Moreover, the establishment of interoperability arrangements is subject to prior approval by a competent supervisory authority.

Due to the complex character of interoperability arrangements relating to clearing transactions in OTC derivative instruments, at this stage the EMIR restricts their scope to transferable securities and money-market instruments. However, by 30 September 2014, ESMA should submit a report to the Commission on whether an extension of that scope to other financial instrument would be appropriate. Taking into account that the obligation to clear standardised OTC derivatives in CCPs will become effective in the third quarter of 2014 at the earliest, the time ESMA has to prepare such a report may be too short to carry out a sound assessment of interoperability arrangements for the OTC derivative instruments in an extensive way. It seems that such an analysis should be conducted after the lapse of a dozen or so months from the implementation of the above mentioned obligation.

CCP's own resources in the default waterfall

Article 45 of the EMIR defines the order in which the losses should be covered in the event of a default by a CCP clearing member. The resources to be used first are the margins posted by a defaulting clearing member and his or her default fund contribution. Next, before using the default fund contributions of non-defaulting clearing members, CCPs are required to use dedicated own resources (SIG). Such use of a part of CCPs' own capital to cover potential losses is meant to be an economic incentive for CCPs to manage risk in a prudential way and restrict CCPs' tendency to strengthen their competitive position by setting margins at too low a level.[6]

The methodology for calculation of the amount of the CCP's own resources to be used in the default waterfall is set out in the abovementioned Commission Delegated Regulation. Pursuant to Article 35 of the regulatory technical standard, a CCP shall keep and indicate separately in its balance sheet an amount of dedicated own resources which is to be not smaller than 25% of the minimum capital as provided for in Article 16 of the EMIR. The minimum capital including retained earnings and reserves should be proportionate to the risk stemming from the activities of the CCP and should at all times be sufficient to ensure an orderly winding-down or restructuring of the activities over an appropriate time span and an adequate protection of the CCP against credit, counterparty, market, operational, legal and business risks which are not already covered by specific financial resources as referred to in Articles 41

to 44 of the EMIR.[7] In accordance with the EMIR provisions, CCP regulatory capital may not be used in default waterfall. Moreover, if a CCP has established more than one default fund, the total amount of SIG should be allocated to each of the default funds in proportion to the size of each default fund, to be separately indicated in the CCP's balance sheet and used for defaults in those market segments which the default funds refer to.

The method of calculating the amount of SIG set out in the EMIR does not seem optimal from the point of view of mitigating systemic risk, as the value of dedicated own resources is not directly tied to the scale of credit risk taken by the CCP. The validity of linking the SIG amount with the CCP's scale of activity was raised, inter alia, by EBA[8] under the consultation on the draft EMIR regulatory technical standards. However, according to the adopted solution, the SIG amount kept by a very large clearing house operating globally will not be proportionally larger than the SIG amount kept by a small clearing house that clears contracts concluded by banks operating locally of a much lower value relative to the value of credit exposure of these clearing houses to the largest clearing members. This undermines the main purpose of establishing SIG, which is to encourage CCPs to manage clearing risk prudently. This is also another argument in favour of ensuring strong supervision of CCPs and enhancing an active role of CCP members in assessing the risk management system applied by that CCP (e.g. through participation in the risk committee established in line with Article 28 of the EMIR).

Insolvency and commercial companies laws in some Member States may not be sufficient to ensure an effective separation of individual SIG parts in the balance sheet and enable allocation of regulatory capital only to meet the requirements provided for in the EMIR (due to the lack of mechanisms enabling the separation of a portion of own capital from the CCP liability towards clearing members). This problem should be taken into account at the time of drafting the EU regulation on CCP recovery and resolution.

CCP recovery and resolution

The EMIR, together with supplementing implementing acts, regulate in detail the principles for calculating the margins by CCPs, managing risks, calculating capital requirements and carrying out investment policy, and bring them under the supervision of competent authorities. However, the occurrence of extreme market conditions cannot be ruled out, which would lead to a default of CCP clearing members and, in consequence, to CCP insolvency. Such a possibility is assumed both in the EMIR and in the CRDIV/CRR package, where transactions cleared by CCPs have been assigned a 2% credit risk weight.

A potential default of a CCP would entail negative consequences not only for its direct members but, via the contagion effect, would also jeopardise a wide group of market participants and other entities of financial system infrastructure with which the CCP has established interoperability arrangements. For this reason, similarly as in the case of banks, there should be principles in place for maintaining CCPs' business continuity, CCP's recovery plans as well as resolution plans. Some of the above have been laid down in the EMIR (inter alia, the need for keeping and indicating separately in the balance sheet an amount of dedicated own resources, the default waterfall which is *de facto* a set of recovery tools). The EU regulations lack, however, a comprehensive approach to CCP resolution.

Work is in progress currently to set international standards in this respect. In October 2013, public consultation on documents developed by the FSB came to an end. The consultation concerned the application of *Key Attributes of Effective Resolution Regimes for Financial Institutions* to non-bank financial institutions and principles for information exchange when the resolution procedure is initiated.[9] The documents developed by CPSS-IOSCO which set out guidelines for implementing recovery tools and the restructuring of financial infrastructure entities, including CCPs, were also submitted for public consultation.[10] In October 2013, the European Commission, taking into account, inter alia, recommendations included in the abovementioned documents, launched consultations in order to regulate the CCP recovery and resolution framework in the EU.[11] One of the proposed recovery tools to allocate uncovered losses caused by the CCP member default is variation margin haircutting, which consists in the reduction

pro-rata by the CCP of the amount that it is due to pay to its members with positive net positions. This proposal has raised doubts in the context of the loss mutualisation mechanism applied by CCPs. In addition, it seems to neglect the fact that entities with positive net positions arising from transactions in OTC derivatives may at the same time hold negative net positions arising from transactions executed in the spot market that are not cleared in CCPs.

The work on the EU regulation on the recovery and resolution framework should be completed as soon as possible, so as to ensure it is in place at the time the obligation to clear OTC derivative instruments in CCPs enters into force (the obligation will be enacted upon the adoption by the European Commission of the delegated regulation defining OTC derivatives classes eligible for CCP clearing). The implementation of this obligation will result in CCPs becoming entities of systemic importance and the possibility of their unorderly winding-down could lead to serious disruptions in the functioning of this market.

Access to central bank liquidity

One of the tools considered under the CCP recovery mechanism is access to central bank liquidity. This tool may be particularly useful when a large CCP clearing member becomes insolvent and it is necessary to use resources collected in the clearing guarantee system to repay its obligations. In such an event, the access to central bank liquidity facilitates promptly raising of financial resources needed to close positions arising from transactions submitted for clearing by the insolvent entity. This makes it possible to limit negative consequences the CCP member's insolvency may have for the CCP's operations, its other members and financial market stability (inter alia, due to the fact that there is no need for a fire sale of assets that have been accepted as collateral). CCP access to different liquidity sources is defined in the EMIR. Article 44 (1) of EMIR imposes a requirement on a CCP to have access to adequate liquidity at all times to be able to provide services and carry out activity. Recital 71 of the EMIR preamble indicates that this may be central bank liquidity, creditworthy and reliable commercial bank liquidity, or the combination of both. The EMIR does not therefore require the CCP to have access to central bank liquidity and does not indicate which of the above mentioned sources of liquidity is better.

The possibility of providing liquidity to CCPs directly by the central bank may encounter legal restrictions, particularly in Member States where CCPs do not hold a banking license. Pursuant to the Act on the National Bank of Poland (Narodowy Bank Polski), the central bank is not allowed to provide liquidity to clearing houses. In view of the above, in September 2013, under consultations on the draft assumptions to the draft law amending the Act on the National Bank of Poland (Narodowy Bank Polski), which were conducted between public authorities, the central bank submitted a proposal to, inter alia, incorporate provisions enabling NBP to give access to intraday liquidity to entities subject to the supervision by KNF and participating in payment systems operated by NBP, aimed at meeting liabilities arising from this participation, and extending credit lines for stability purposes to banks and other financial institutions supervised by KNF. In Poland, Article 123 (1) of the Treaty on the Functioning of the European Union providing a prohibition of overdraft facilities or any other type of credit facility to be extended by national central banks in favour of, inter alia, public undertakings of Member States is also a legal restriction relating to CCP's access to central bank liquidity other than intraday credit.[12] The CCP clearing house operating in Poland, KDPW_CCP, has the status of a public undertaking. The ownership structure of KDPW, KDPW_CCP's sole shareholder, ensures that the State Treasury controls two thirds of the company's capital and, therefore, enables it to significantly influence the composition of its management bodies.

CCP in the domestic OTC derivatives market

In Poland, there is one central counterparty, KDPW_CCP. The provisions of the Act on Trading in Financial Instruments[13], which entered into force on 4 August 2012, introduced the concept of novation into the Polish legal system. These amendments of the Polish legislation enabled the clearing house, KDPW_CCP, to operate as a central counterparty. At the end of 2012, KDPW_CCP implemented novation for all transactions covered by

the clearing guarantee system, including OTC trades. KDPW_CCP also established a separate clearing guarantee system for transactions concluded outside the organised trading, including the OTC default fund. The order in which resources are used in this system complies with the EMIR requirements, including, inter alia, the fact that KDPW_CCP is required to use part of its own capital (part of 25% of its regulatory capital, proportional to the OTC market) in case the margins and the contribution to the OTC default fund posted by the defaulting clearing member turn out to be insufficient to cover his or her obligations. Initial margins and variation margins collected in the OTC clearing system may consist of securities accepted by KDPW_CCP (the shares of companies that make up the WIG20 stock exchange index and the Polish Treasury bonds and bills) and cash in Polish zlotys.

In December 2012, KNF approved the *Transaction Clearing Rules for non-organised trading* developed by KDPW_CCP. As of 2 January 2013, KDPW_CCP is allowed to clear transactions in the following OTC derivative instruments denominated in the Polish zloty: FRA, IRS (basis swap), OIS, as well as repos on Treasury bonds.[14] The abovementioned clearing services are provided under the Polish regulations, as KDPW_CCP benefits from the transitional period provided for in Article 89 (3) of the EMIR. At the same time, KDPW_CCP made efforts to comply with all (capital, technical and organisational) requirements defined for CCPs in the EMIR. KDPW_CCP is applying for authorisation in line with this regulation which will enable it to continue its activity as a central counterparty, including clearing OTC derivative transactions that will be subject to the clearing obligation under EMIR. At the end of June 2013, KDPW_CCP filed an application for the authorisation to KNF, which will issue a decision after consulting the college of supervisors.

Conclusions

The following conclusions and proposals for actions in the EU and in the domestic market can be formulated on the basis of the above considerations:

- the implementation of the requirement to clear standardised OTC derivative transactions in CCPs will lead to the concentration of credit, market and operational risk in these entities; as a consequence, the role of CCPs in the financial system will increase significantly,
- it is worth analysing and putting forward for the consideration of the European Commission whether the manner of calculating the amount of SIG adopted in EU regulations is optimal from the point of view of economic incentives for prudential management of clearing risk in CCPs and, in consequence, optimal for financial market stability,
- a strong supervision of CCPs should be ensured, including in-depth and regular assessment of risk management system applied by these entities, with particular emphasis on the methodology of determining margins and haircuts, and the potential procyclical effects thereof; the solutions adopted by CCPs may be a potential source of systemic risk, which is why strong supervision of these entities is required,
- extending the scope of interoperability arrangements to OTC derivatives should be preceded by a sound and comprehensive assessment of potential benefits and threats relating to such a model of clearing infrastructure; the assessment should be based on experiences arising from the implementation of the requirement to clear specified classes of OTC derivatives in CCPs,
- work on the EU regulation on the recovery and resolution framework for CCPs should be intensified and a review should be carried out to find out whether national insolvency regimes take into account the specificity of the activities of these entities and the EMIR requirements,
- the Act on the National Bank of Poland (Narodowy Bank Polski) should be amended to enable the Polish central bank to provide liquidity to CCPs when there exists a threat to the stability of the domestic financial system,

- the Polish Ministry of Treasury should introduce ownership changes in the KDPW S.A. group, so that the clearing house KDPW_CCP does not have the status of a public undertaking and is able, when there exists a threat to the stability of the domestic financial system, to seek liquidity support from NBP other than intraday credit.

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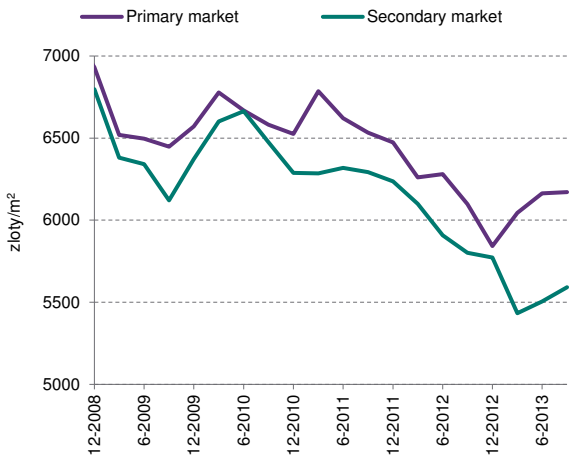
[1] "Report of the High-Level Group on Financial Supervision", Brussels 2009 and "Financial reform. A framework for Financial Stability", The Group of Thirty, Washington D.C. 2009.
[2] "Principles for financial market infrastructures", BIS/OICU-IOSCO, April 2012, the document is available on the BIS website http://www.bis.org/publ/cpss101.htm
[3] Regulation No. 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories (Official Journal of the European Union L201 of 2012, p. 1).
[4] L. Hermans, P. McGoldrick, H. Schmiedel, "Central counterparties and systemic risk", Macro-prudential Commentaries ESRB, No. 6, November 2013.
[5] Commission Delegated Regulation (EU) No. 153/2013 of 19 December 2012 supplementing Regulation (EU) No. 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on requirements for central counterparties (Official Journal of the European Union L52 of 2013, p. 41).
[6] "CCP Loss Allocation at the End of the Waterfall", ISDA, August 2013, pp. 16-17.
[7] Articles 41 to 44 of the EMIR refer to margins, default fund and other financial resources maintained in order to cover potential losses in the event of a CCP clearing members' default, as well as for the purpose of managing liquidity risk.
[8] Letter of EBA executive director of 8 August 2012 to the Chairperson of ESMA, "Consultation of the EBA on the Consultation Paper ESMA/2012/379", http://www.esma.europa.eu/system/files/eba.pdf
[9] "Application of the Key Attributes of Effective Resolution Regimes to Non-Bank Financial Institutions. Consultative Document", Financial Stability Board, 12 August 2013, document available on the FSB website: http://www.financialstabilityboard.org/publications/r_130812a.pdf
[10] "Recovery of financial market infrastructures. Consultative report", Committee on Payment and Settlement Systems and Board of the International Organization of Securities Commissions, August 2013, document available on the BIS website: http://www.bis.org/publ/cpss109.pdf
[11] "Discussion Paper on CCP recovery and resolution", non-paper of the Services of the Directorate-General Internal Market and Services, Brussels, 10 October 2013.
[12] Pursuant to Article 4 of the Council Regulation (EC) No. 3603/93 of 13 December 1993 specifying definitions for the application of the prohibitions referred to in Articles 104 and 104b (1) of the Treaty, intraday credits are not treated as credit facilities in the meaning of Article 123 of the Treaty on the Functioning of the European Union provided that they are actually limited to one day and that cannot be extended.
[13] Act of 28 June 2012 Amending the Act on Trading in Financial Instruments and the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading, and Public Companies (Journal of Laws, 2012, item 836).
[14] "Transaction Clearing Rules (Non-Organised Trading)" became effective on 2 January 2013, the document is available on the KDPW_CCP website, http://kdpwccp.pl.

2.3. Property market

In the period analysed in the *Report*, the prices of flats in the primary and secondary market slightly increased in the largest cities (see Figure 2.9).

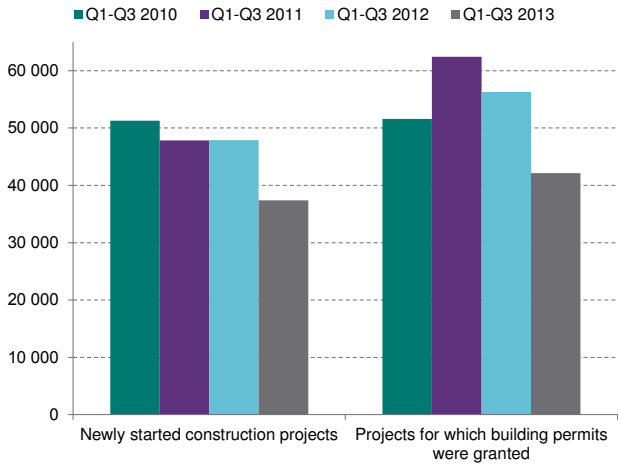
Figure 2.9. Residential property transaction prices in the primary and secondary market



Note: weighted average prices of 1 m^2 of flats in the largest residential markets (Gdańsk, Gdynia, Łódź, Kraków, Poznań, Warszawa and Wrocław).
Source: NBP.

Slight increase in prices was the result of, inter alia, a pick-up in demand and the fall in the number of flats offered by developers, including finished flats.[10] The number of flats offered by developers has been falling gradually for several quarters due to an increase in the number of transactions and a fall in the number of new flats offered for sale[11], although it still exceeds the level considered as balanced. In the first three quarters of 2013, there was a decline in the number of flats whose construction started and housing projects which were granted building permits (see Figure 2.10).

Figure 2.10. Number of flats in new construction projects and in projects for which building permits were granted in the first three quarters of the years 2010–2013

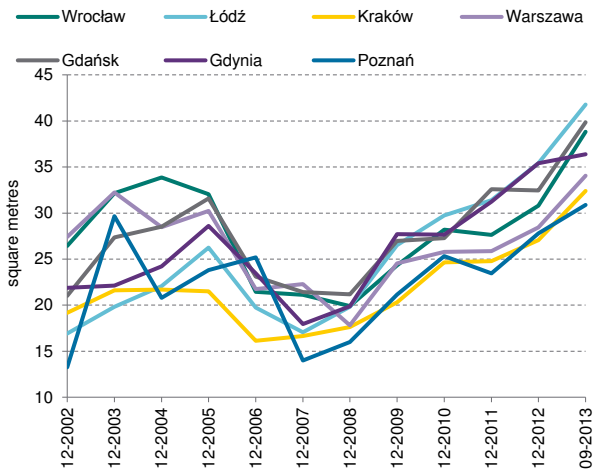


Note: the data include construction projects by developers and housing cooperatives.
Source: GUS.

The pick-up in demand in the residential market was driven by investment–type transactions which concerned higher quality flats (e.g. with better location). Credit-financed demand was driven by an increase in the availability of housing loans (see Figure 2.11), which resulted from cuts in interest rates. The decline in loan servicing costs and a stable level of house rents in the market led to the increase in the relative profitability of flat purchase versus flat rental. This is reflected in the data on the value of loans – although the total growth in housing loans in the period analysed in the *Report* was lower than in the corresponding period of the previous year, monthly loan increases have been gradually rising since March 2013 (see Chapter 3.2).

[10] A more extensive description of the developments in the residential property market can be found in quarterly notes: "Information on home prices and the situation in the residential and commercial real estate market in Poland" and in "Report on the situation in the Polish residential and commercial real estate market in 2012", 2013, NBP.
[11] See the reports: "Residential market in Poland" REAS Q2 and Q3 2013.

Figure 2.11. Simulation of availability of flats in selected residential property markets



Note: the simulation shows the size of a flat (in square metres), which a person with average income for the region (voivodship), funding its purchase with a loan, could afford to buy in the primary market (ask prices).
Assumptions for the calculation: borrower's downpayment 20%; borrower is a one-person household; borrower's income equals the average gross salary in the enterprise sector for a given voivodship, the maximum amount spent for loan instalment repayment does not exceed 50% of net income; monthly funds left to cover expenses after the loan instalment has been repaid are minimum 1,000 zloty; loan maturity of 25 years; loan repaid in decreasing instalments.
Source: NBP calculations based on POINT Info Nieruchomości and GUS data.

Outlook

In the coming quarters, the prices of flats are likely to stabilise or slightly increase. This will be driven by a rebound in demand, due, inter alia, to the launch of the "Home for the young" government program at the beginning of 2014, and a relatively high housing loan availability. The impact of the program on prices will, however, be curbed by the annual limits on total amounts of financial support. Other features of the program (no income criteria for the program beneficiaries and a relatively high maximum limit for the surface of flats purchased under the program) will lead to a situation, where some persons who will benefit from the program would also buy a flat even if the program was not implemented.

One of the drawbacks of such programs as "Family on its own" and "Home for the young" is the focus placed on subsidising the purchase of apartments financed with mortgage loans, which are available only to households with sufficiently high income. Meanwhile, there are too few flats for rent in the largest cities, which are also available for less affluent households. A high percentage of owner-occupied housing (OOH) and a poorly developed rental market have a negative impact on the labour market as they restrict workers' mobility.

The expansion of the flats-for-rental market would also be beneficial form the point of view of equilibrium on the residential market. Should the increase in demand for OOH be significant, it could be partially satisfied by the flow of resources from flats for rental.

The planned launch of the Flats for Rental Fund by BGK in the form of a closed-end investment fund of non-public assets should increase availability of flats for rental.[12] According to the program, the Fund will invest in apartment buildings with flats ready for rental, and will rent them to tenants. The commencement of operations by the Fund-managing entity is scheduled for the first quarter of 2014.

Potential price rises associated with an additional demand impulse will probably be constrained, inter alia, by a large number of flats offered by developers (i.e. flats at various construction stages). The construction of flats continues to be a profitable business and situation of most developers is stable. The developers have large number of lands for construction and building permits, which will stimulate the rise in supply should additional demand appear.

[12] More information on the Fund can be found on the bank's website: http://bgk.com.pl/fundusz-mieszkan-na-wynajem/fundusz-mieszkan-na-wynajem

Chapter 3.

Banking sector stability

The condition of the banking sector remained good in the period analysed in the *Report* and posed no risk to financial sector stability. Lending growth remained at a stable, albeit low level, which was associated with a relatively slow economic growth and restrained demand. The consumer loan market showed signs of improvement.

Banks posted high earnings, however their profitability ratios were falling slowly. The decrease was mainly driven by a diminishing net interest margin. Banks continued to strongly compete for deposits of the non-financial sector thus reducing the funding gap. In effect, in an environment of interest rate decreases the cost of funding fell at a slower rate that the profitability of assets.

The scale of the fall in profitability was limited by the reduced burden of credit risk materialisation costs on the earnings. The quality of loans to households and corporate loans improved slightly.

Banks increased their regulatory capital and improved their loss absorption capacity. The sound capital position of banks is confirmed by the results of stress tests; they indicate that the majority of domestic commercial banks hold sufficient capital to absorb the effect of a severe economic slowdown. However, banks should take particular care to maintain high levels of capital in order to expand lending along with the improving economic situation without significantly increasing financial leverage. The application of statistical methods to calculate the capital requirements should not lead to an excessive increase in financial leverage.

Although the condition of the whole banking sector is stable, individual banks are substantially discrepant, and some of them exhibit heightened sensitivity. This particularly applies to certain smaller commercial banks and part of the cooperative banking sector.

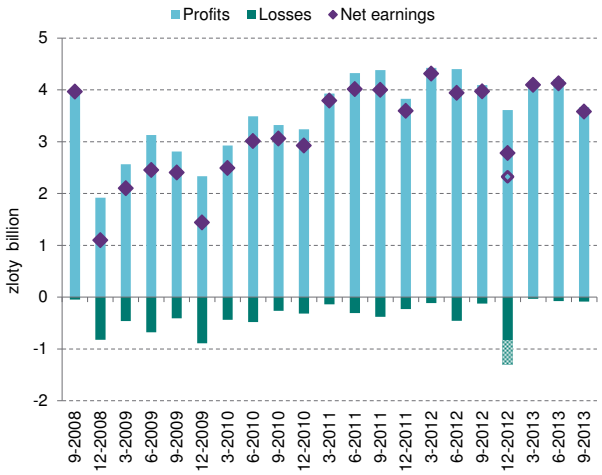
3.1. Earnings

In the period analysed[13] the average profitability ratios of the banking sector continued to fall (see Table 3.1), and for cooperative banks the decline of ROA was more pronounced than at commercial banks (see Figure 3.2). The sector's earnings in the second and third quarters of 2013 were higher, in nominal terms, than in the period considered in the previous edition of the *Report*[14], but lower than in the corresponding period a year earlier (see Figure 3.1).

The activities of large commercial banks were, on average, still more profitable than of other institutions (see Figure 3.2, left-hand panel).

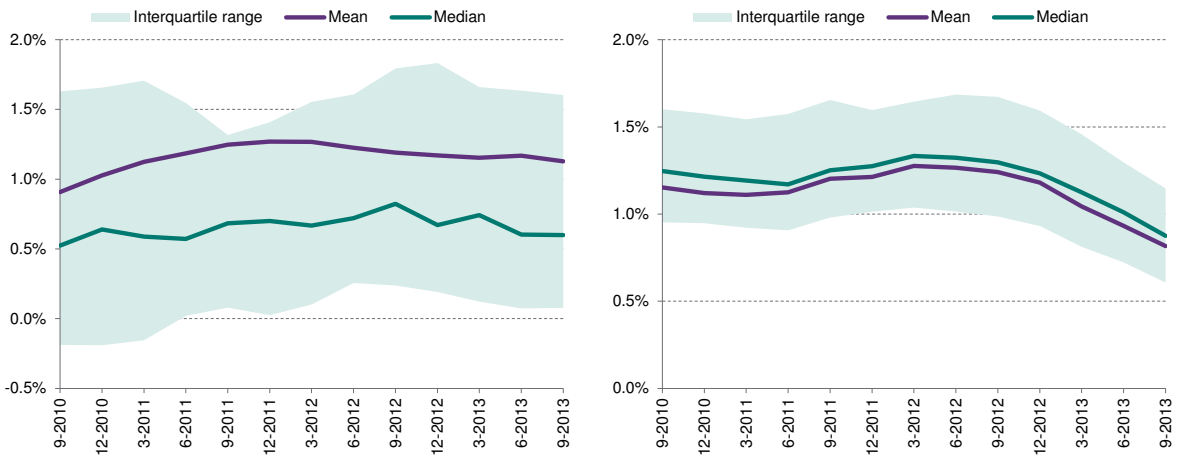
The number of the loss-making banks went up (from 23 to 33), but their share in the banking sector's assets remained at a similar, low level (7.3%, compared to 7.1% at the end of March 2013). Negative profitability ratios were posted by 6 commercial banks, 10 branches of credit institutions and 17 cooperative banks (compared to 5, 11 and 7 such institutions, respectively, in the period analysed in the previous *Report*).

Figure 3.1. Quarterly net earnings of the banking sector



Note: an empty marker and the dotted bar area are used to mark the estimated net earnings and the sum of losses of the banking sector adjusted for the net earnings of banks that either ceased their operations in the fourth quarter of 2012 or carried them on in a modified form.
Source: NBP.

Figure 3.2. Return on assets at commercial banks (left-hand panel) and cooperative banks (right-hand panel)



Notes: annualised data.
Unless otherwise indicated, dispersion plots in Chapter 3 relate to domestic commercial banks and branches of credit institutions.
Source: NBP.

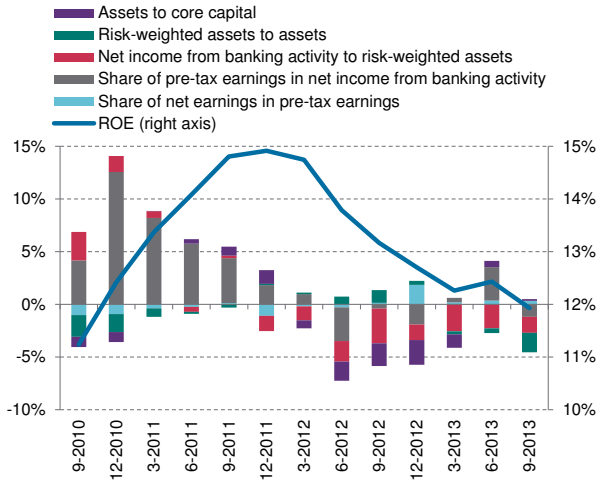
[13] In this Chapter, the "period analysed" covers the period from 31 March to 30 September 2013. The point of reference is the period considered in the previous edition or the end of March 2013.
[14] This may be partially explained by the seasonality observed in the profit and loss accounts of banks.

Total losses made by the banking sector, after a seasonal rise in the fourth quarter of 2012, remained at a very low level in 2013 (see Figure 3.1). They were also small when compared to the scale of operations of the majority of the loss-making banks (the median ROA in this group of banks was -0.8%) and did not pose a substantial risk to their capital position (the median ROE -4.6%). However, losses of 5 small cooperative banks (with a total share of 0.02% in the banking sector's assets) exceeded 10% of the value of their core capital.

In the past two years, ROE of domestic banks fell by around 3 percentage points, to 11.9%. It follows from decomposition of its changes[15] (see Figure 3.3) that the decrease of ROE was driven, inter alia, by a diminishing relation of net income from banking activity to risk-weighted assets (mainly as a result of lower interest rates and competition for deposits) and by the decline in leverage. According to analyses, the fall of market interest rates due to applied monetary policy decreases net interest margin and the earnings of banks to a degree that poses no threat to the banking system stability.[16] The leverage declined on the back of a rise in banks' regulatory capital, mainly through profit retention. This is favourable for banking sector stability and also establishes sound grounds to expand lending, when demand grows stronger.

In the period analysed in the *Report*, a decrease in the average ROE of domestic banks was small (around 0.3 percentage points). This is the effect of a substantial decline in the burden of credit risk materialisation costs on net income from banking activity (more information on charges to provisions for impaired loans in Chapter 3.3). The burden decline was so large that it more than offset the rise in operating costs burden (C/I).

Figure 3.3. ROE of the domestic banking sector and decomposition of changes



Notes: ROE – annualised data, decomposition components – changes quarter on quarter.
The share of pre-tax earnings in net income from banking activity may be interpreted as a part of net income from banking activity that was not used to cover operating costs and costs of credit risk materialisation.
Source: NBP.

The decline in net interest margin had the strongest impact on a deterioration in banks' profitability ratios. The decline was driven by the same factors as in the period analysed in the previous edition of the *Report*. The sensitivity of interest on deposits to decreasing market interest rates was smaller than of interest on loans. This resulted, inter alia, from continued competition for funding sources (see Figures 3.40 and 3.41 in Chapter 3.4) and from the fact that interest on a substantial portion of funds deposited on current accounts at a level close to nil, which coupled with a fall of market interest rates, supported a decline in banks' deposit margin. At the same time, a persistent relatively weak loan demand (see Chap-

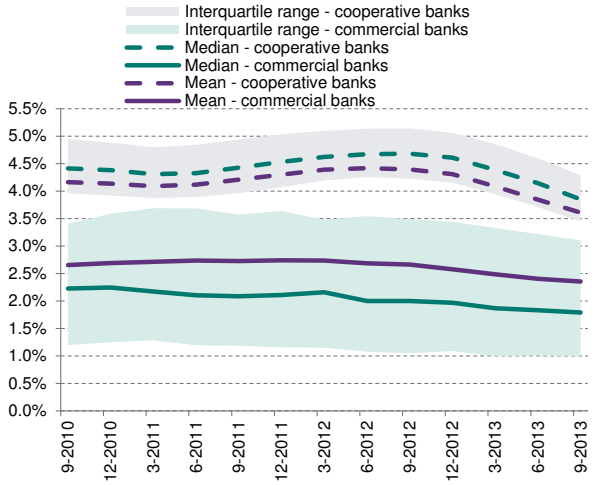
[15] Formula of decomposition of ROE shown in Figure 3.3:
$ROE = \frac{netearnings}{corecapital} = \frac{netearnings}{pre-taxearnings} * \frac{pre-taxearnings}{netincomefrombankingactivity} * \frac{netincomefrombankingactivity}{risk-weightedassets} * \frac{risk-weightedassets}{assets} * \frac{assets}{corecapital}$

[16] For more information on simulating the impact of falling interest rates on banks' earnings see Box 2 in: "Financial Stability Report. July 2013", 2013, NBP, p. 40.

ter 3.2) and the decrease in the upper limit of interest on loans (which – by law – is linked with the NBP Lombard rate) limited the possibilities of increasing lending margin . The fall of the average asset risk weight, associated with government bond portfolio growth, also led to the decline of ROE (see Chapters 3.4 and 3.5).

Net interest margins at cooperative banks were, in principle, higher than at commercial banks, but decreased faster (see Figure 3.4), which was reflected in their profitability ratios.

Figure 3.4. Net interest margin at commercial and cooperative banks



Note: annualised data.
Source: NBP.

The profitability of housing loans and loans to SMEs[17] was diminishing (see Figures 3.5–3.8). At the same time, there was a rise in the share of banks with low or average profitability of such loans in the banking sector. On the other hand, the estimated profitability of loans to large enterprises and consumer loans grew, mostly on the back of a fall of the burden of credit risk materialisation cost. Consumer loans continued to be characterised by the by far the highest estimated profitability, and were a profitable product for almost all banks (see Figure 3.6).

The non-interest margin of banks also declined (see Figure 3.9). It decreased despite the fact that some banks raised charges for keeping bank accounts and carrying out settlement services and sold bonds from the "available for sale" portfolio, thus recognizing profits arising from the rise in the market value of these instruments. At some banks, the net fee and commission income declined after the supervisory authorities had recommended caution in offering investment insurance instruments to the public[18] and proposed changes in the manner of recognising revenue from the sale of bancassurance products.[19]

[17] Unless otherwise indicated, in Chapter 3 large enterprises are defined as employing at least 250 persons, and SMEs – fewer than 250 persons.

[18] According to KNF, banks should evaluate their products from the point of view of legal risk and non-compliance risk, in order not to be engaged in selling products that are aimed at circumventing the commonly binding provisions of law. See Recommendation M on operational risk management in banks, KNF, January 2013. http://www.dziennikiurzedoweknf.gov.pl/pliki/D_Urz_KNF_poz_6_2013_tcm6-33572.pdf

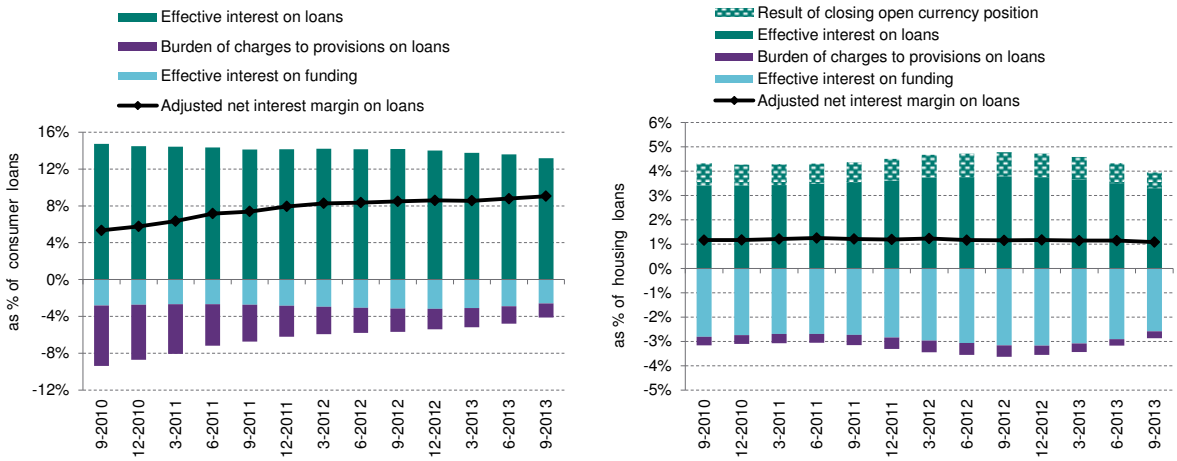
[19] According to UNKF, revenue from the sale of such products should be largely allocated over the period of the agreement or, if they are integral to the credit, included into effective interest rate calculation. See *Position of UKNF of 7 March 2013 on the manner of the recognition of insurance fees by banks*, available at http://www.knf.gov.pl/regulacje/praktyka/stanowiska/stanowiska_uknf_sektor_bankowy.html

Table 3.1. Selected operating indicators and items of profit and loss account of the banking sect

	2012				2013		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
	As % of average assets[1]						
Net interest income	2.85	2.81	2.76	2.68	2.59	2.50	2.43
Net non-interest income	1.79	1.79	1.75	1.76	1.73	1.69	1.63
Net income from banking activity	4.64	4.59	4.51	4.45	4.32	4.20	4.06
Operating costs[2]	2.38	2.34	2.32	2.30	2.26	2.23	2.20
Net charges to provisions for impaired loans	0.59	0.62	0.64	0.63	0.61	0.56	0.54
Pre-tax earnings	1.59	1.54	1.52	1.45	1.41	1.42	1.35
Net earnings (ROA)	1.26	1.22	1.20	1.17	1.14	1.15	1.10
	As % of net income from banking activity[1]						
Net interest income	61.4	61.1	61.3	60.3	60.0	59.7	59.8
Net non-interest income	38.6	38.9	38.7	39.7	40.0	40.3	40.2
Net income from banking activity	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Operating costs[2]	51.2	51.0	51.4	51.6	52.3	53.0	54.1
Net charges to provisions for impaired loans	12.8	13.5	14.3	14.1	14.2	13.3	13.3
Pre-tax earnings	34.3	33.6	33.6	32.7	32.7	33.7	33.4
Net earnings	27.2	26.6	26.6	26.3	26.4	27.3	27.1
	As % of average core capital[1,3]						
Pre-tax earnings[4]	18.6	17.4	16.6	15.8	15.2	15.3	14.7
Net earnings(ROE)[4]	14.7	13.8	13.2	12.7	12.3	12.4	11.9
	Amounts[5] (zloty billion)						
Net interest income	9.0	17.8	26.8	35.4	8.2	16.3	24.8
Net non-interest income	5.7	11.9	17.4	23.3	5.5	11.5	16.6
Net income from banking activity	14.7	29.7	44.2	58.7	13.7	27.8	41.4
Operating costs[2]	7.5	15.0	22.5	30.3	7.3	14.9	22.4
Net charges to provisions for impaired loans	1.8	4.2	6.3	8.3	1.7	3.5	5.4
Pre-tax earnings	5.4	10.1	15.0	19.2	5.1	10.1	14.5
Net earnings	4.3	8.1	12.1	15.4	4.1	8.2	11.8

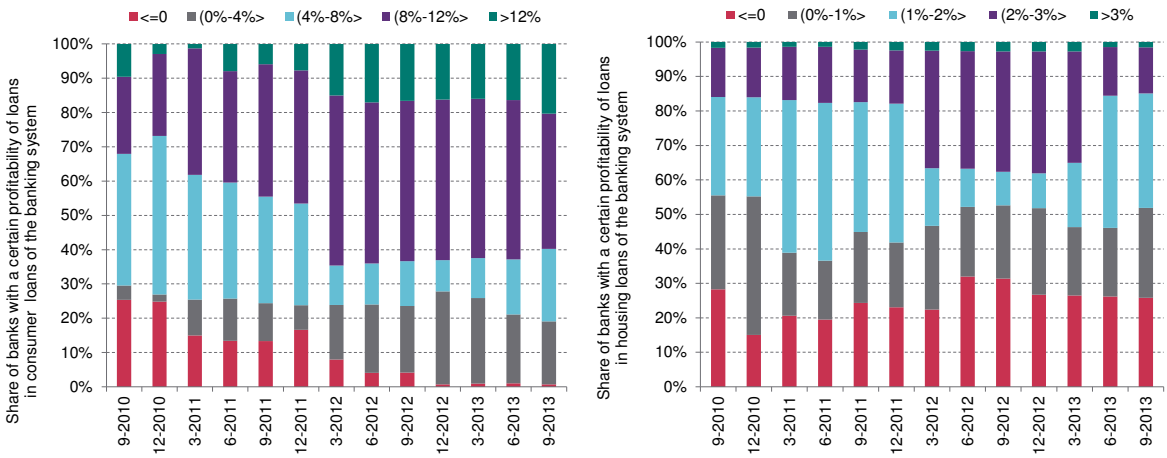
[1] Annualised data.
[2] Operating costs = general expense and depreciation.
[3] Core capital without deductions by the shortfall of specific provisions and other so-called regulatory deductions.
[4] Profits of branches of credit institutions have been subtracted.
[5] Data, cumulatively, from the start of the year.
Source: NBP.

Figure 3.5. Estimated profitability of consumer loans (left-hand panel) and housing loans (right-hand panel)



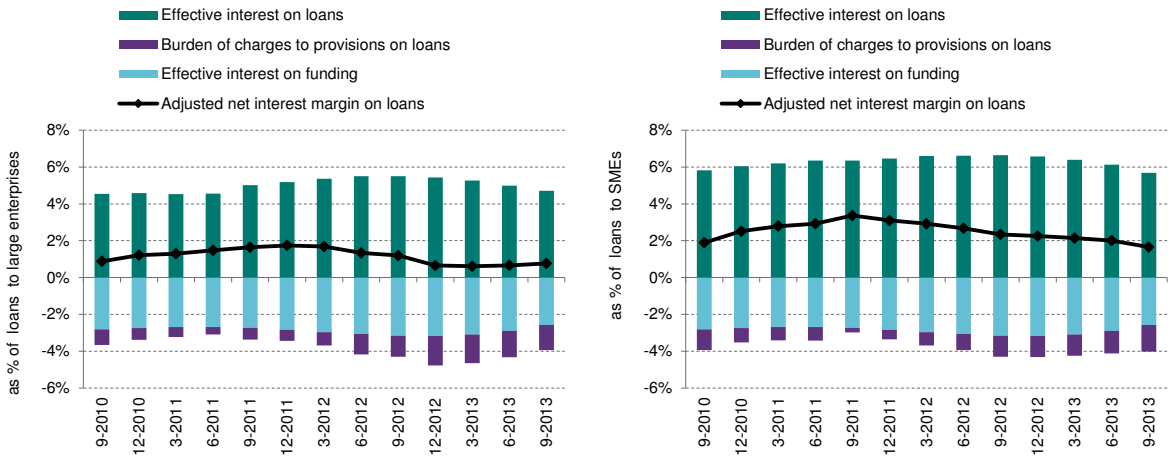
Notes: annualised data.
Values of the adjusted net interest margin presented in this Figure should only be regarded as a proxy of the actual profitability of particular credit products. Identical funding costs ("effective interest on liabilities") were assumed for each credit category. This calculation takes no account of operating costs or costs of capital needed to cover the capital requirements. This estimate takes also no account of fees and commissions income (except for those included into the effective interest rate) related, inter alia, to cross-selling of bank products that may significantly differ depending on product type. Estimated profitability takes no account of profits earned on foreign currency-denominated loans due to the difference between the bid and offer prices of currencies (FX spread).
The "result of closing open currency position" for housing loans is the estimated net gains/losses on closing an open balance-sheet FX position by banks (associated with the origination of Swiss franc-denominated housing loans), assuming the use of rolled over 3-month CHF/USD and USD/PLN fx swaps. The forward exchange transaction (so-called long leg of a fx swap, equivalent to a respective forward transaction) is used to close the position, while the amount in foreign currency obtained by a bank in the spot exchange transaction (so-called short leg) is swapped for zlotys in the foreign exchange market. The results of such a hedging strategy was estimated as the product of the sum of banks' long positions (the quarterly average of positive differences between the value of Swiss franc-denominated housing loans and value of liabilities valued at amortised cost in this currency) and the average quarterly difference between the WIBOR 3M rate and the LIBOR CHF 3M rate, adjusted for implied spread on fx swaps. Such estimate may be overstated as it takes no account of counterparty risk margin paid by Polish banks.
Source: NBP.

Figure 3.6. The share of banks with a specified estimated profitability of loans in consumer loans (left-hand panel) and housing loans (right-hand panel) extended by the banking system



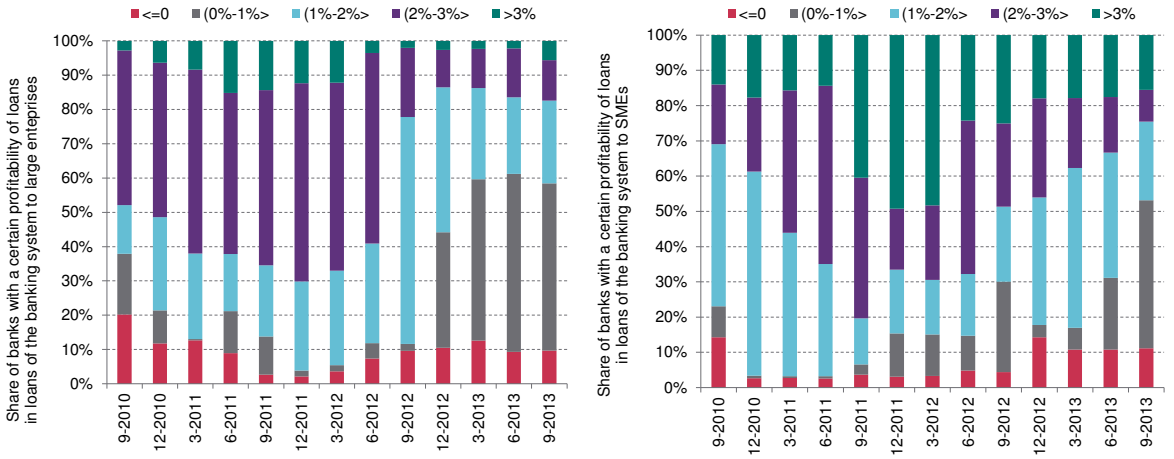
Note: for a description of estimated profitability measurement, see Notes to Figure 3.5.
Source: NBP.

Figure 3.7. Estimated profitability of loans to large enterprises (left-hand panel) and loans to SMEs (right-hand panel)



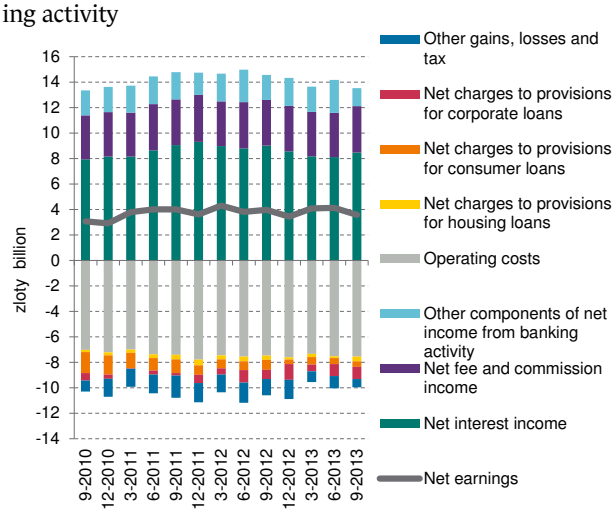
Note: for a description of estimated profitability, see Notes to Figure 3.5.
Source: NBP.

Figure 3.8. The share of banks with a specified estimated profitability of loans in loans to large enterprises (left-hand panel) and to SMEs (right-hand panel) extended by the banking system



Note: for a description of estimated profitability measurement, see Notes to Figure 3.5.
Source: NBP.

Figure 3.9. Sources and allocation of net income from banking activity



Note: quarterly data.
Source: NBP.

Outlook

The profitability of banking business, measured by ROA and ROE, can be expected to decrease further in the upcoming quarters, which will be primarily driven by the following factors:

- **A fall of net interest margin.** FRA rates show that financial market participants do not expect WIBOR rates to grow significantly over the nearest several quarters (see Figure 2.5 in Chapter 2.2). The historically low level of nominal interest rates, which results from the decisions regarding monetary policy, will continue to impact adversely the net interest margin, albeit at a scale that poses no threat to financial system stability.

  The possibility to offset this decreasing deposit margin by raising the lending margin will be limited due to a relative weak loan demand, on the part of entrepreneurs, in particular. The amendment to Recommendation T in early 2013 may contribute to a pick-up in the segment of consumer loans, characterised by high margins, which may cushion a decrease in net interest margin.

- **A fall of non-interest margin.** Net fee and commission income on settlements should be relatively stable in an environment of slow economic growth. As demand for loans is relatively weak, no substantial rise in fees and commissions levied by banks on loans should be expected

  Banks' revenue will be pushed down by the statutory reduction of the interchange fee, from the current 1.25%[20] of transaction value to 0.5% from July 2014.[21]

  Some banks may be induced by prices of Polish government bonds, which remain high, to take profits on the portfolio of "available for sale"instruments they hold in order to increase their earnings on a one-off basis (through non-interest income).

- **Limited opportunities for improving cost effectiveness** in the short-term.

- **An increase in fees paid by banks to BFG** arising from the introduction of the prudential fee[22] and the proposal to introduce a resolution fund[23]. The changes will be beneficial for banking sector stability in the long term.

A fall in profitability may continue to be limited by

[20] See "Ocena funkcjonowania polskiego systemu płatniczego w I półroczu 2013 roku" [Evaluation of the functioning of the Polish payment system], October 2013, NBP.
[21] The act takes effect from January 2014, but from that moment organisations will have 6 months to bring down the fee to the required level. See the Act of 30 August 2013 *on Amending the Act on Payment Services*, Journal of Laws of 2013, item 1012.
[22] See the Act of 26 July 2013 *on Amending the Act on the Bank Guarantee Fund and of Certain Other Acts*, Journal of Laws of 2013, item 1012.
[23] See the draft of 23 April 2013 of the Act on *the Bank Guarantee Fund, Bank Resolution and on Amending Certain Other Acts* available in the Public Information Bulletin of the Government Legislation Centre.

a decreasing burden of loan impairment provisions on earnings. Such a scenario will be supported by an expected improvement in the economic situation.

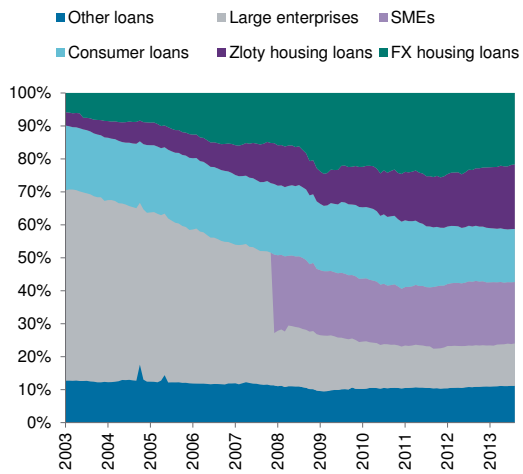
The expected scale of the decline in profitability should not have a significant negative impact on the financial stability outlook. The banking sector as a whole and most bank institutions (including banks of the highest importance for the sector) will remain profitable. Engagement in riskier or less transparent financial products in order to improve earnings (or reduce their decrease) should be considered with due caution by bank management members.

3.2. Lending

The growth rate of lending to the non-financial sector has not changed significantly since March 2013 and amounted to 2.3% y/y at the end of September 2013.[24] Relatively low growth rate was mainly demand-driven. As for the loans for enterprises this was reflected in only minor tightening of banks' credit policies with respect to SMEs given a significant slowdown in economic activity over a couple of previous quarters. Housing loans for households grew in a stable pace, whereas in the case of consumer loans lending accelerated somewhat. Relatively low level of household sentiment remained a factor that could limit the demand for credit.[25] No signs of any negative impact of foreign parent-banks deleveraging on lending of banks operating in Poland could be observed.

The structure of the loan portfolio has been stabilizing since 2011 after several years of decline in the share of corporate loans (see Figure 3.10). At the same, the share of foreign currency housing loans has been decreasing, while the share of zloty housing loans – increasing. These developments may be assessed as positive.

Figure 3.10. Structure of loans to the non-financial sector



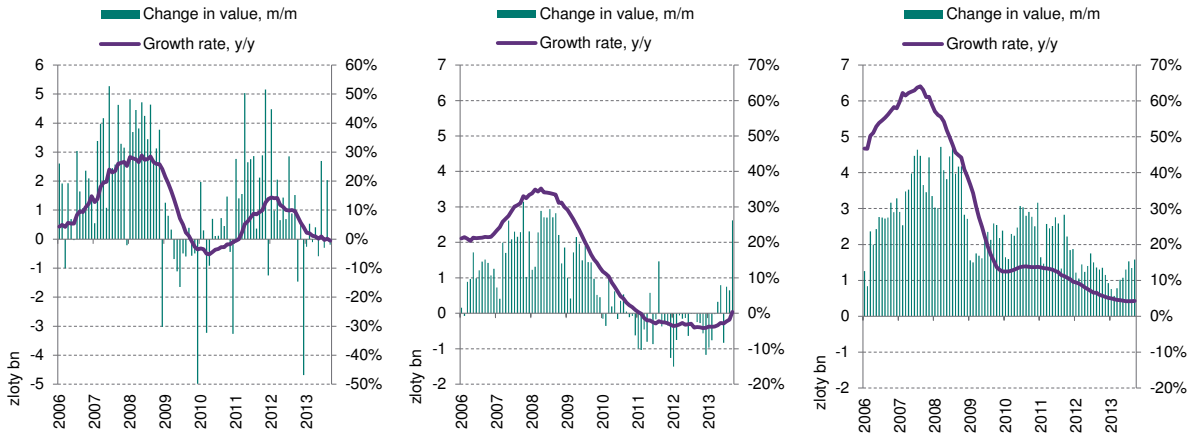
Note: the striped area indicates the share of loans to the whole enterprise sector in the period when data, broken down by loans to large enterprises and SMEs, were not available.
Source: NBP.

Loans to households

The annual growth rate of consumer loans has been negative for nearly three years and – after excluding the impact of one-off factors[26] it can be estimated at -1.2% y/y at the end of September 2013.[27] However, it should be noted that monthly changes in the value of consumer loans have been positive since March (see Figure 3.11, middle panel). The data point to a reversal of the downward trend, which was driven by a relaxation of the requirements of Recommendation T on *good practices with regard to risk management of retail credit exposures*. The amendment to the recommendation was adopted in February 2013 and translated into a significant easing of the standards of

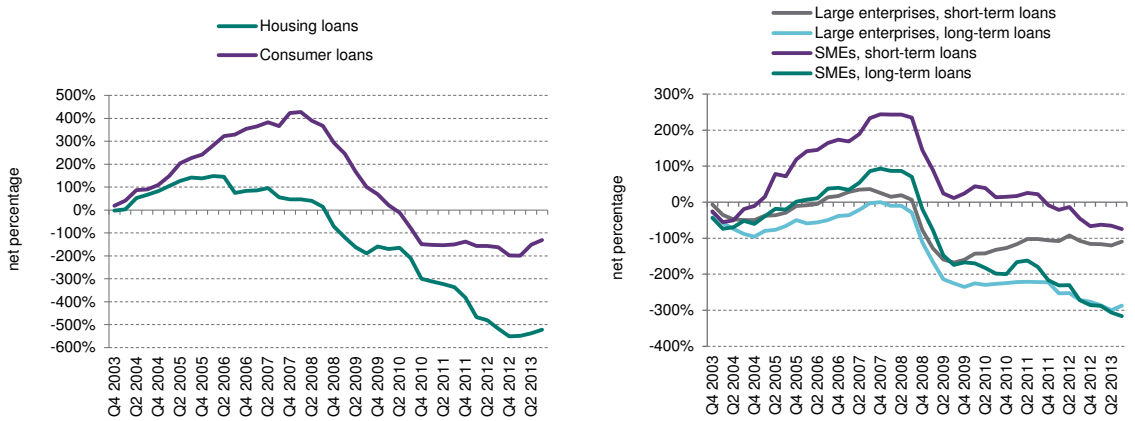
[24] Changes in loan values referred to in Chapter 3.2 apply to data after excluding the impact of foreign exchange rate changes.
[25] Consumer confidence indicators improved slightly in the second half of 2013, but remain low compared to previous years, especially 2007–2008. See "Koniunktura konsumencka", September 2013, GUS.
[26] The large amount of consumer loan growth in September(2.6 billion zlotys) was mainly due to the consolidation of a bank-controlled lending firm into the bank. The transaction led to an increase of the annual growth rate of consumer loans to 0.4%.
[27] The growth rate is driven by the sale of impaired consumer loans. It can be estimated that after accounting for the the sale of consumer loans concluded in the second and third quarters of 2013, the growth rate would be higher by approximately 1 percentage point.

Figure 3.11. Changes in the value (m/m) and growth rate (y/y) of loans to enterprises (left-hand panel), consumer loans (middle panel) and housing loans to households (right-hand panel)



Note: data after eliminating the impact of foreign exchange rate changes.
Source: NBP.

Figure 3.12. Accumulated index of changes in banks' credit standards – loans to households (left-hand panel) and loans to enterprises (right-hand panel)



Note: an increase in the index value means an easing of lending policy standards in a given period, a decrease – means a tightening of lending policy standards.
Source: NBP.

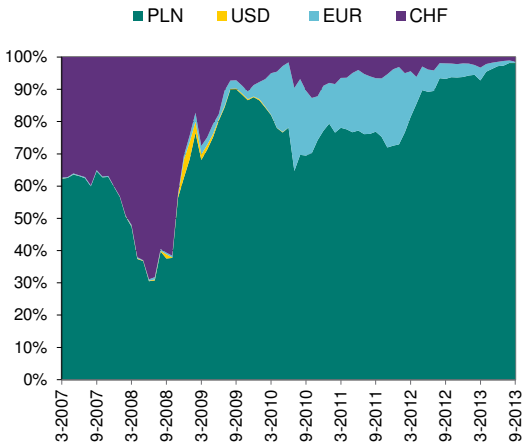
granting consumer loans[28] (see Figure 3.12, left-hand panel), inter alia, in the segment of low-value loans to clients with credit record in a given bank.

The values of monthly housing loan increases have steadily grown since March 2013 (see Figure 3.11, right-hand panel), but a rise in the value of loans since the beginning of the year has been lower by around one fourth than in the corresponding period of 2012. The annual growth rate of housing loans declined slightly to 4.2% in September (a 0.4 percentage point decrease).

Monthly increases of housing loans do not give the full picture of lending as the principal of existing loans is repaid. Due to the effect of increasing average age of the housing loan portfolio, the principal of loans extended in the past is repaid faster, which is supported by a dominant share of fixed instalment loans carrying a variable market-indexed interest rate. After adjusting for the estimated repayment of housing loans, the value of new loans extended in the first three quarters of 2013 was around 7% lower than in the corresponding period of 2012.

The zloty-denominated loans remained dominant in the currency structure of new housing loans, which is favourable from the point of view of financial system stability (see Figure 3.13). However, foreign currency-denominated loans continued to prevail in the currency structure of the loan portfolio (around 52.3%, of which most loans were denominated in the Swiss franc), although this share has been steadily diminishing. By extending such loans, banks are exposed to credit risk arising from households' vulnerability to zloty depreciation, the risk of the reduced possibility of recovering the loan through liquidation of collateral if the debtor becomes insolvent and the risk of the incapability of a rollover of funding or concluding hedging transactions.

Figure 3.13. Currency structure of new housing loans to households



Notes: the data based on a sample of 18 banks that report to NBP information on interest rates and the value of new loan agreements, i.e. all agreements concluded in a given period, renegotiated and annexed agreements for which price conditions or their value were modified. At the end of September 2013, the share of such banks in the whole portfolio of zloty-denominated housing loans of the banking sector amounted to around 74%, and of foreign currency-denominated housing loans – around 72%. Since June 2010, loans in the US dollar have not been included in interest rate statistics.
Source: NBP.

Corporate loans

The annual growth rate of corporate loans fell below zero (-0.5%) at the end of September 2013 (see Figure 3.11, left-hand panel). Among the reasons behind this fall one may single out: a low loan demand accompanying a slowdown in economic growth and tighter lending policy standards maintained by banks (see Figure 3.12, right-hand panel). The greater decrease in the growth rate of loans to SMEs than to large enterprises may be linked both to a cyclical weakening of demand for loans as well as a relatively stronger tightening of credit standards by banks in this market segment.

The growth rate of lending to SMEs weakened compared to March 2013 despite the entry into effect of the *de minimis* Portfolio Guarantee Line. By the end

[28] For more information on changes in banks' lending policy, in particular on the impact of Recommendation T, see "Senior loan officer opinion survey – on bank lending practices and credit conditions", editions for the third and fourth quarters of 2013, NBP.

of September 2013, banks extended around 7.2 billion zlotys of working capital loans with the *de minimis* guarantee[29] (over 8% of the value of working capital loans of March 2013). Over the period, however, the SME sector's indebtedness on account of working capital loans diminished (-4.6% y/y in September 2013). The indebtedness of micro businesses increased, nevertheless to a lesser extent than in previous quarters (11.9% y/y in September 2013.).

The fact that new loans are not reflected in the loan growth rate shows that a portion of enterprises may have used *de minimis* guaranteed-loans to roll-over loans taken out at banks at an earlier date. Rolling over of previously extended loans may be indirectly indicated by the results of the BGK survey conducted among businesses-beneficiaries of the facility. They show that approximately 1/3 of the respondents say that they would have not received a loan without a collateral in the form of the *de minimis* guarantee.[30]

Some banks also lent to the enterprise sector indirectly by providing funding to leasing companies, including members of the same capital groups. Banks' claims on leasing companies have gradually risen since mid-2011, and at the end of August 2013 their annual growth rate was around 6%.[31] However, the claims remained insignificant compared to the value of loans extended to enterprises (30 and 251 billion zlotys, respectively, at the end of August 2013).

Outlook

Economic forecasts for 2014–2015 show that the credit growth outlook has improved since the release of the previous edition of the *Report*. The lending growth rate may be expected to stabilize or slightly accelerate in the coming quarters. A more robust rebound of corporate loans may take place after several quarters of higher economic growth[32]. According to the NBP macroeconomic projection NBP[33], the economic growth rate for 2014–2015 is expected to run at around 3%. Therefore, it seems that a greater acceleration of the growth rate of loans to the enterprise sector may be expected in the second half of 2014.

The consumer loan outlook has improved on the back of an easing of the requirements of Recommendation T, the possibility to grant loans using simplified rules for customer creditworthiness assessment, in particular. However, only ten-odd banks registered a rise in consumer loans[34], including not all the banks that specialize in providing loans to households.

It seems that some restraint on the part of banks to apply relaxed credit standards may result from the losses on consumer loans extended in 2007–2009, i.e. at the time of intensified competition and lenient lending policy. A significant reduction of the percentage of banks that make losses on consumer loan portfolios has been visible only since the end of 2011 (see Figure 3.6, left-hand panel).

Demand for housing loans appears to be stable. The monthly increases in the value of bank loan portfolios have been going up, despite the growing values of loan repayment. A rise in the availability of flats and relatively stable property prices may bring about a stabilization of the growth rate of housing loans with higher values of new loans.

The government scheme – "Home for the Young" (MdM) – subsidising home purchase for selected borrower groups, due for implementation in 2014, could

[29] See "Gwarancje *de minimis* – 7 miesięcy sukcesu", 2.10.2013, http://www.deminimis.gov.pl/banki/wazne-informacje/
[30] *Ibidem*.
[31] These estimates are based on statistics of so-called large exposures of banks.
[32] Data indicate that from 2004, corporate demand for financing via bank loans grows on average after four quarters following an improvement in the economic climate. See "Financial Stability Report. July 2013", NBP, p. 48.
[33] See "Inflation Report", November 2013, NBP.
[34] The banks with a total share in consumer loans of around 50%.

additionally support residential loans.[35] It can be estimated that at current market home prices and the MdM scheme-assumed caps, around 10–15% of transactions concluded in Poland's largest cities would meet the cap levels.[36] However, it cannot be ruled out that the subsidies provided in the MdM scheme may push up home prices and limit the availability of flats.[37] This risk is one of the factors why the launch of the scheme does not seem advantageous.

The June 2013 amendment to Recommendation S *on good practices with regard to management of credit exposures that finance property and are mortgage-secured* will tighten, as of January 2014, the supervisory requirements on some terms on housing loans such as, inter alia: maximum loan maturity (35 years, with recommended maximum loan maturity of 25 years), the requirement for loan to be granted in the currency of the borrower's income[38], maximum level of the LtV ratio for new housing loans (95% – in 2014, ultimately 80% – till 2017; at the same time, for loans whose portion exceeding 80% is adequately insured or collateralised, the maximum LtV should be 90% from 2016).

It seems that the above changes may, in the medium-term, to some extent limit the housing loan granting capacity, although, in parallel, they can be expected to have a positive impact on the quality of a new loan portfolio. The structure of new loans shows that the maximum LtV ratio may be a binding limitation influencing the scale of lending. ZBP data show that 46% of housing loans extended in the second quarter of 2013 exhibited the LtV ratio above 80%.[39] At the same time, the maturity of 1.5% of the housing loans was longer than 35 years (60% in the range of 25–35 years), and less than 1% of the loans were denominated in foreign currency. It is possible that the relatively high values of new housing loans in the second half of 2013 were in part the result of the upcoming date of entry of the maximum LtV ratio.

The growth of working capital loans to micro businesses and SMEs will be supported by loans with *de minimis* guarantees. Banks show a great interest in cooperation with BGK, the authorising entity of the guarantee funds. An agreement with BGK for the provision of guarantees was signed by 20 banks[40], including associating banks SGB and BPS (loans with the guarantee may also be granted by associated cooperative banks). A total share of the 20 banks in the market of working capital loans amounts to over 70% – for loans to SMEs and to over 90% – for loans to individual entrepreneurs. Not all the banks have yet increased the provision of working capital loans, therefore there is a reserve that can be activated as corporate demand for capital grows. Corporate interest for the scheme can also be assessed as high – nearly 20,000 micro businesses and SMEs had contracted loans by September 2013.

In October 2013, the government decided to broaden the scope of *de minimis* guarantees to include in-

[35] The scheme provides budget subsidies for loans for first-time home purchase, taken by persons under 35. The subsidies are to be relatively high: 10% of the replacement value of a home, where the borrower is a single person or a childless family, and 15% for a single child family; additionally 5% after the birth of a third or subsequent child. See the Act of 27 September 2013 *on State aid in first-time home purchase by the young*, http://orka.sejm.gov.pl/proc7.nsf/ustawy/1421_u.htm

[36] The estimate assumes the geographical structure of transactions identical to that in the period from the second quarter of 2012 to the second quarter of 2013. Based on "Raport AMRON–SARFiN. Ogólnopolski raport o kredytach mieszkaniowych i cenach transakcyjnych nieruchomości. 2/2013" [AMRON-SAFRIN All-Poland Report on Housing Loans and Property Transaction Prices], August 2013, ZBP.

[37] "Information on home prices and the situation in the residential and commercial real estate market in Poland in 2013 Q2", September 2013, NBP, p. 5.

[38] This provision will be effective from July 2014.

[39] Therefore, it can be presumed that if a constant borrower structure is assumed, Recommendation S might result in some borrowers taking lower-value loans.

[40] A full list of the banks is available on the website: http://www.deminimis.gov.pl/przedsiebiorcy/lista-bankow/

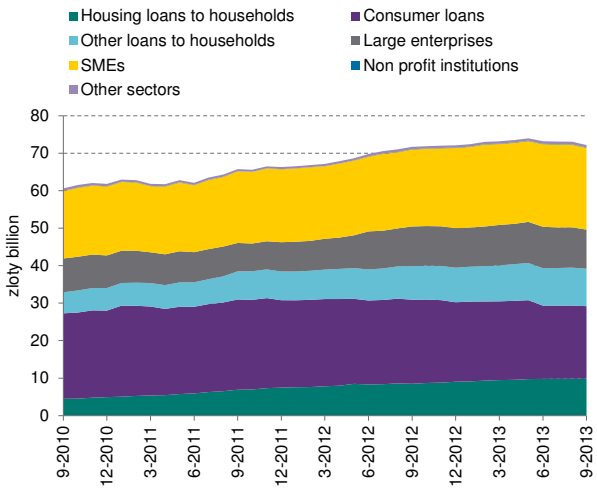
vestment loans from the beginning of 2014.[41] Despite signs of economic recovery, due to the persistent uncertainty about the economic outlook enterprises that refrain from launching new investment projects prevail among the respondents of the NBP survey. In the third quarter of 2013, the percentage of businesses planning to launch new investment projects in the upcoming quarter rose slightly, but it remains low as compared to historical developments. SMEs are those that rate the opportunities to implement investment plans the worst. Despite some improvements, investment growth remains negative at the responding enterprises.[42] In this context, the assessment of the decision to extend the scope of *de minimis* guarantees has to be assessed positively as being a countercyclical factor favourable for the economic growth outlook.

3.3. Credit risk

In the period covered by the *Report*, the quality of loans to the non-financial sector slightly improved (see Figures 3.15 and 3.23). At the end of September 2013, the impaired loan ratio for this sector amounted to 8.5% compared to 8.9% at the end of March 2013.

In the period, the value of impaired loans declined (see Figure 3.14), and there was also a decrease in the cost of credit risk materialisation (net charges to provisions for impaired loans), in annualised terms (see Table 3.1).

Figure 3.14. The value of impaired loans for individual sectors



Note: "other sectors" include the financial sector and the general government sector.
Source: NBP.

3.3.1. Credit risk of corporate loans

Corporate loan quality

The quality of corporate loans has slightly improved since the end of March 2013. The average impaired loan ratio in the banking sector amounted to 11.5% at the end of September 2013, compared to 11.8% at the end of March 2013. The quality of the portfolio at cooperative banks was better than at commercial banks (the ratio was 10.2% and 11.5%, respectively – see Figure 3.15).

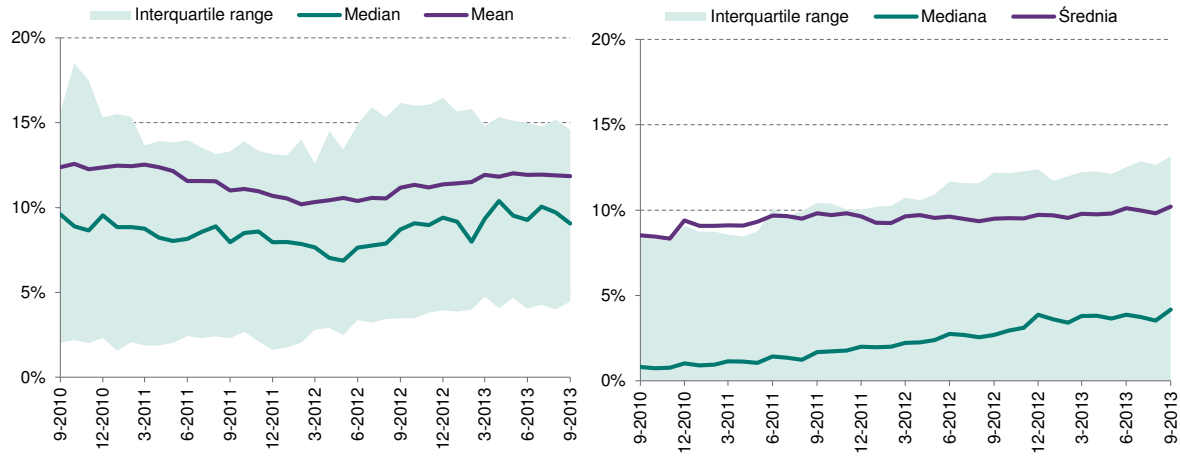
The decrease in the value of impaired loans[43] was insignificant in the period analysed (see Figure 3.16). However, it has to be noted that in the third quarter of 2013 the value of impaired loans declined for the first time since the first quarter of 2011.

[41] The description of changes in the government programme "Wspieranie przedsiębiorczości z wykorzystaniem poręczeń i gwarancji Banku Gospodarstwa Krajowego" is included in the communication of 21 October 2013, available on the Ministry of Finance website http://www.mf.gov.pl/documents/764034/1002285/20131021_zmiana_programu_BGK.pdf

[42] Detailed information on the economic climate in the enterprise sector, including investment plans and changes in bank debt can be found in the results of the NBP survey: "NBP Quick Monitoring. Information on the condition of the enterprise sector, including the economic climate in 2013 Q3 and forecasts for 2013 Q4", 2013, NBP.

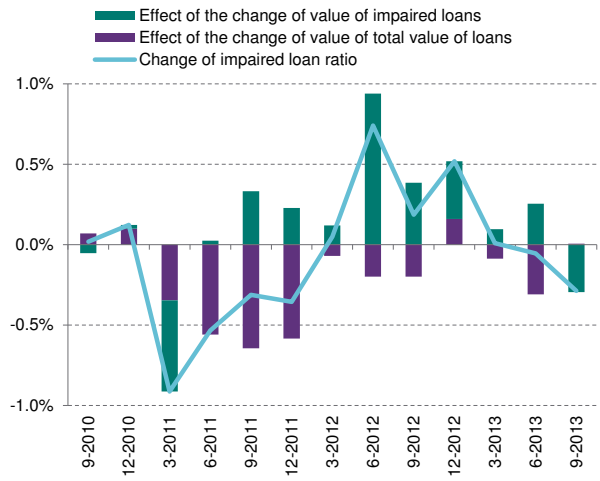
[43] The changes in the value of impaired loans, referred to in Chapter 3.3, apply to data after excluding the impact of foreign exchange rate changes.

Figure 3.15. Impaired loan ratio for enterprises at commercial banks (left-hand panel) and at cooperative banks (right-hand panel)



Source: NBP.

Figure 3.16. Decomposition of change (q/q) of the impaired loan ratio for enterprises



Note: decomposition with the use of a derivatives calculus: a partial derivative of the ratio at the points calculated in relation to a given variable comprising the ratio of impaired loans (impaired loans or total loans) and multiplied by a value of change of the variable in a quarter. The sum of the products of partial derivatives and changes in the value of the variables is approximately equal to the change of the impaired loan ratio.
Source: NBP.

In the period analysed, the difference between the impaired loan ratios of large enterprises and SMEs widened (see Figure 3.17). The value of impaired SMEs loans rose in the period analysed, and it decreased in the large enterprise class (see Figure 3.18).

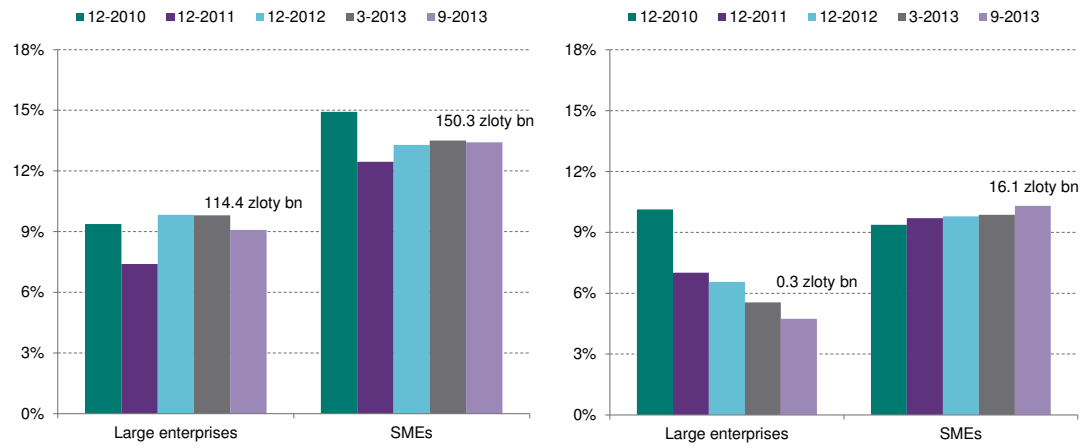
Cooperative banks – although its corporate loan portfolio is nearly 100% composed of loans to SMEs – exhibit a better quality of loans to enterprise sector than commercial banks, which to a certain extent may be associated with a better understanding of local markets. In the period analysed, the quality of loans to SMEs at cooperative banks deteriorated to a greater extent than at commercial banks.

Despite slight changes in the value of impaired loans, the value of loan provisions was higher than in the period analysed in the previous *Report* (see Figure 3.19). Most charges to provisions were those for loans to the SME sector, which was explained by the higher value of loans to the sector and also higher – than in the third quarter – ratio of charges to provisions to the value of the portfolio. For two years until the second quarter of 2013, net charges to provisions for loans to large enterprises were higher in relation to the value of the loan portfolio than net charges to provisions for loans to SMEs. This was associated, inter alia, with high charges to provisions for exposures to several large companies from the construction industry. The trends in loan quality and the provisions observed in the third quarter indicate that loans to SMEs are characterised by higher credit risk.

Corporate operations are funded by banks that take

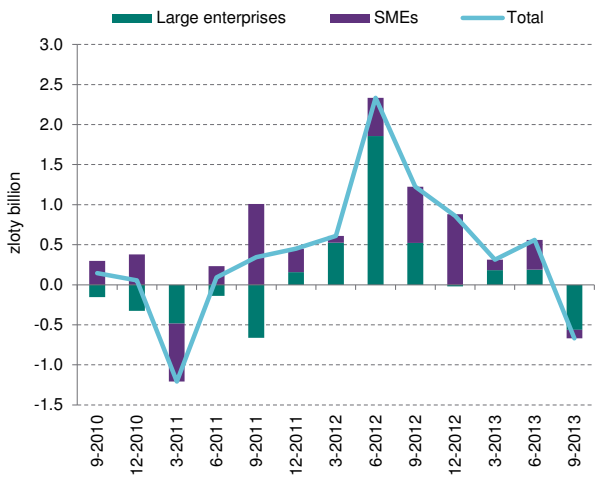
associated credit risk indirectly by lending to leasing companies from their own groups. Exposures towards leasing companies are concentrated at several banks[44], however they constitute an insignificant part of (3–6%) their assets. In addition, the quality of the exposures is very good (impaired loan ratio at 1.1%), and the leasing companies' claims on enterprises are mostly fully collateralised with fixed assets leased. Therefore, risk associated with the claims is limited.

Figure 3.17. Impaired loan ratios for enterprises by their size at commercial banks (left-hand panel) and at cooperative banks (right-hand panel)



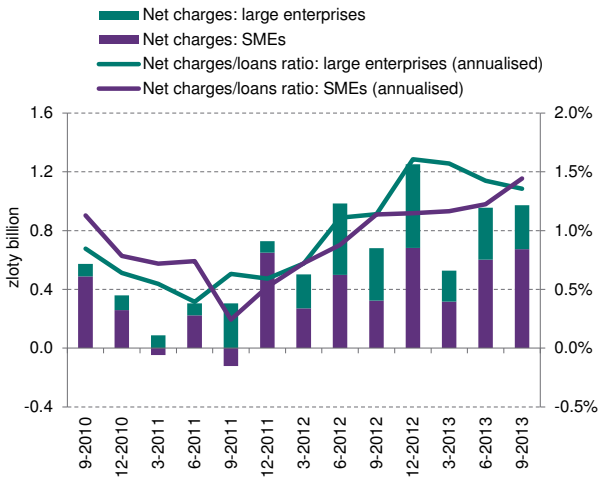
Note: values above the bars are the value of all loans in a given group of banks on a given category of enterprises at the end of September 2013.
Source: NBP.

Figure 3.18. Quarterly changes in the value of impaired loans to enterprises



Notes: data after excluding the impact of foreign exchange rate changes.
Source: NBP.

Figure 3.19. Quarterly net charges to provisions for impaired corporate loans and their ratio to net value of loans



Source: NBP.

[44]Five banks account for over three fourths of the whole sector's claims.

Loan quality by section of the national economy

Changes in banks' exposures to the sections of the economy with the largest share in the loan portfolio point to the diversity of banks' lending policies depending on the quality of loans extended to a given section of the economy. In the period analysed in the *Report*, banks continued to reduce the share of claims on entities from the construction and real estate sections in their portfolios (see Table 3.2). Banks assess the risk of lending to entities from these sections as elevated.[45] Claims on entities of these sections are characterised by higher-than-average-impaired loan ratio, and, at the same time they, constitute a significant portion of banks' portfolios. On the other hand, claims on *manufacturing*, the section with the largest share in the portfolio, grew and so did claims on *electricity, gas and steam supply* sections. The quality of claims on enterprises from these two sections is good.

Construction is the section with the lowest loan quality among sections of the economy with the largest debt to banks. The value of charges to provisions for loans extended to enterprises in the construction industry has continued to fall since the start of 2013 (see Figure 3.20), and the impaired loan ratio has not changed substantially. This implies that a significant part of credit risk costs associated with problems of construction companies has already been accounted for in their income statements.

However, data on the financial condition of enterprises show that the condition of construction companies may improve and the negative impact of this situation on banks' earnings may be contained in the coming quarters. The return on sales in this section improved (y/y) in the first half of 2013, which came on the back of a stronger decline in costs, employment costs, in particular, than sales revenue. Structural changes are taking place in this section. A portion of the most-financially distressed companies declared bankruptcy[46] The improved earnings of the whole section may be evidence that a business is discontinued by less effective entities. In the longer time horizon, the processes may mitigate the risk associated with lending to enterprises that continue to operate.

In the period analysed in the *Report*, the impaired loan ratio of the portfolio of housing loans taken out by enterprises (mainly by developers) stabilized at around 30%.[47] (see Figure 3.21) The low quality of the portfolio of housing loans to enterprises poses no risk to banking sector stability, because the value of housing loans of enterprises in the whole banking sector is small and is steadily diminishing.

[45] The banks that tightened their lending policy in the third quarter of 2013 explained it by, inter alia, section-specific risk. Banks classified, inter alia,*construction* and *real estate activities* as the riskiest sections. See "Senior loan officer opinion survey – on bank lending practices and credit conditions. Fourth quarter of 2013", November 2013, NBP.

[46] The number of bankruptcies has remained high since 2012, see "Raport Coface nt. upadłości firm w Polsce w I półroczu 2013 roku" [Coface report on bankruptcies in Poland in the first half of 2013], Coface. In addition, from the end of 2012 around 36% of the construction companies that had reported losses in 2012, stopped sending F01 statistical reports to GUS, which may prove that some of them ceased to conduct a business.

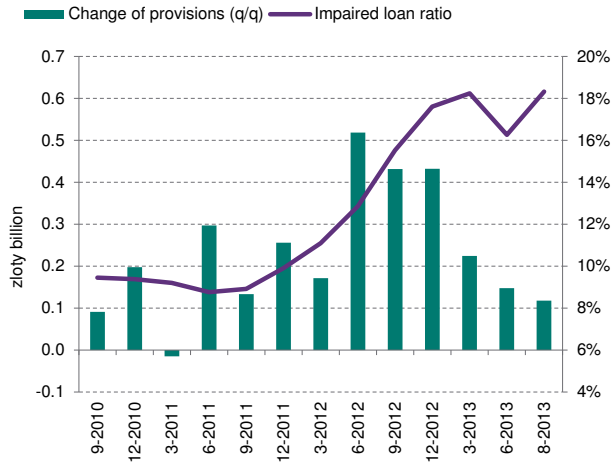
[47] The ratio's value after excluding Bank Gospodarstwa Krajowego. BGK, as a state-owned bank, was not included due to its specific activities that include, inter alia, extending subsidised loans for residential construction under the state-provided funds.

Table 3.2. Quality of large exposures by sections of the economy at the end of August 2013 (%)

Section	Structure of total loans by section	Structure of impaired loans by section	Impaired loan ratio
A – Agriculture	1.6 (1.5)	1.6 (1.7)	7.9 (8.6)
B – Mining	1.3 (1.3)	1.7 (1.5)	9.7 (8.7)
C – Manufacturing	21.9 (21.6)	21.5 (20.4)	7.8 (7.3)
- Food processing	3.8 (3.7)	4.0 (4.1)	8.4 (8.5)
- Manufacture of coke and refined petroleum products	2.4 (2.3)	0.1 (0.1)	0.4 (0.5)
- Manufacture of rubber and plastic products	1.4 (1.4)	1.4 (1.4)	7.6 (7.5)
- Manufacture of other non-metallic products	1.6 (1.6)	2.1 (1.8)	10.4 (8.5)
- Manufacture of metal products (excluding machinery and equipement)	2.0 (2.0)	3.1 (2.2)	12.7 (8.6)
D – Electricity. gas and steam supply	5.2 (5.0)	0.4 (0.5)	0.7 (0.8)
E – Water supply. sewerage. waste management	1.1 (1.1)	0.3 (0.3)	2.4 (2.1)
F – Construction	10.9 (11.2)	25.3 (26.3)	18.3 (18.2)
G – Retail trade and repairs	15.8 (16.0)	16.0 (15.4)	8.0 (7.5)
H – Transportation and storage	2.3 (2.3)	2.5 (2.6)	8.6 (8.8)
I – Hotels and restaurants	1.8 (1.8)	4.4 (4.7)	19.6 (20.5)
J – Information and communication	3.0 (2.7)	0.6 (0.6)	1.6 (1.8)
K – Financial and insurance activities	6.8 (7.6)	1.3 (1.1)	1.5 (1.1)
L – Real estate activities	9.4 (9.5)	15.9 (15.8)	13.3 (12.9)
M – Professional. scientific and technical activities	2.5 (2.5)	5.4 (5.8)	17.2 (18.1)
N – Administrative activities	2.6 (2.5)	0.6 (0.6)	2.0 (2.0)
O – Public administration	11.8 (11.6)	0.7 (1.2)	0.5 (0.8)
P – Education	0.3 (0.3)	0.2 (0.3)	5.8 (8.2)
Q – Health care	1.0 (1.0)	0.8 (0.7)	6.0 (5.7)
R – Arts. entertainment and recreation	0.3 (0.3)	0.3 (0.3)	7.2 (8.8)
S – Other services	0.2 (0.2)	0.4 (0.3)	12.5 (11.6)
Total (zloty billion)	**544.5 (534.9)**	**–**	**43.0 (41.6)**

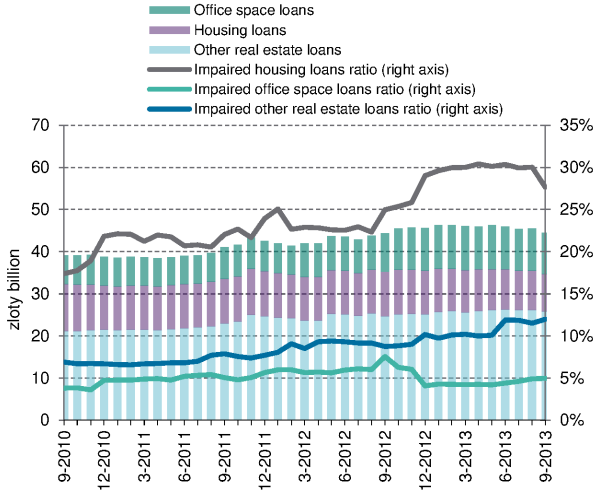
Notes:
In brackets, data at the end of March 2013.
Claims include advances and loans, debt purchased, cheques and bills of exchange, guarantees realised, other similar claims and off-balance-sheet debt and financial guarantees.
Large exposures – for a bank that is a joint-stock company, state-run bank and a non-associated cooperative bank – mean exposures towards one enterprise in excess of 500,000 zlotys, and for an associated cooperative bank – exposures towards one client in excess of 100,000 zlotys.
The values referred to in Section K do not include banks' claims on NBP, commercial and cooperative banks and on branches of credit institutions.
Manufacturing data on 5 subsections with the largest share in total claims are presented in Section C.
Source: NBP.

Figure 3.20. Impaired loan ratio and changes in provisions for claims on *construction*



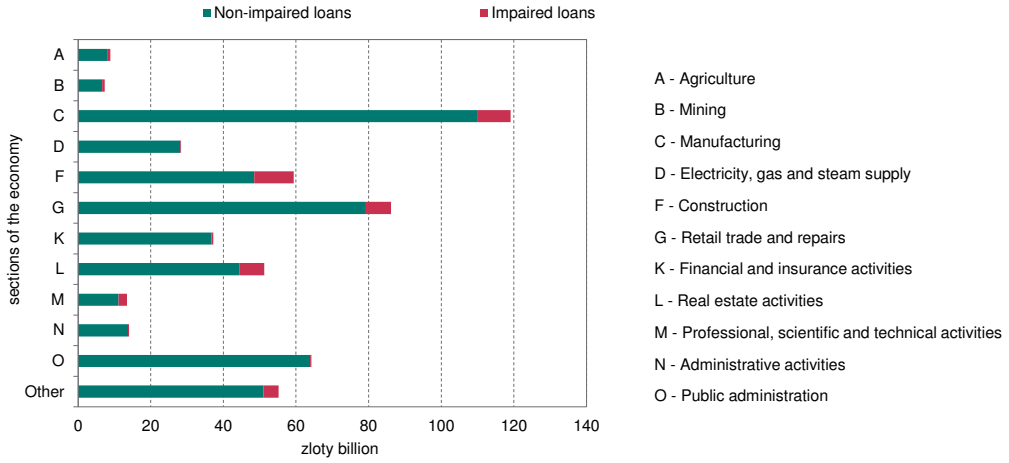
Note: calculations for so-called large exposures.
Source: NBP.

Figure 3.21. Value and quality of real estate loans for enterprises



Note: data excluding BGK.
Source: NBP.

Figure 3.22. Quality of large exposures towards selected sections of the economy at the end of August 2013



Note: large exposures – for a bank that is a joint-stock company, a state-run bank and a non-associated cooperative bank – mean exposures towards one enterprise in excess of 500,000 zlotys, and for an associated cooperative bank – exposures towards one client in excess of 100,000 zlotys; the values referred to in Section K do not include banks' claims on NBP, commercial and cooperative banks.
Source: NBP.

Outlook

Since the publication of the previous *Report,* the growth forecasts for Poland and its major trading partners have improved. The forecast of economic growth acceleration should have a favourable, albeit, gradual impact on the quality of the loan portfolio. The signs of better business climate can also be seen in the results of surveys conducted among enterprises[48], that point to a higher demand for products and services they offer. However, demand forecast indicators remained at lower levels than long-term averages. Therefore, it can be expected that the financial condition of enterprises will improve gradually, resulting in substantially lower credit risk materialisation costs.

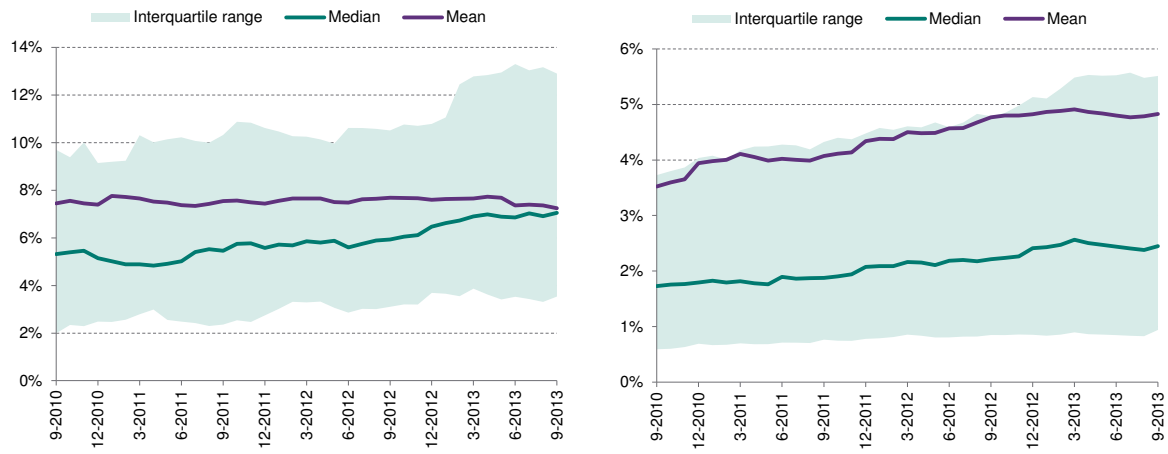
In the longer term, a rebalancing of the structure of banks' portfolio of exposures may help reduce credit risk. The reduction of banks' exposures to enterprises from riskier sections should be reflected in the lower costs of provisions for credit risk.

3.3.2. Credit risk of loans to households

From March 2013, the impaired loan ratio for households dropped slightly and at the end of September 2013 amounted to 7.3% at commercial banks and 4.8% at cooperative banks (see Figure 3.23); its average value in the banking sector was 7.1% (at the end of March these ratios amounted to 7.7%, 4.9% and 7.5% respectively). The value of net charges to provisions for impaired loans to households in the second and third quarter of 2013 was close to that from the period covered by the previous edition of the *Report* (see Figure 3.24).

The quality of loans to households at cooperative banks is better than at commercial banks. Attention should be drawn to the substantial discrepancy of the quality of loan portfolios at cooperative banks: at smaller and medium-sized bank it is significantly better than at large banks (see Figure 3.23, right-hand panel).

Figure 3.23. Impaired loan ratio for households at commercial banks (left-hand panel) and cooperative banks (right-hand panel)



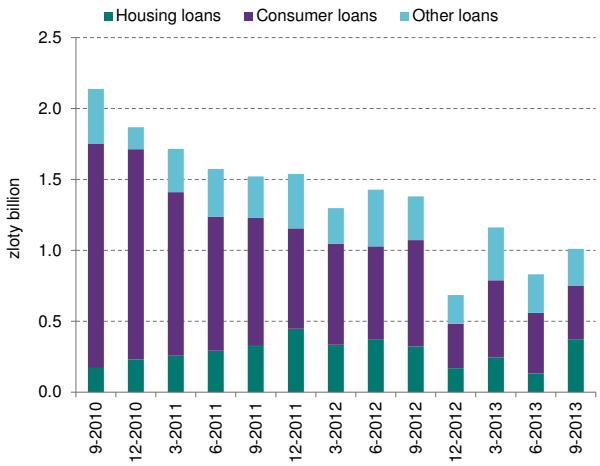
Source: NBP.

[48] See "Information on the condition of the enterprise sector, including the economic climate in 2013 Q3 and forecasts for 2013 Q4", 2013, NBP.

Reasons behind the differences in the quality of loans to households at commercial and cooperative banks are listed below:

- a different structure of loan portfolios, especially a high share of loans to individual farmers in the loan portfolio of cooperative banks. Around 60% of the portfolio are subsidised loans. The quality of loans to farmers is the best among loans to all subsections of household sector. It concerns, in particular, subsidised loans (impaired loan ratio at cooperative banks amounted to 0.8% at the end of September),
- a substantially better quality of the consumer loan portfolio; cooperative banks participated, to a lesser extent, in dynamic consumer loan growth in 2006–2008 in an environment of relaxed lending policy, after which the quality of consumer loan portfolios deteriorated considerably,
- a better knowledge of the local market, which results in a better quality of loans to entrepreneurs and individual farmers at cooperative banks than commercial banks.

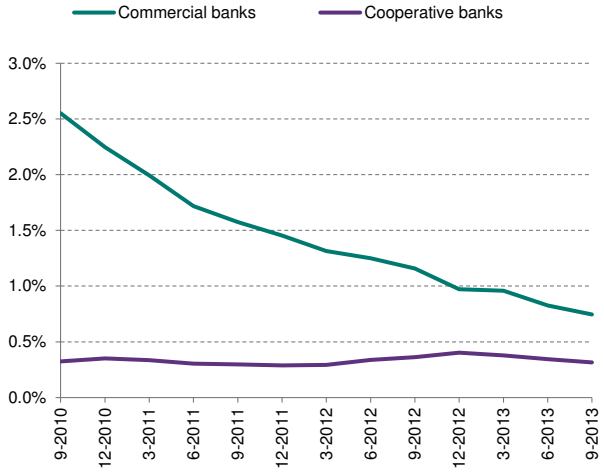
Figure 3.24. Quarterly changes in the value of impaired loans to households



Source: NBP.

The better loan portfolio quality makes cooperative banks report a lower ratio of net charges to provisions for impaired loans to the value of loans (see Figure 3.25). However, the differences between cooperative and commercial banks narrowed substantially in several recent quarters, mainly as an effect of lower credit losses of commercial banks on consumer loans.

Figure 3.25. Ratio of net charges to provisions for impaired loans to households to net value of the loans

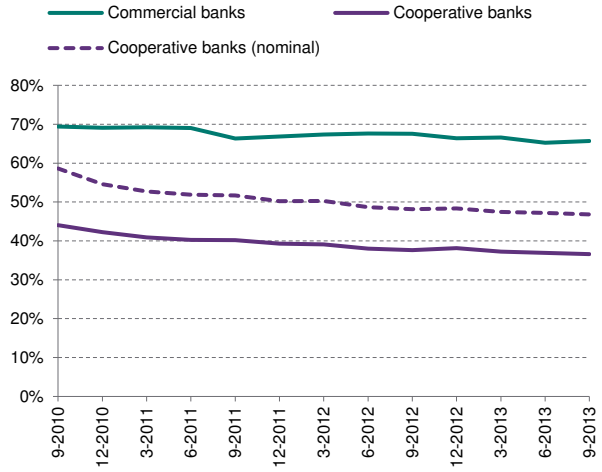


Note: data annualised.
Source: NBP.

On the other hand, cooperative banks have a lower level of coverage of impaired loans by cumulated provisions, amid higher collateral value. This makes banks more sensitive to risk associated with valuation, decline in the value and effective liquidation of collateral (see Figure 3.26). This applies, in particular, to large cooperative banks with lower levels of coverage of impaired loans by provisions than small and medium-sized banks.

At the associating banks, the quality of loans to households is worse than at cooperative banks and other commercial banks, both for the whole aggregate and the main types of loans to households. This is reflected in a higher level of net charges to provisions for impaired loans. At the same time the coverage of impaired loans by provisions is lower than in cooperative banks and other commercial banks.

Figure 3.26. Average level of coverage of impaired loans to households by provisions



Note: continuous line – the ratio based on gross balance-sheet value of loans, dotted line – the ratio based on nominal value. For banks using the Polish Accounting Standards (cooperative banks), the ratio based on nominal value is more comparable to the ratio for banks using the International Accounting Standards (most commercial banks) due to the overstatement of the gross value of loans with qualified interest.
Source: NBP.

Housing loans

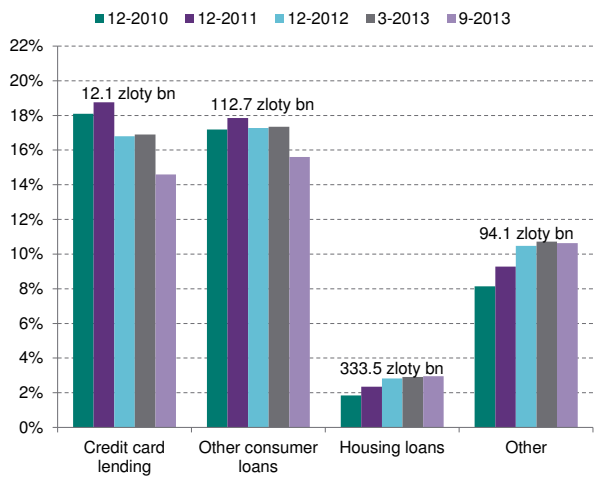
The quality of housing loans stands out positively against the quality of other categories of loans to households (see Figure 3.27). In the period analysed in the *Report*, the pace at which the quality of housing loans was deteriorating slowed down(see Figure 3.28).

For two years, the inflow of loans to past due categories of up to one year inclusive has been relatively stable (see Figure 3.30). This may indicate that the quality of the housing loan portfolio has so far been relatively little sensitive to economic and market developments, and has remained affected mainly by the ageing of the portfolio.

The amounts of net charges to provisions for impaired loans in the second and third quarter of 2013 were higher than in the period covered by the previous edition of the *Report* (see Figure 3.24). However, this growth largely resulted from the so-called base effect related to low provisions in the fourth quarter of 2012 due to one-off factors.[49] At the same time, provisions were lower than in the corresponding period of the previous year, which led to a decrease in the (annualised) net charges to provisions to loans ratio (see Figures 3.31).

The discrepancy of the value of credit losses at banks was small (see Figure 3.31). A significantly larger-than-average value of credit losses was registered mainly by several commercial banks that rapidly expanded (at the rate substantially higher than market rate) lending in the market segment in the past, and by some cooperative banks.

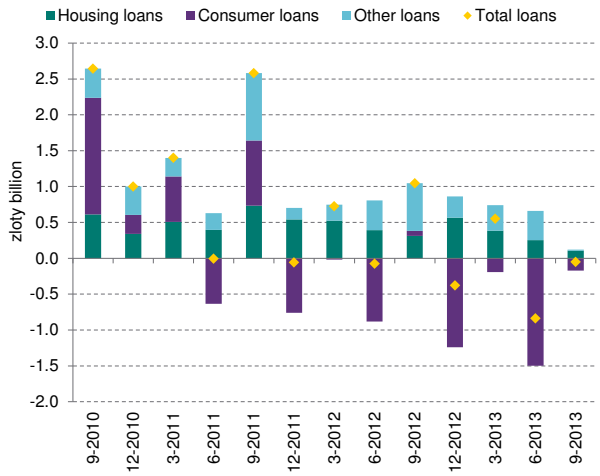
Figure 3.27. Impaired loan ratios for main types of loans to households



Note: values above the bars are a total value of each loan type at the end of September 2013
Source: NBP.

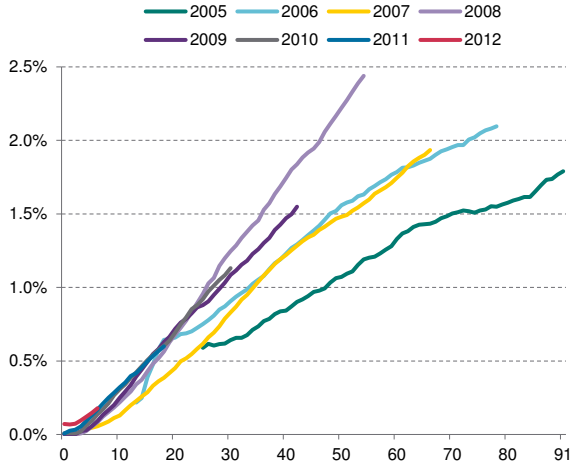
[49] See footnote 32 in the previous edition of the *Report*.

Figure 3.28. Quarterly changes in the value of impaired loans to households



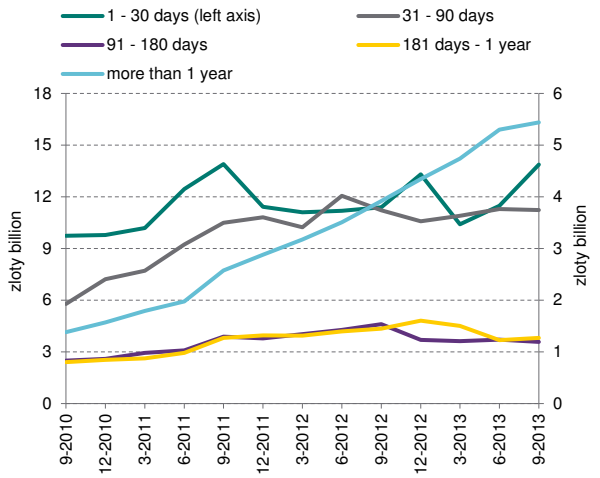
Notes: data after excluding the impact of foreign exchange rate changes. Category *Other* includes, inter alia, (non-housing) loans to entrepreneurs and individual farmers.
Source: NBP.

Figure 3.29. Number of housing loans in arrears of more than 90 days in relation to total number of loans extended in a given year



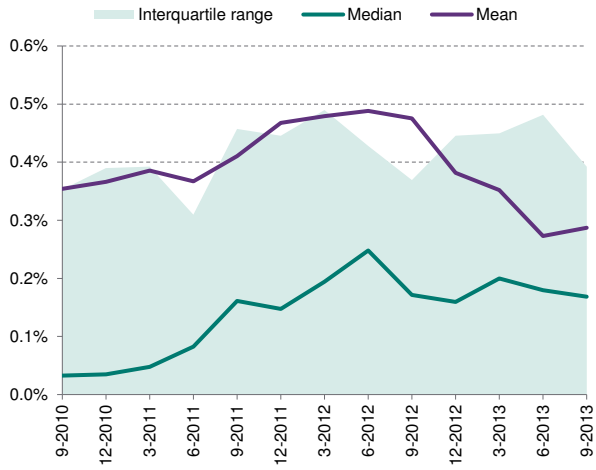
Note: vintage lines for loans extended in successive years at the end of consecutive months from loan origination.
Source: BIK.

Figure 3.30. Value of housing loans in arrears in particular past due categories



Source: NBP.

Figure 3.31. Ratio of net charges to provisions for impaired housing loans to net value of the loans



Note: annualised data.
Source: NBP.

The zloty exchange rate continuing at a lower level than in the period when most of foreign currency loans were extended increases their servicing costs. However, based on NBP simulations the growth of instalments of Swiss franc-denominated loans against the loan origination date can be assessed as moderate, which was driven by low market interest rates in the Swiss franc. They are much lower than on the origination date of most of Swiss franc loans. An estimated average increase in instalments of Swiss franc-denominated loans granted in the successive months of 2005–2010 currently stands at 17%, and a maximum increase – at 29% (see Figure 3.32). The increase in average salaries that has taken place since the time when most of the loans were extended is also a factor positively influencing the borrowers' (those who kept jobs) capacity to service Swiss franc loans. The average nominal wage growth[50] from 2005–2008[51] to the second quarter of 2013 amounted to around 37%.

Loans with high Loan-to-Value (LtV) ratios have still a big share in banks' loan portfolios. They are mainly Swiss franc-denominated loans, extended particularly in 2007–2008, due to high property prices and a high zloty exchange rate in the period (see Figure 3.33). However, a gradual decrease in the Swiss franc loan debt, due to the repayment of principal instalments, leads to a decline in average LtV ratios and a reduction of the share of high LtV loans in the portfolio.

Credit risk is particularly elevated for loans with high LtV and, at the same time, high borrower's DtI ratio. The high loan instalment burden on the borrower's income is a factor that increases the probability of borrower's default.[52] The results of NBP survey indicate that a share of housing loans extended in 2011–2012 with both high LtV ratios (above 80%) and DtI ratios (above 40%) amounts to 26–27% (see Table 3.3).

A relatively high share of loans with DtI ratios in excess of 40% among loans granted in 2011 and 2012 (around 51% and 55%, respectively) deserves notice. It is difficult to accurately assess the impact of the level of DtI on the probability of default (PD) because of the barrier to data availability. Nevertheless, due to a big share of high DtI loans, new loans may be sensitive to developments in the labour market.

The average level of coverage of impaired housing loans by provisions in the banking sector increased slightly and amounted to 50% at the end of 2013. Given the average LtV ratio of housing loan portfolios, the level can be considered as relatively high.[53] In assessing the level of coverage of impaired loans by provisions at particular banks, a specific character of their loan portfolio has to be taken into account, distribution of changes of LtV ratio, in particular. This is because value of collateral is one of the major factors influencing an estimated level of loan recovery. The assessment of the level of collateralizing an impaired loan by provisions at particular banks is shown in Box 4.

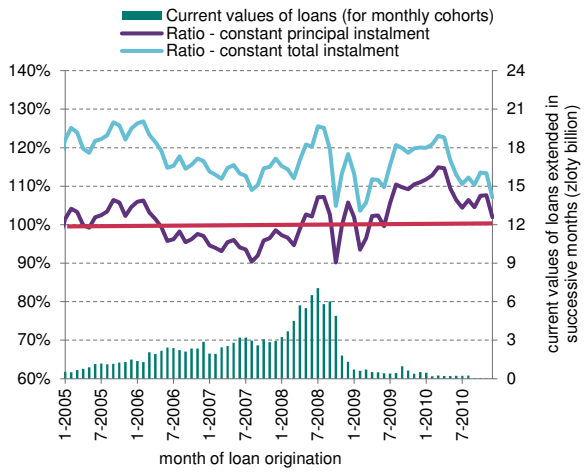
[50] The average wage growth in the economy according to GUS data.
[51] Around 90% of the portfolio of Swiss franc-denominated loans were extended in 2005–2008.
[52] See, inter alia, D.Georgarakos, A.Lojschova and M.Ward–Warmedinger, "Mortgage indebtedness and household financial distress", Working Paper Series No 1156, February 2010, ECB.
[53] Justification of the assessment can be found in Box 3 in: "Financial Stability Report. July 2013", NBP, pp. 55-57.

Table 3.3. Share of housing loans in particular ranges of DtI and LtV ratios in the newly granted housing loans in 2011 and 2012 (%)

LtV	DtI						
	(0-10%>	(10-20%>	(20-30%>	(30-40%>	(40-50%>	(50-65%>	(65-100%>
2011							
(0-30%>	0.2	1.5	2.1	2.3	1.7	0.7	0.1
(30-50%>	0.4	1.6	3.1	3.1	3.1	1.5	0.1
(50-80%>	0.7	2.4	5.3	8.6	11.7	5.3	0.6
(80-100%>	0.2	1.5	5.1	9.9	10.8	7.8	0.4
Above 100%	0.0	0.5	1.0	1.9	2.6	2.0	0.1
2012							
(0-30%>	0.3	0.9	1.6	1.4	1.5	0.7	0.1
(30-50%>	0.2	1.4	2.8	3.0	4.2	1.3	0.1
(50-80%>	0.5	2.2	5.4	8.4	13.5	7.4	0.1
(80-100%>	0.3	1.9	4.9	9.3	11.6	8.9	0.2
Above 100%	0.2	0.9	1.4	1.9	1.2	0.3	0.0

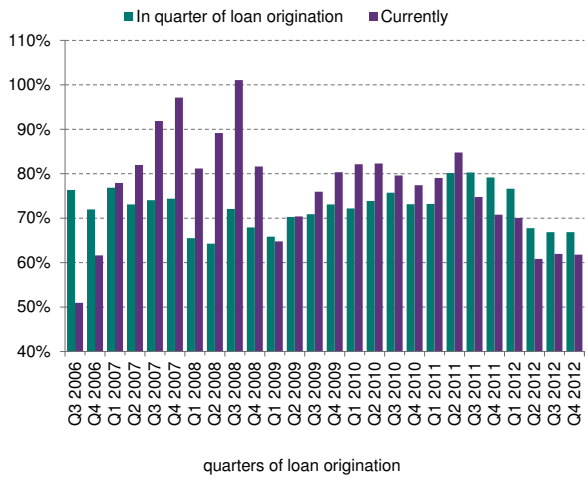
Source: NBP, based on the results of the survey conducted at banks with a total share of around 50% in housing loans.

Figure 3.32. The ratio of loan instalment to instalment at loan origination against current values of Swiss-denominated housing loans



Assumptions: a Swiss franc-denominated housing loan with maturity of 25 years, repaid in constant total instalments or in constant principal instalments; current instalment calculated on the basis of the Swiss franc exchange rate and the LIBOR 3M rate of 30 September 2013 and average spread on Swiss franc-denominated loans at loan origination. Points on a horizontal line mark the month of loan origination.
Note: bars present the *current* value in the zloty of Swiss franc housing loans taken out in a given month marked on a horizontal axis.
Source: NBP, BIK.

Figure 3.33. Average LtV values of Swiss franc-denominated housing loans extended in a given quarter



Assumptions: current average LtV value estimates based on average Swiss franc exchange rates, average LtV at loan origination, average maturity of loans taken out in specific quarters of the period considered and on changes in average transaction prices of dwellings in the period analysed. The loan value translated into the zloty at the Swiss franc exchange rate of 30 September 2013.
Source: NBP estimates based on survey data.

Box 4. Assessment of the level of coverage of impaired housing loans by provisions at particular banks, based on the distribution of LtV ratio

The assessment of housing loans coverage by provisions at particular banks was based on the results of the UKNF survey conducted this year. The survey-responding banks provided, inter alia, data on the distribution of LtV ratio in the whole housing loan portfolio as at the end of 2012. The survey was conducted among 29 banks with a total share of 97% in the housing loan market.

The required provisions for the portfolio of impaired housing loans was estimated under the assumption that the distribution of LtV ratio for impaired housing loans was the same as the distribution for the whole portfolio reported by the banks in the survey, and that the only amounts that could be recovered were the proceeds from the sale of property (used as loan collateral) obtained through enforcement proceedings at the price equal to two thirds of market price, at the bailiff's fee of 15% and an additional 10% discount.[1] The assumption that the only amounts recovered come from the sale of property is conservative; in some cases (e.g. insignificant arrears on loan repayment or a settlement reached with the borrower) a repayment of at least part of the loan can be expected.

Given the above assumptions, the average required coverage of impaired loans by provisions in the sample analysed was 43%. The actual average coverage of impaired housing loans by provisions at the end of 2012 was higher (49%). At the majority of banks, the coverage was higher or close to the level estimated according to the above algorithm. On the other hand, it was substantially lower at several banks, which may be evidence that they apply a less conservative method of estimating loan impairment provisions. However, in all cases the difference between the actual level of provisions and the level estimated according to the algorithm was small in relation to the bank's regulatory capital (maximum 1.8%). Therefore, additional provisions created up to the level defined by this algorithm would have not substantially impact the capital adequacy ratios of none of the survey-responding banks. In the whole sample, the shortfall of provisions totalled 0.2% of regulatory capital.

[1] A more detailed description of the assumptions can be found in Box 3 in: "Financial Stability Report. July 2012", NBP, p. 56 and in Box 3 in: "Financial Stability Report. July 2013", NBP, p. 55.

Consumer loans

The value of impaired consumer loans and the impaired loan ratio declined in the period analysed (see Figures 3.28 and 3.27). The declines resulted from large debt sale transactions, however at the same time net charges to provisions for impaired consumer loans were also low (see Figure 3.24). Only several small commercial and cooperative banks registered relatively large ratio of credit losses to the value of consumer loans.

The low level of provisions in the second and third quarter of 2013, was primarily driven, besides a better economic climate, by a strong tightening of banks' lending policy in 2008–2010, which was the main reason of relatively high quality of loans extended after 2010 (see Figures 3.36 and 3.35). On the other hand, banks' losses on loans granted at a time when lending policy was lenient materialised, to a large extent, in earlier periods.

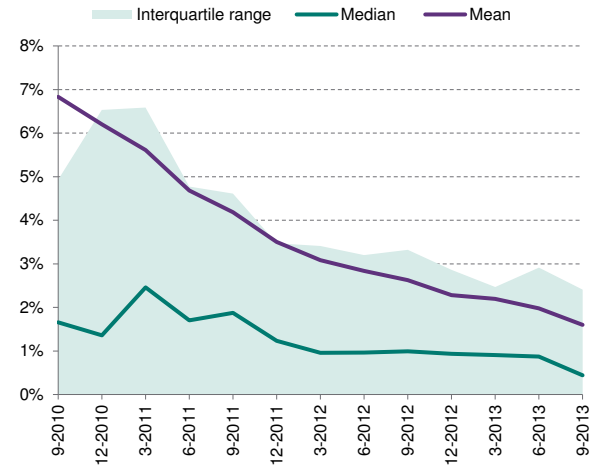
There remains a big difference in the quality of consumer loans at banks that specialise in providing loans to households and at other banks (see Fig-

[54] Banks that specialise in providing loans to households were defined as domestic commercial banks and branches of credit institutions with an over 80% share of loans to households in the portfolio of loans to the non-financial sector. The group of banks comprises mainly some small and medium-sized banks. Other banks are mainly large universal banks.

ure 3.37).[54]

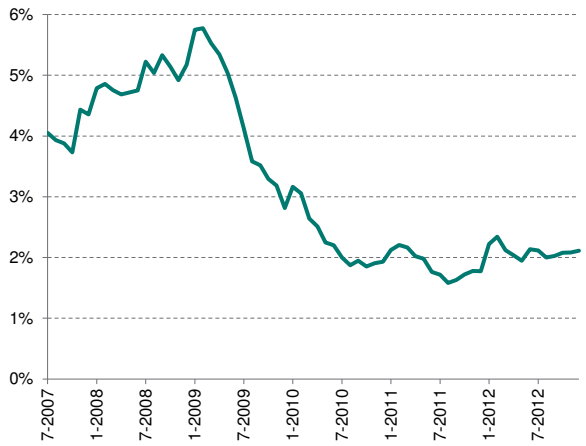
The average coverage of impaired consumer loans by provisions fell slightly to 76% at the end of September 2013. Given the prices banks get in debt sale transactions, this level appears to be safe. Several small and medium-sized commercial banks and part of co-operative banks reported a relatively low coverage of impaired consumer loans by provisions. At the end of September 2013, the share of banks with the impaired loans coverage ratio below 60% and 50% in the sector's consumer loans was 9% and 3%, respectively.

Figure 3.34. Ratio of net charges to provisions for impaired loans to net value of consumer loans



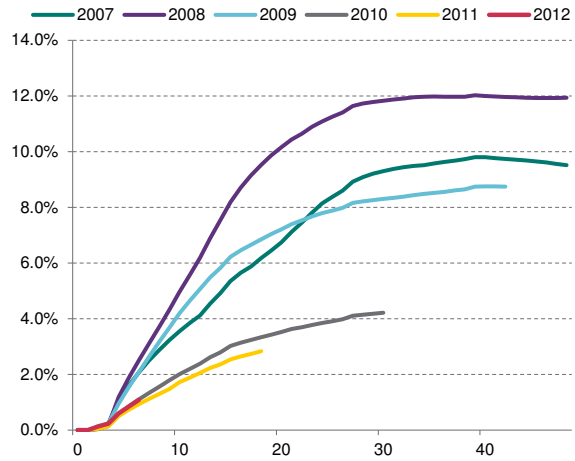
Note: data annualised.
Source: NBP.

Figure 3.35. Percentage of consumer loans in arrears of more than 30 days after 6 months from loan origination, by month of loan origination



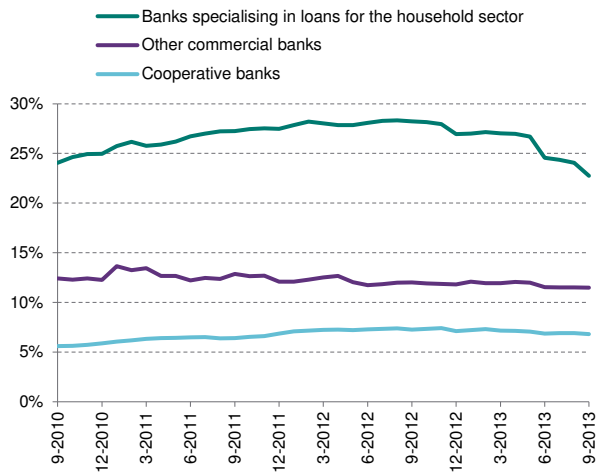
Note: points on the horizontal line mark a month of loan origination.
Source: BIK.

Figure 3.36. Number of consumer loans in arrears of more than 90 days in relation to total number of loans extended in a given year



Note: vintage lines for loans extended in successive years at the end of consecutive months from loan origination.
Source: BIK.

Figure 3.37. Impaired consumer loan ratios by bank type



Source: NBP.

Outlook

Macroeconomic developments projected within the NBP projection horizon[55] should be relatively favourable from the point of view of credit risk arising from banks' exposures to the household sector. The GDP growth rate is expected to grow in the period, and the situation in the labour market is expected to gradually improve from the second half of 2014.

No significant decreases in credit losses should be expected in the upcoming quarters due to the base effect (relatively low credit losses in the period covered by two previous editions of the *Report*) and a slower – than in the case of corporate loans – change in credit losses in response to changes in the economic climate. In particular, in the case of housing loans past experience shows that changes in the economic situation have a relatively limited impact on the quality of the loan portfolio.

In addition, there may be longer lags between the response of housing loan quality indicators to economic recovery. Households assign high priority to housing loan servicing should financial problems emerge and may use other sources of loan repayment than current income (e.g. savings). In effect, the deterioration of the situation in the labour market in 2012 and in early 2013 may continue to impact the quality of the housing loan portfolio in the coming quarters.

On the other hand, the decline in the loan repayment burden arising from an interest rate decrease should have a positive effect on the capacity of households to service zloty housing loans. As interest rates were also cut in the period covered by the *Report* and changes in interest on loans lag behind the interest rate changes, zloty loan servicing costs should be lower in the nearest quarters than they are currently.

Starting from 2015, the phasing out of the "First family home" loan subsidy programme may be an additional factor influencing the quality of zloty housing loans. As borrowers' income buffers are substantial, the factor's impact on loan portfolio quality should, however, be limited (see Box 5).

Box 5. Analysis of risk associated with loans extended under the "First family home" programme

The "First family home" programme[1] of 2007—2012 was designed to support home purchase by families by subsidising the loan repayments. Under the programme, 192,000 loans were extended with a total value of almost 35 billion zlotys.[2] Only zloty-denominated loans were extended under this programme. The value of the loans provided under the government-subsidised scheme accounted for around 12% of the value of all housing loans extended during the term of the programme.

Borrowers participating in the programme use subsidies to housing loans amounting to half of the interest on a loan. The subsidies are paid directly to the lending institution, reducing the amount of the instalment paid by the borrower. As loan repayment is subsidised for up to 8 years, after this period the borrower is required to make the whole principal and interest payment, which pushes up the loan servicing costs. If the borrower's income at the time was not sufficient to cover both the cost of living and increased loan servicing costs, then termination of the subsidy scheme might result in a rise of the percentage of housing loans in arrears.

In order to assess risk to the quality of the housing loan portfolio, associated with the issues discussed above, an analysis was carried on the basis of the 2012 data obtained from the household budget survey (BGD) conducted by

[55] See "Inflation Report", November 2013, NBP, p. 68.

the Central Statistical Office (GUS). A group of households selected for the analysis complied with all the criteria listed below:

- A household repays a zloty-denominated housing loan.
- A household purchased the occupied house or flat in 2007–2012.
- The age of head of a household at the time of home purchase was below 35 years (the borrower's maximum age under the programme).
- A household's income buffer was positive in 2012 (the analysis covers borrowers who currently have no difficulties in repaying loans).

Filtering out the household budget survey data according to these criteria allowed to select a group of borrowers who could join the programme. The financial standing of these households is basically good – the average loan repayment burden of amounts to 20% of borrower's income, and the borrower's income buffer (a percentage of the borrower's income left after basic costs of living are covered[3] and loan servicing costs) amounts on average to 45%. This implies that the majority of borrowers would be capable of absorbing the rise in the loan servicing costs after termination of the subsidy programme.

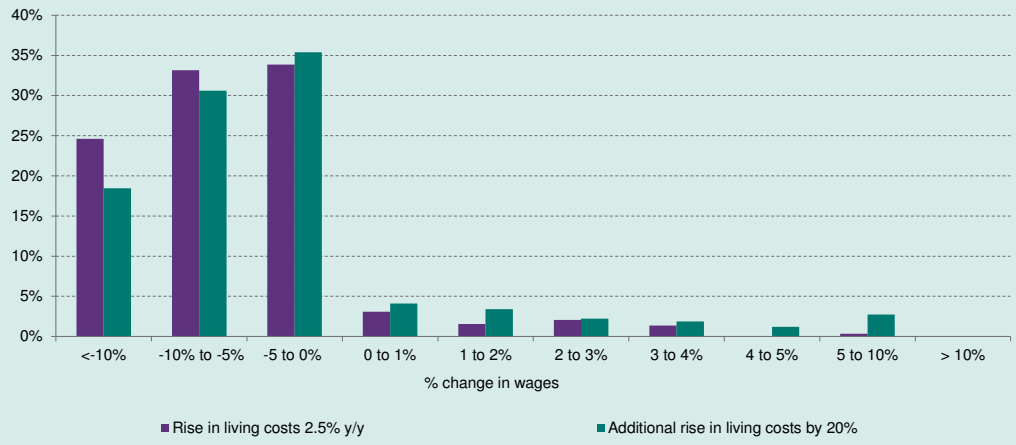
In order to examine the impact of the termination of the subsidy programme on the financial standing of borrowers, an estimate was made of the increase in the instalment on the subsidy scheme termination date. The following assumptions were made: loan maturity is 25 years, the loan is repaid in constant instalments, the interest on the loan is set as the WIBOR3M rate increased by a 2 percentage point spread, and at the subsidy scheme termination date the WIBOR3M rate will be at the level resulting from market expectations reflected in FRA and IRS rates as of 31 October 2013. If these assumptions are adopted, an increase in the instalment paid by the borrower at the subsidy scheme termination date would range (compared to an instalment paid in June 2012), depending on the loan origination date, from 38% to 58%.

Besides the existing income buffer, a potential rise in the borrower's income in the period left to the subsidy scheme termination date is a factor that reduces the impact of a rise in the loan servicing costs on default risk. A calculation was made for each household to find out the rate of change of wages from 2012 till the subsidy scheme termination date that would enable the borrower to cover both the basic living costs and a higher loan instalment at that date. It was assumed that the cost of living would grow at an annual rate of 2.5%, i.e. the rate corresponding to the NBP inflation target. An additional pessimistic scenario assumed that the cost of living would additionally grow by 20% above inflation.

The analysis results are shown in Figure 1. Given the above assumptions, almost 90% of borrowers would hold sufficient income – even without wage growth – for the whole period till the scheme termination date. Just 2.6% of the borrowers have to increase their income at an annual rate higher than 3%, in nominal terms, to have sufficient funds to cover higher loan servicing costs after the subsidy scheme is terminated. Even at an additional 20% rise in the cost of living, this percentage does not exceed 7%.

The analysis indicates that risk associated with the rise in the cost of servicing loans extended under the "First family home" programme after termination of the subsidy period is low. Therefore, the quality of the portfolio will mainly hinge on factors common for the whole loan portfolio, such as trends in the labour market.

Figure 1. Distribution of the number of borrowers against the rate of change of wages sufficient to service liabilities after the scheme termination date



Source: NBP estimates.

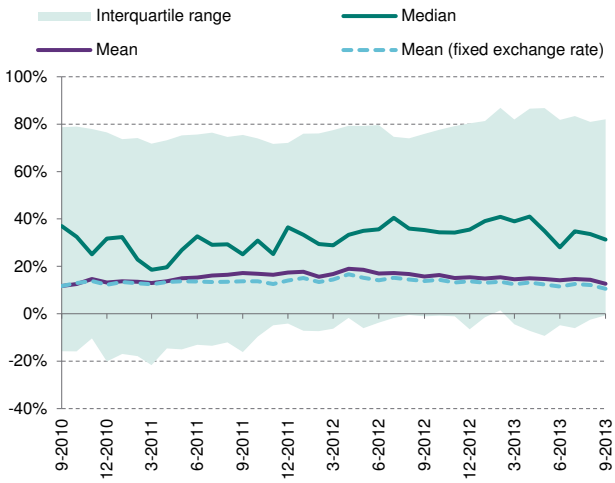
[1] The detailed conditions of participation in the programme and the value of subsidies are contained in the *Act on Financial Support to Families and Other Persons to Acquire their Own Accommodation.*
[2] Source: data released by Bank Gospodarstwa Krajowego, http://www.bgk.com.pl/program-rodzina-na-swoim/
[3] The basic living cost were estimated on the basis of so called relative poverty line calculated by GUS (50% of average expenditures of all households).

The recent amendment to Recommendation T may have an impact on the quality of newly granted consumer loans. As the profitability of these loans is high, some banks may ease their lending standards to the extent resulting in higher credit losses in the future. However, when making decisions to change the credit policy, banks will also take into account high credit losses they incurred in 2009–2011 on consumer loans extended in the period of relaxed lending policy. Therefore, in the case of some banks an easing of the requirements contained in the recommendation does not presently have to lead to lending policy being relaxed to the extent that would result in a significant rise in credit losses. However, due to the high profitability of consumer loans (see Figure 3.6), a moderate rise in loans granted in line with less restrictive lending policy poses no risk to the banking sector's earnings.

3.4. Liquidity risk

In the period analysed, the average funding gap in the banking sector continued to decrease. The gap narrowed slightly in the majority of commercial banks (see Figure 3.38). The funding gap of the largest banks is relatively small, which impacts the average for the whole sector. Almost all cooperative banks hold a surplus of deposits over loans, and the average funding gap in the sector amounts to around -40%.

Figure 3.38. Funding gap



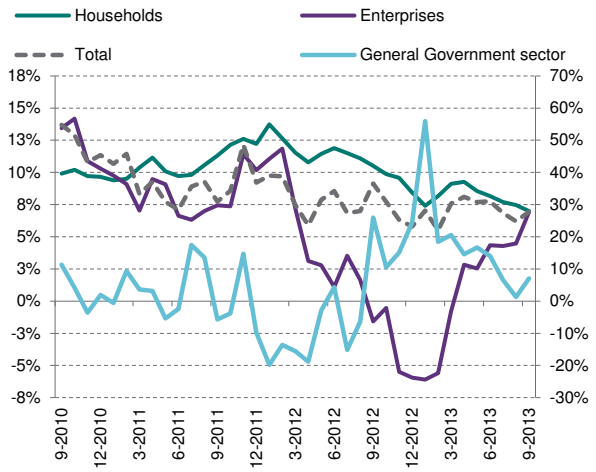
Note: in order to eliminate the impact of exchange rate movements on the value of the funding gap, for the variable *mean (fixed exchange rate)* the values of foreign currency claims and liabilities were translated into zloty according to a fixed exchange rate as at the end of September 2010.
Source: NBP.

The funding gap decrease resulted from a stable increase in deposits of the non-financial sector (see Figure 3.39) and a further slight fall in the lending growth rate (see Chapter 3.2). At the same time, the share of term deposits fell whereas that of current deposits rose[56].

The decrease of term deposits was particularly visible in the case of households, where average monthly declines since March 2013 amounted to around 3 billion zlotys. The decline was mostly driven by low level of interest rates. On the one hand, clients were less interested in deposits due to their low (nominal) interest rates, and on the other hand, in the period of interest rate cuts banks were less willing to enter into term agreements on fixed interest rate deposits.

The interest rates offered by banks points to a continuation of a strong competition for deposits. The fall in market interest rates did not translate into an equally strong decrease in the interest rates on deposits. The average positive spread between WIBOR rates and the interest rate of new term deposits slightly increased in the period analysed (see Figure 3.40, left-hand panel), but it had a limited impact on banks' funding costs due to a marked decline in the value of new term deposits. Also, in the case of the whole portfolio of current deposits, the spread against market rates achieved by banks continued to fall (see Figure 3.40, right-hand panel).

Figure 3.39. Growth rate (y/y) of deposits of the non-financial sector and general government sector

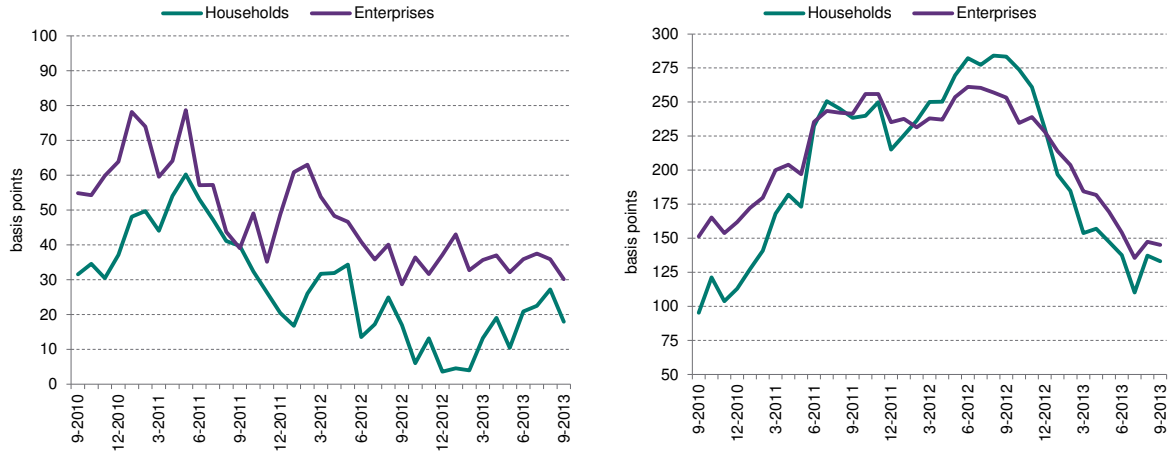


Notes: data after eliminating the impact of foreign exchange rate changes.
Source: NBP.

As in the case of the cost of attracting new zloty term deposits of the real sector, the cost of financing of the whole portfolio of banks' (zloty and foreign currency) liabilities decreased at a slower pace than the interbank market rates (see Figure 3.41).[57] There remains a substantial discrepancy in the level of effective interest on liabilities between individual banks, however its changes were similar for the majority of

[56] In bank reporting, the category "current deposits" includes all deposits under which funds are withdrawn on demand, i.e. both checking and saving accounts.
[57] This may be, to a certain extent, associated with the structure of the indicator – due to annualisation, effective interest includes interest expense from the last four quarters. However, a comparison of average market rates with effective interest rate calculated only for a given quarter indicates that spread between these rates has diminished and is historically low.
[58] It has to be pointed out that the discrepancy may result, in the case of commercial banks in particular, from a different currency structure of liabilities.

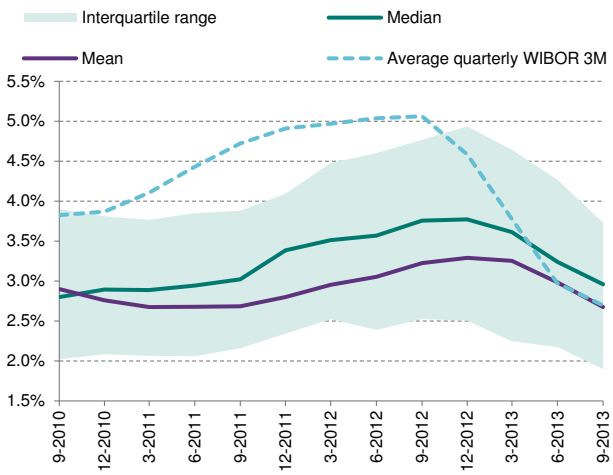
Figure 3.40. Spread between the average WIBOR rate and interest rate of new zloty term deposits (left-hand panel) and interest rate on the stock of current deposits (right-hand panel)



Notes: data based on a sample of 18 banks that report interest rate information to NBP; spread is the difference between the WIBOR rate and a respective interest rate on deposits; for new term deposits, the average 3-month WIBOR rate was calculated as a monthly average of WIBOR 1M, 3M, 6M, 1Y rates weighted by shares of deposits with respective maturities in all new deposits in a given month; for current deposits, the average monthly WIBOR O/N rate was used.
Source: NBP.

banks.[58] The funding costs are particularly high at the associating banks due to a relatively high interest on deposits taken from associated banks (see Box 6). Effective interest on cooperative banks' liabilities is similar to effective interest of commercial banks.

Figure 3.41. Effective interest on liabilities



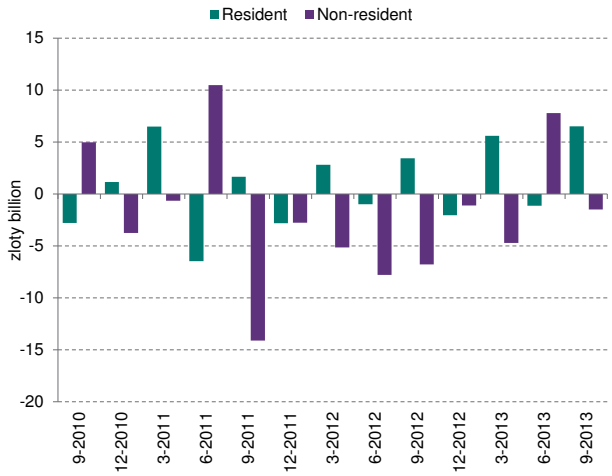
Notes: effective interest – the ratio of annualised interest expense to annual average balance-sheet value of liabilities. The calculations include zloty and foreign currency liabilities.
Source: NBP.

In the period analysed, the gradual decline in foreign funding in the whole banking sector, observed from mid-2011, was halted (see Figure 3.42). A small group of banks experienced a rise in foreign funding in the second quarter of 2013, including in particular some branches of credit institutions that were rapidly expanding their operations or notably investing in the Polish government bond market. At the same time, for a substantial group of banks foreign funding continued to decline as the value of foreign currency-denominated housing loans was falling.

Despite foreign funding reductions by the majority of domestic banks, there is still a group of banks that heavily rely on this form of funding. In order to estimate potential risk related to foreign funding, a simulation was performed as part of the stress tests. The shock scenario of this simulation assumes, inter alia, an outflow of a portion of foreign liabilities, depreciation of the zloty and a fall in the value of the buffer of liquid assets. The results of this simulation performed according to such restrictive assumptions showed that for nearly 11% of banks a liquidity shock related to foreign funding outflow would pose a serious threat to their stable operation due to the lack of sufficient buffers of liquid assets (see Chapter 3.8.2).

This implies a further improvement of the resilience of banks to liquidity shocks. The short-term liquidity position of banks did not change significantly and was favourable. A surge in the excess short-term liquidity of the banking sector (which previously was associated mainly with the exchange of EU foreign currency funds for the zloty at NBP) was halted, which was reflected in the stabilisation of the share of NBP bills on banks' balance-sheets. Banks also increased their government bond portfolios, which may be partially associated with a rise in the yields on these instruments. However, at the same time the substantial discrepancy between banks' Treasury securities portfolios additionally widened (see Figure 3.43). Large government bond portfolios are held mainly by the largest banks and, in the period analysed, they were mainly responsible for purchasing these instruments. For over 95% of commercial banks the portfolio of liquid assets fully covered the adjusted short-term liquidity gap.

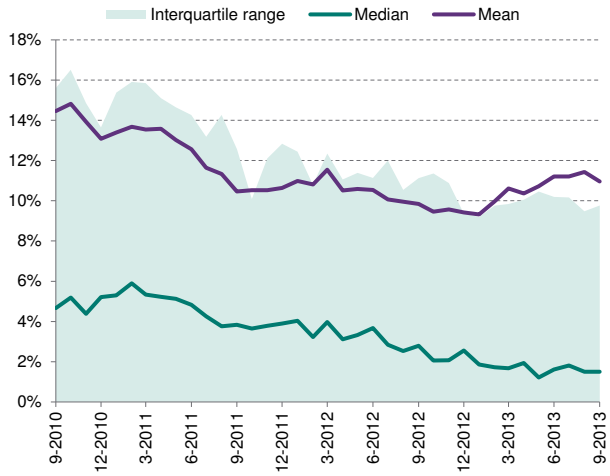
Figure 3.42. Quarterly change in liabilities towards banks and branches of credit institutions



Notes: data after eliminating the impact of foreign exchange rate changes; data include deposits and loans received.
Source: NBP.

The supervisory liquidity ratios that domestic banks are required to meet[59] also indicate that the liquidity risk position of banks was good.

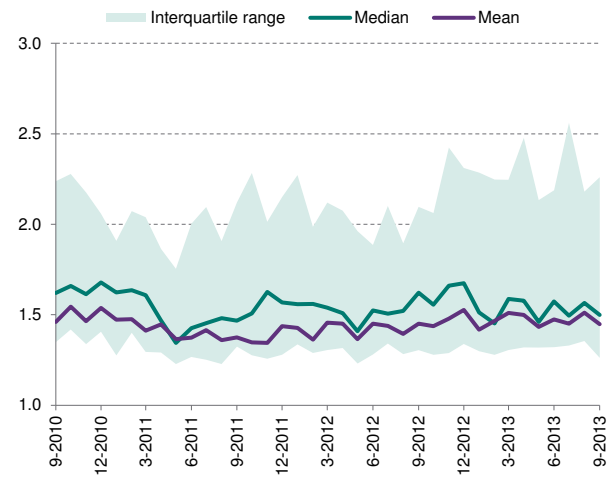
Figure 3.43. Share of Treasury securities in banks' assets



Source: NBP.

As regards short-term liquidity, commercial banks are bound to meet the M1 and M2 liquidity ratio limits, i.e. to maintain liquidity reserves above the level of unstable external funds. In the period analysed, all commercial banks maintained the M2 ratios above the required minimum of 1.00, and the average ratio for the commercial bank sector did not change substantially (see Figure 3.44).

Figure 3.44. Supervisory M2 liquidity standard at commercial banks



Source: NBP.

[59]For more details on the KNF supervisory liquidity standards, see Box 2 in: "Financial Stability Report – December 2009", 2009, NBP.

All commercial bank also complied with the supervisory M4 long-term liquidity ratio. In the period analysed, the average ratio for commercial banks increased considerably, while the share of banks with lowest ratios did not change significantly.

Outlook

The liquidity position of banks is good and currently poses no significant risk to Poland's banking sector stability. Individual banks are strongly diversified, however it can be said that the situation of banks with a relatively highest liquidity risk profile has recently improved slightly.

Increase of the share of the deposit base in an environment of low interest rates led to a fall in banks' profitability, however it helps improve the stability of banks' funding sources. The growth of deposits of the non-financial sector together with a gradual fall in foreign funding at most banks reduces the risk of funding sources concentration, and also diminishes the sensitivity of domestic banks to developments in foreign markets, including, the condition of parent banks.

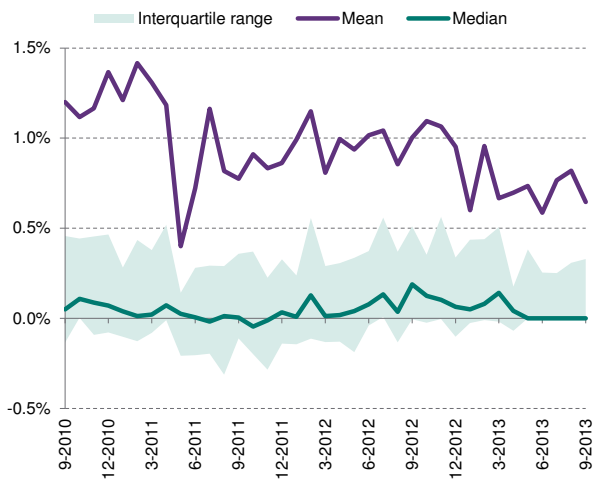
The condition of parent banks remains a major risk factor for the liquidity position of Polish banks. A potential deterioration of their standing could adversely affect Polish banks both via the direct funding channel and a fall in confidence in the domestic interbank market. The liquidity risk faced by Polish banks is heavily linked to FX risk. Depreciation of the zloty increases the value of zloty liquid assets needed to roll-over maturing hedging contracts or satisfy margin requirements.

However, past experience and results of the stress tests indicate that even if the scenario of a severe crisis in the euro area banking sector were to unfold, the stability of Poland's banking sector should not be jeopardised.

3.5. Market risk

In the period analysed, the long FX balance-sheet position in the banking sector decreased. The decrease was mainly associated with an increase in foreign FX liabilities. However, this development was characterised by fairly large diversity. While a large portion of banks continued to de-crease the liabilities, they rose at banks that had previously used foreign funding to a relatively minor extent. The decrease of the long FX position was also driven by a decline of the portfolio of foreign currency-denominated housing loans.

Figure 3.45. Open FX position to regulatory capital

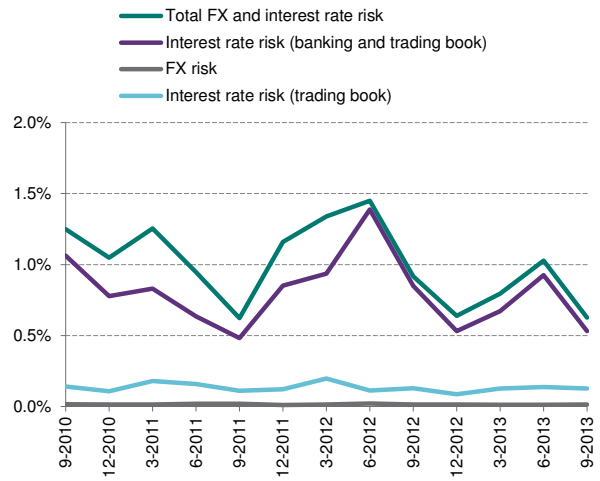


Source: NBP.

The net open FX position did not exceed 1% of banks' regulatory capital. The open FX balance-sheet position is hedged with derivatives, i.e. *fx swaps* and CIRSs, mostly concluded with foreign banks. Consequently, the risk of substantial losses arising from changes in the valuation of the FX position remains limited. Value-at-risk (VaR) for FX risk does not exceed 0.1% of commercial banks' regulatory capital (see Figure 3.46). VaR for FX risk is calculated provided that the market for hedging instruments is liquid and banks are fully capable of rolling over maturing hedges. Therefore, this estimate does not encom-

pass other aspects of risk that banks are, in practice, exposed to: a rise in transaction costs, the incapability of rolling over maturing hedges and counterparty default.

Figure 3.46. Median of *Value at Risk* for FX risk and interest rate risk



Notes: VaR at confidence level of 99% and a 10-day horizon calculated for commercial banks and expressed as % of regulatory capital.
Source: NBP.

A potential rise in the premia on transactions that hedge against FX risk may pose a threat to the profitability of FX assets. Financial result on a swap transaction may fail to cover the spread between the interest rate on foreign currency extended by banks and the interest on zloty deposits taken and costs of credit risk materialisation. The risk is particularly significant for some banks that extended foreign currency loans at very low spreads (in the range of 100–150 basis points), where market competition was the most intense, and, at the same time, actively competed for new deposits. At the end of September 2013, the estimated profitability of the portfolio of housing loans was negative for around 25% of banks (see Figure 3.6).

A potentially substantial depreciation of the zloty is also a source of risk related to FX balance-sheet position hedging. Depreciation increases the value of zloty funds needed to roll over contracts that hedge FX positions on banks' balance sheets. Depreciation may also entail the need to use liquid funds for the margin calls associated with FX position-closing transactions. The risk was accounted for in the stress scenario of stress tests (see Chapter 3.7.2). The results of the simulation shows that for some banks (with an approximately 17% share in the sector's assets) the value of zloty funds needed to roll over hedging contracts would exceed their liquidity buffer of government bonds and NBP bills. This applies, in particular, to the banks that used to grant foreign currency loans denominated in the Swiss franc and the euro on a large scale amid small scale balance-sheet funding in the two currencies.

Interest rate risk in the domestic banking sectors mainly relates to the portfolio of fixed-rate securities. A vast majority (around 88%) of the portfolio are domestic government bonds and NBP bills (see Table 3.4). Exposures resulting from debt instruments issued by non-residents do not exceed 0.2

In the period analysed, banks substantially increased government bond portfolios, and the increase was accompanied by a fall in non-resident exposure to the Polish government bond market. The credit risk associated with a portfolio of government bonds has to be regarded as low. In recent years, investors have clearly improved assessment of Poland's creditworthiness.

Banks hold around 92% of government bonds in portfolios that are marked-to-market. At the same time, for most of the banks changes in valuation are recognised in capital, rather than in their income statements (see Table 3.5). The risk that their prices will change is mostly hedged by derivatives. The average *duration* of the bond portfolio is relatively small and amounts to around 2 years. Consequently, an estimated VaR for interest rate risk in banks' trading books does not exceed 0.2% of their regulatory capital (see Figure 3.46).

Interest rate risk associated with money bills is ig-

Table 3.4. Balance-sheet value of debt securities in banks' portfolios by issuer (PLN billion)

Issuer	Resident			Non-resident		
	9-2012	3-2013	9-2013	9-2012	3-2013	9-2013
Central banks (money bills)	104.3	123.0	114.8	0.0	0.0	0.0
Central government agencies	124.1	137.0	147.4	0.6	0.7	1.3
-Treasury bills	5.0	7.8	2.4	0.0	0.0	0.0
-Treasury bonds	119.1	129.1	145.1	0.6	0.7	1.3
Municipalities	13.3	13.9	14.6	0.0	0.0	0.0
Financial institutions	6.9	7.4	7.7	0.9	0.6	0.6
Non-financial institutions	12.7	12.4	13.7	0.1	0.2	0.1
Total	**261.3**	**293.6**	**298.2**	**1.6**	**1.5**	**2.1**

Source: NBP.

nored due to their short maturity (7 days or less).

Banks may be exposed to risks arising from volatility of spread between bond yields and the underlying interest rate swaps used for hedging. This risk is not included in VaR estimates, but it was taken into account in the stress scenario of macro stress tests (see Chapter 3.7.2). The results of the simulations indicate that the risk is not high, which largely results from the short *duration* of Treasury debt securities held by Polish banks (see Table 3.5).

Table 3.5. Debt instruments issued by central government institutions (resident and non-resident) in banks' assets

Portfolio type	Share
Available for sale	78.5%
Held for trading	10.6%
Held to maturity	5.9%
Loans and other receivables	2.5%
Fair value through profit & loss	2.4%

Note: as at the end of September 2013.
Source: NBP.

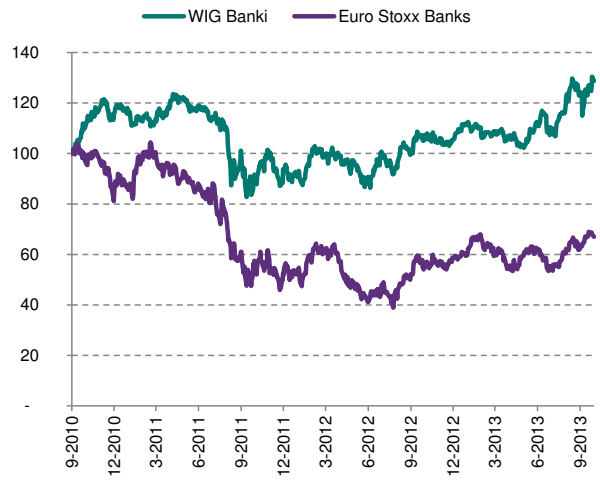
***

The level of market risk that Polish banks are exposed to has to be regarded as low. This risk relates primarily to the sensitivity of the cost of hedging transactions and interest rate risk in the banking book. The risk in the trading book of banks is very limited.

3.6. Market assessment of Polish banks

The share prices of Polish banks as well as their parent banks have improved substantially (see Figure 3.47) since the publication of the previous edition of the *Report*.

Figure 3.47. Index prices of Polish and European banks



Note: index prices rescaled to 100 at the start of September 2010.
Source: NBP calculations based on Thomson Reuters.

The "price-to-book value" for the majority of Polish banks rose, which proves that investor assessment of the banks is positive (see Figure 3.48). In the period analysed, market analysts' expectations about Polish banks' earnings per share in 2014 grew (see Figure 3.49).

Table 3.6. Ratings of Polish banks by Moody's, Fitch and S&P

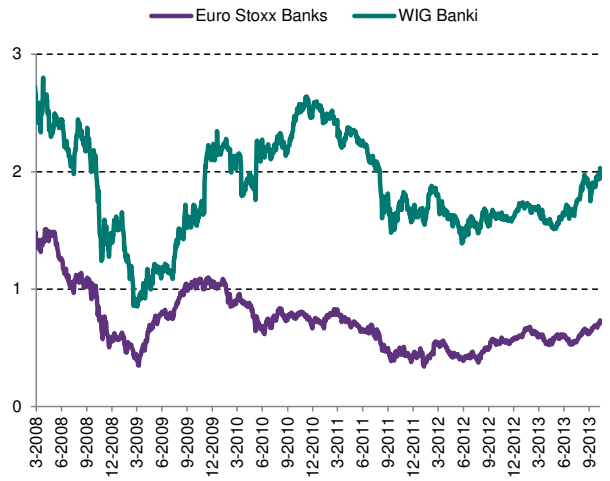
Moody's	Financial strenght rating	Long-term deposit rating	Short-term deposit rating	Outlook
PKO BP	C- (C-)	A2 (A2)	P-1 (P-1)	NEG (NEG)
Pekao	C- (C-)	A2 (A2)	P-1 (P-1)	NEG (NEG)
Bank Zachodni WBK	D+ (D+)	Baa1 (Baa1)	P-2 (P-2)	NEG (NEG)
BRE Bank	D (D)	Baa3 (Baa3)	P-3 (P-3)	STA (STA)
ING Bank Śląski	D+ (D+)	Baa1 (Baa1)	P-2 (P-2)	NEG (NEG)
Bank Millennium	E+ (E+)	Ba2 (Ba2)	NP (NP)	NEG (NEG)
Bank Handlowy	D+ (D+)	Baa3 (Baa3)	P-3 (P-3)	STA (STA)
BGŻ	D (D)	Baa2 (Baa2)	P-2 (P-2)	STA (STA)
BPH	D (D)	Baa2 (Baa2)	P-2 (P-2)	STA (STA)
Credit Agricole	D (D)	Baa3 (Baa3)	P-3 (P-3)	STA (STA)

Fitch	Viability rating	Long-term rating	Short-term rating	Outlook
Pekao	a- (a-)	A- (A-)	F2 (F2)	STA (STA)
Bank Zachodni WBK	bbb (bbb)	BBB (BBB)	F3 (F3)	STA (STA)
BRE Bank	bbb- (bbb-)	A (A)	F1 (F1)	STA (STA)
ING Bank Śląski	bbb+ (bbb+)	A (A)	F1 (F1)	NEG (NEG)
Getin Noble Bank	bb (bb)	BB (BB)	B (B)	STA (STA)
Bank Millennium	bbb- (bbb-)	BBB- (BBB-)	F3 (F3)	STA (STA)
Alior Bank	bb (-)	BB (-)	B (-)	STA (-)
BOŚ	bb (bb)	BBB (BBB)	F3 (F3)	STA (STA)
BRE Bank Hipoteczny	brak (brak)	A (A)	F1 (F1)	STA (STA)
Pekao Bank Hipoteczny	brak (brak)	A- (A-)	F2 (F2)	STA (STA)

S&P	Stand-alone credit profile (SACP)	Long-term rating	Short-term rating	Outlook
PKO BP	bbb (bbb)	A- (A-)	A-2 (A-2)	STA (STA)
Pekao	bbb+ (bbb+)	BBB+ (BBB+)	A-2 (A-2)	STA (STA)

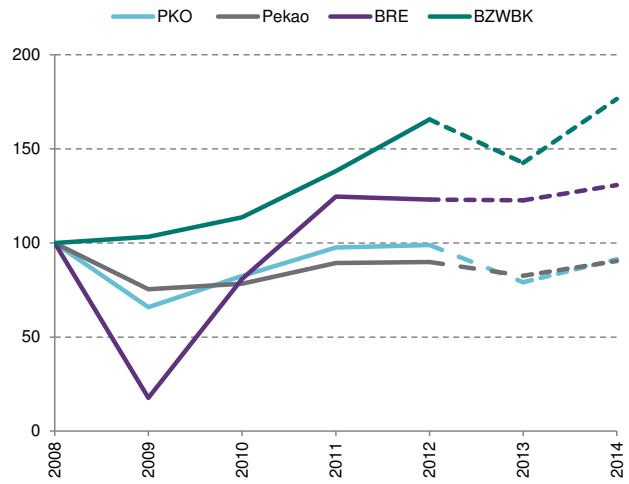
Notes: in brackets – as of the end of September 2013. For definitions of ratings, see *Glossary*. The banks are listed according to total assets. Ratings assigned by Standard&Poor's only on the basis of publicly available data are not included in the Table. SACP – *stand-alone credit profile.*
Source: www.moodys.com, www.fitchpolska.com, www.standardandpoors.com

Figure 3.48. P/BV (price-to-book value) ratio of indices of Polish and European banks



Source: Thomson Reuters.

Figure 3.49. Historical and forecasted earnings per share of selected banks



Note: earnings per share forecasts for 2013–2014 calculated as median of all market forecasts for a given bank, normalised at the start of 2008.
Source: NBP calculations based on Thomson Reuters.

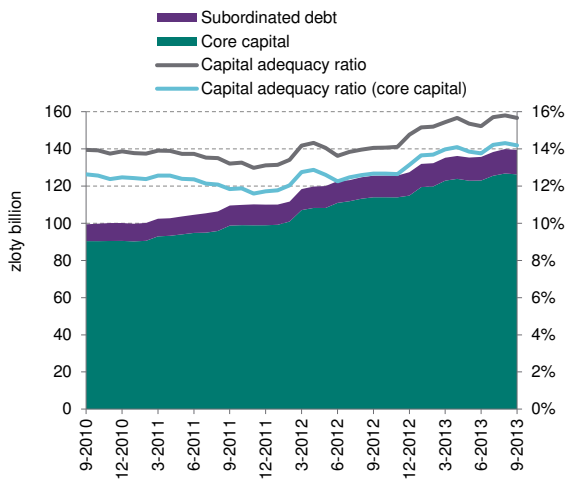
In mid-2013, the yields on bonds of large Polish banks were highly volatile, which was related to the shift in expectations about a possible reduction of the pace at which the US Fed was purchasing assets. However, after this period spread between yields on bonds of large Polish banks issuing Eurobonds and the interest on interest swaps in the currencies narrowed.

In the period analysed, the ratings assigned to Polish banks were not changed. A Fitch rating was assigned to Alior Bank for the first time in September 2013. Moody's upgraded the rating outlook from negative to stable for the whole Polish banking sector and supported its decision by arguing, inter alia, that the economy was expected to grow and banks' profitability — to improve.

3.7. Banks' capital position

In the period analysed, the regulatory capital [60] of the domestic banking sector grew by 3.1%. The growth was mainly driven by an injection of part of the profits earned in 2012 into the regulatory capital and an increase in the equity capital. The structure of regulatory capital was favourable from the point of view of the potential loss absorption capacity, as it was largely composed of core capital (see Figure 3.50). The associating banks were characterised by a significantly higher than average share of additional own funds in their regulatory capital.

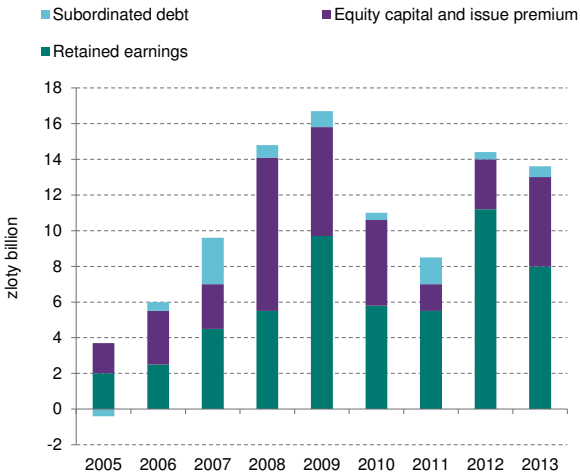
Figure 3.50. Selected items of the regulatory capital and the capital adequacy ratio of domestic banks



Source: NBP.

[60] Regulatory capital used to calculate the capital adequacy ratio of banks.

Figure 3.51. Changes (y/y) of selected items of regulatory capital of domestic banks



Notes: the data do not include: in 2009 – 3.9 billion zlotys in government funding to the state bank Bank Gospodarstwa Krajowego; in 2011 – Polbank (capital increase after the branch was turned into a subsidiary); in 2012 – effects of bank mergers. Data for 2013 include the first three quarters of the year.
Source: NBP.

The average capital adequacy ratio of the domestic banking sector rose to 15.8% (see Figure 3.50). The capital adequacy ratio for the majority of banks was high. Banks with the capital adequacy ratio above 12% had a 95% share in the domestic commercial banks' assets and a 67% share in the assets of cooperative banks (see Figure 3.52).

Regulatory changes will pose a challenge for the capital adequacy of cooperative banks. Due to changes to the definition of regulatory capital arising from the 2014 entry into force of the CRD IV/CRR package some items of regulatory capital, inter alia, the paid-up members share fund and funds obtained from bonds classified by KNF as regulatory capital, will be gradually – up to the end of 2021 – excluded from it. These items account for around 9% of regulatory capital of cooperative banks.

The value of capital requirements increased slightly (see Figure 3.53), which was mainly driven by an increase in the capital requirement for credit risk – its basic component. This growth results from an increase in the value of the loan portfolio. The fact that some banks have moved – with the KNF approval – to the statistical methods for calculating the capital requirements is a factor constraining the value of the capital requirement for credit risk. The measurement of credit risk through the IRB Approach and of operational risk – through the Advanced Measurement Approach – enables to set the capital requirements at the substantially lower level than those calculated according to the Standardised Approach. However, the decrease in the value of the capital requirement via the statistical methods does not imply that the risk taken by banks has diminished. To maintain the presently sound – for most banks – capacity of banks to absorb losses, it would be desirable that the change to the capital requirement calculation method does not result in banks' leverage increases. The capital adequacy ratio increase arising from the application of the statistical methods for setting the capital requirements should not be used by banks for dividend payouts that reduce equity capital.

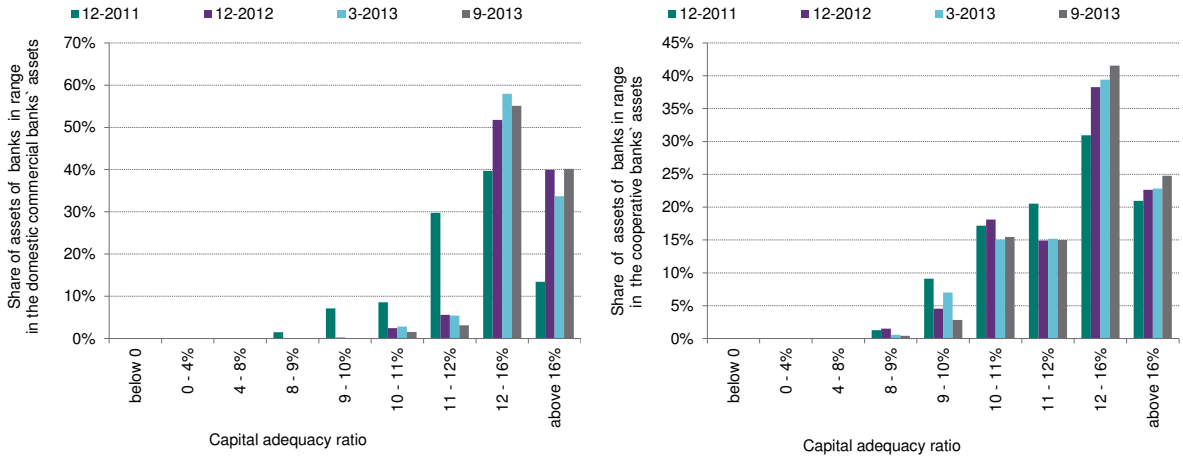
The leverage ratio, not adjusted for asset risk weights, is an additional measure that reflects the capital position of banks. In the period analysed, the average leverage ratio in the domestic banks sector stabilised at 10.6. Commercial banks used a somewhat higher leverage (10.8) (see Figure 3.54) than cooperative banks (10.4). Leverage ratios at the associating banks were the highest in the sector of domestic banks.

In the Polish banking sector the capital adequacy ratio based on *Tier 1* funds is at a comparable level as the average for banks in the EU (respectively 13.7% comparing to 13.3%). [61] At the same time, however, the leverage ratio of the Polish banks is almost twice

[61] The calculations presented in this paragraph have been made on the basis of the banks' consolidated financial reports published by the ECB. Data as of the end of June 2013, the average value for the EU calculated as the average for countries weighted by the assets of the banking sectors.

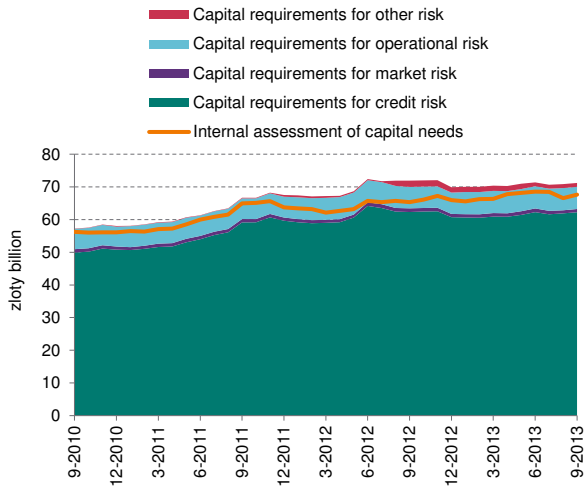
lower compared to the EU average (9.6 comparing to 18.8), and the ratio of risk-weighted assets to total assets is higher (66.9% comparing to 37.4%), which means that the asset risk weights applied by banks in Poland are more conservative. Therefore it can be assessed that the situation of the banking sector in Poland in terms of capital equipment is significantly better than the EU average.

Figure 3.52. Distribution of assets of domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel) by the capital adequacy ratio



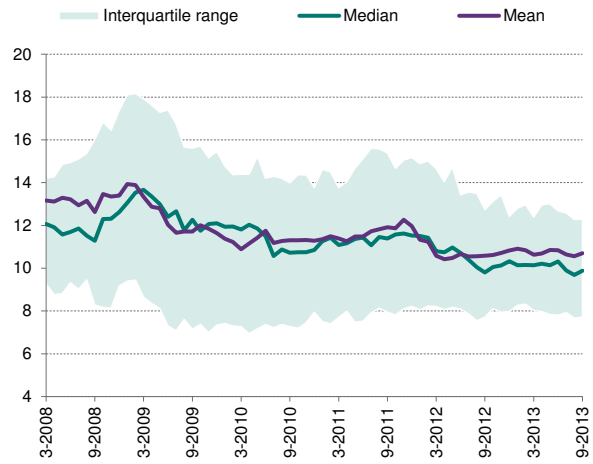
Source: NBP.

Figure 3.53. Capital requirements for selected types of risk at domestic banks



Source: NBP.

Figure 3.54. Leverage ratio at domestic commercial banks



Source: NBP.

3.8. The resilience of the banking system to shocks

3.8.1. Simulations of credit loss absorption capacity

Four simulations were performed to determine whether banks' capital was sufficient to absorb potential losses stemming from credit risk materialisation.[62] A separate simulation was performed to analyse the risk of the domino effect associated with banks' mutual exposures in the interbank unsecured deposit market.[63]

The results of Simulation I (see Figure 3.55) indicate the scale of a deterioration in the quality of performing loans that individual banks may absorb without breaching the capital adequacy standards. The results of Simulation I permit to rank the banks by the resilience to a deterioration in the quality of their loan portfolios. The share of banks – in the banking sector's assets – that would be able to absorb only a minor (5%)deterioration in loan portfolio is analysed in the simulation as the measure of their sensitivity. The simulation performed on September 2013 data indicates that the sensitivity of the banking sector has declined slightly.

For domestic commercial banks, a deterioration in quality of 5% of loans would result in a breach of the capital adequacy standards at banks with a 1.6% share in the assets of the banking sector. In March 2013, an identical shock would have triggered a breach of the standards at banks with a 1.9% share in the assets of the banking sector. For cooperative banks, the assumed shock would have caused the capital adequacy ratio to fall below 8% at banks with a 5.7% share in assets of all cooperative banks, compared to 7.5% in March 2013.

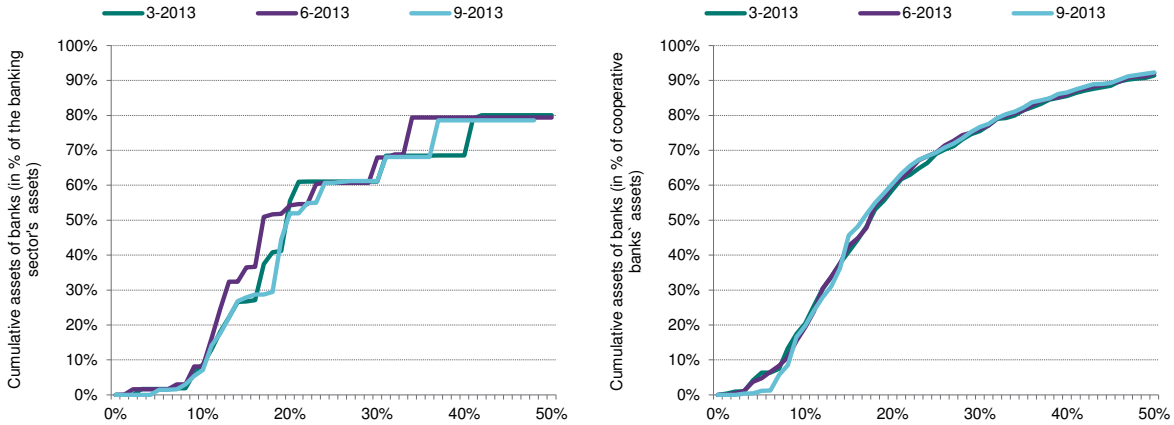
The purpose of Simulation II was to determine the level of the capital adequacy ratio in the event of an abrupt deterioration in the quality of impaired loans and a decline in the value of their collateral. The results of this simulation may indicate whether the present portfolio of impaired loans poses a threat to banks' capital adequacy.

The results of the simulation for domestic commercial banks show that in the period analysed the significance of the portfolio of impaired loans for banks' capital adequacy has decreased slightly (see Figure 3.56 – left-hand panel). The banks that register a fall of the capital adequacy ratio below 8% in this simulation can be regarded as exhibiting a relatively high – compared to capital and current financial year's profit – value of impaired loans. The share of this group of banks in assets of domestic commercial banks amounts to around 7.5% (see Figure 3.57), compared to 8.6%[64] at the end of the first quarter of 2013. In the case of cooperative banks, should the scenario discussed in the simulation unfold, the capital adequacy ratio would drop below 8% at banks with an around 18% share in assets of all cooperative banks, compared to 16% in March 2013.

Simulation III was designed to examine the significance of the concentration risk of credit exposures in the banking sector. The simulation assessed the impact of a parallel bankruptcy of three largest non-financial borrowers (of the sector as a whole). Claims on these enterprises are held in the portfolios of 26 banks. The simulation assumed that impairment would stand at 100% for all loans extended to these enterprises and that the cost of provisions decreases,

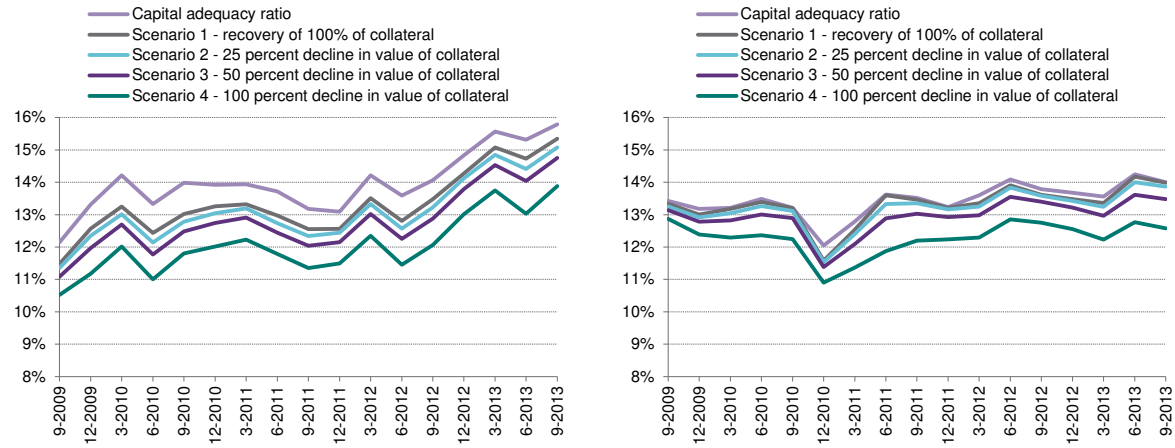
[62]The simulations were performed on data of domestic commercial banks and cooperative banks. Branches of credit institutions were not included in the simulations.
[63]The simulation examined the impact of an original bankruptcy of domestic commercial banks on commercial and cooperative banks. Mutual exposures of commercial banks from one capital group were excluded from the analysis.
[64]The values cited in the text relate to the most pessimistic variant of the simulation – Scenario 4.

Figure 3.55. Simulation I: assets of domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel) ranked by percentage of loans without identified impairment whose deterioration of quality would result in a breach of capital adequacy standards



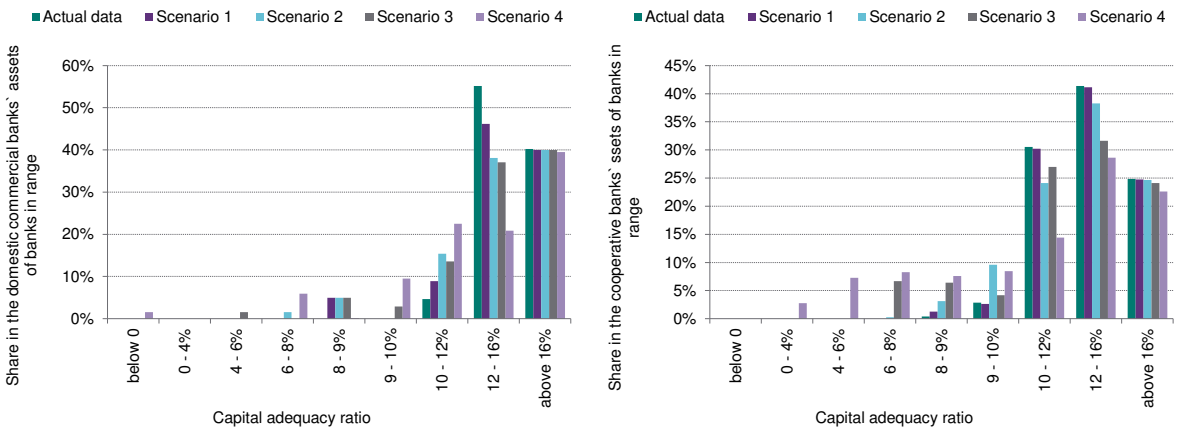
Assumptions of the simulation:
1. Deterioration in loan quality means that 50% impairment is recorded for the loans. 2. Hypothetical charges for impairment provisions decrease, firstly, the bank's current profit not classified as regulatory capital, and then the bank's regulatory capital. 3. Impaired loans carry a 100% risk weight. 4. No release of impairment provisions.
Source: NBP.

Figure 3.56. Simulation II: the average capital adequacy ratio of domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel) in scenarios that assume a deterioration in the quality of impaired loans



Assumptions of the simulation:
1. In all scenarios, banks bear credit risk costs (that firstly decrease the bank's current net profit not classified as regulatory capital, and then the bank's regulatory capital) equal to the value of an unsecured portion of impaired loans. 2. The portfolio of loans without identified impairment remains unchanged. 3. In Scenarios 2, 3 and 4, charges to impairment provisions are increased by the value of a decrease in collateral value (25% of collateral value in Scenario 2, 50% in Scenario 3 and 100% in Scenario 4.).
Source: NBP.

Figure 3.57. Simulation II: distribution of assets of domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel) in scenarios assuming a deterioration in the quality of impaired loans according to data as of September 2013.



Note: The scenarios are defined in explanatory notes below 3.56.
Source: NBP.

first, banks' current net profit not classified as regulatory capital, and then banks' regulatory capital. The effects of a hypothetical bankruptcy of three largest financial (non-bank) borrowers were examined in a similar way. The simulation did not take into account exposure to domestic subsidiaries and affiliates.

Simulation IV examined the concentration of credit exposures at individual commercial banks by the impact assessment of a hypothetical bankruptcy of three largest borrowers of each bank. The results of Simulations III and IV indicate that the amount of potential losses arising from the bankruptcy of three largest borrowers (in each bank's own loan portfolio or the banking sector as a whole) increased as compared to March 2013. At the same time, potential losses for the majority of the banks would not be high enough to jeopardize their capital adequacy. Moreover, given such restrictive simulation assumptions, a total shortfall of regulatory capital would be relatively small and amount to around 1% of the regulatory capital of the sector as a whole.

The results of the simulations discussed above point to a persistent differentiation of capital buffers among banks. The majority of banks hold sufficient capital to absorb any further deterioration in loan portfolio quality, and their resilience has grown. However, there is a group of several medium-sized and small banks that are less resilient to potential shocks and should seek to increase their regulatory capital.

Simulation V has shown that the domino effect resulting in the secondary insolvency of banks would be triggered by the original insolvency of 4 out of 43 domestic commercial banks operating as at the end of September 2013. A secondary insolvency would apply only to two small commercial banks with assets below 0.2% of the domestic banking sector's assets. On the other hand, a hypothetical collapse of the associating banks could trigger a secondary insolvency of a considerable group of cooperative banks with a 4% share in the domestic banking sector's assets and a 66% share in the cooperative banks' assets.

A minor risk of the domino effect occurring in the domestic commercial banks sector stems from a small scale of transactions between domestic banks and a low value of individual deposits as compared to banks' regulatory capital. Relatively high exposure of cooperative banks to the associating banks results

Table 3.7. Simulations III and IV: the impact of a hypothetical bankruptcy of three largest borrowers of the banking sector and three largest borrowers of each bank (data as of August 2013)

	Nonfinancial borrowers	Financial borrowers
Number of banks lending to investigated companies	26	6
Share of these banks in the banking sector assets	67.3%	28.5%
Credit risk cost (zloty billion)	9.3	2.1
Share[1] of banks with capital adequacy ratio below 8% or with own funds lower than internal capital	1.0%	0.0%

	Three largest borrowers of each bank
Credit risk cost (zloty billion)	26.2
Share[1] of banks with capital adequacy ratio below 8% or with own funds lower than internal capital	5.4%

[1] Share in the domestic banking sector's assets.
Hypothetical charges to impairment provisions decrease, firstly, the bank's current net profit not classified a regulatory capital and, next, the bank's regulatory capital.
Source: NBP.

from the specific nature of their operations, including cash clearing and settlement via the associating banks depositing their excess liquidity at these banks.

3.8.2. Stress tests

Stress tests that take into account a macroeconomic shock, a market shock and a liquidity shock were used to assess the resilience of banks[65] to external negative shocks. The central path of the NBP macroeconomic projection from "Inflation Report – November 2013", developed under the assumption of fixed interest rates, served as a reference scenario. The analysis aimed at quantifying the effects of hypothetical shocks on banks in the period from the fourth quarter of 2013 to the end of 2015. The results of the simulation for the reference scenario and results of other simulations included in this section should not be regarded as a forecast of the condition of the banking sector.

The analysis was performed as a three-stage examination. In the first stage, the analysis covered the impact of two macroeconomic scenarios (reference and shock) on banks' credit risk materialisation costs, their net interest income and capital adequacy. Owing to a multi-equation macroeconomic model used in the analysis, the assumed shock scenario takes into account, to the extent possible, a complete combined impact of investigated shocks on the economic condition. In contrast to single-factor simulations (see Chapter 3.8.1) that depict the sensitivity of banks to single, isolated shocks, the stress tests help to estimate a more complete impact of multiple simultaneous shocks on the financial condition of banks. In the second stage, the macroeconomic shock scenario was accompanied by the impact of an additional market shock on the capital position of banks. In the third stage, the influence of a market shock on the liquidity position of banks was considered.

The hypothetical capital needs of banks in both scenarios were calculated, assuming that they had to hold sufficient regulatory capital to keep their capital adequacy ratios at 12%, capital adequacy ratios calculated on the basis of core capital at 9%, and that

[65] The simulation concerns domestic commercial banks. Bank Gospodarstwa Krajowego was excluded from the simulation.

regulatory capital had to be higher than the capital requirements estimated by banks under ICAAP. The criterion applied for the value of capital adequacy ratios is more restrictive than the regulations currently in force. It is, however, compliant with the standard set by EBA stress tests and also corresponds to the conditions listed by KNF in its recommendations regarding banks' dividend policy.[66]

The stress tests assumed that banks complying with the above mentioned adequacy criteria at the end of a given quarter in the subsequent quarter increased its loan and securities portfolios and other assets at the quarterly growth rate of nominal GDP.[67] The balance-sheet value of the loan portfolio was also affected by loan impairment provisions, and the value of the portfolio of debt securities – by a market shock. A constant relation to assets was assumed from the unmodelled items of profit and loss account. Banks complying with the minimum capital adequacy levels were also allowed to pay out dividend from profits earned in the simulation period. The dividend rate depended on the excess of capital adequacy ratios above the assumed minimum. Changes in bank assets were balanced by changes in liabilities valued at amortised cost, inter alia, deposits.

The following criteria were assumed for the macroeconomic shock scenario:

- The recovery in the euro area economy will be halted by uncertainty in the financial sector (inter alia, regarding its capital needs after the asset quality review) and its regulatory environment. The euro area economy will also be adversely affected by a further slowdown in the demand growth rate in large emerging economies (primarily in China and India) stemming from the need to reduce macroeconomic and financial imbalances.
- The economic condition of the United States will deteriorate on the back of the political standoff over fiscal policy and its impact on household and corporate sentiment. In addition, the Fed's ability to run the quantitative easing policy will be reduced by stagflation.
- The prices of energy resources will grow due to disruptions in their extraction by some producers.

Given these assumptions, Poland would experience a substantial slowdown in the pace of economic growth (see Table 3.8). The likelihood of such a severe and long slowdown in Poland's GDP growth rate, as the one arising from the shock scenario, can be assessed as minor (see Figure 3.58).

Table 3.8. Major economic indicators in macroeconomic scenarios (%)

	2013	2014	2015
GDP growth y/y			
Reference scenario	1.3	2.9	3.3
Shock scenario	1.2	1.6	-0.1
LFS unemployment rate, annual average			
Reference scenario	10.5	10.5	9.9
Shock scenario	10.5	10.7	11.5
CPI inflation y/y			
Reference scenario	1.0	1.7	1.9
Shock scenario	1.0	2.5	0.9
WIBOR3M			
Reference scenario	3.0	2.7	2.7
Shock scenario	3.0	2.9	2.0

Source: NBP.

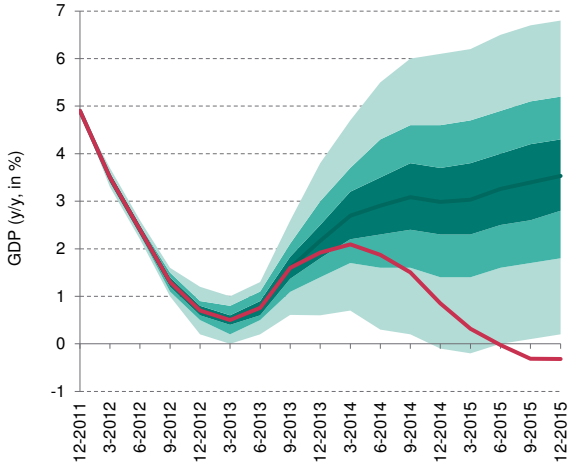
A market shock was added to the macroeconomic shock scenario in order to assess the potential impact of a fall in foreign investor confidence to the Polish economy (resulting in capital outflow from Poland) on the capital position of banks. The outflow would

[66] See "Stanowisko KNF w sprawie polityki dywidendowej instytucji finansowych" [Stance of KNF on the dividend policy of financial institutions], 28 November 2012, KNF.

[67] As long as the GDP growth rate was positive; if it was otherwise, a connection between bank assets and GDP was excluded. In addition, the growth rates for particular banks were limited by their excess of capital adequacy ratios above the assumed criteria.

be reflected in an increase in the yields on Polish Treasury debt securities and a depreciation of the zloty. Such developments would prompt further fiscal adjustments aimed at avoiding a breach of the prudential thresholds and regaining creditworthiness of the Polish government. Zloty depreciation would also bring about an increase in the capital requirements and a deterioration in the quality of banks' loan portfolios due to foreign currency loan value growth and the related rise in loan repayment burden on borrowers. The simulation assumed a 300 basis point rise in bond yields and a 30% depreciation of the zloty against the euro.[68]

Figure 3.58. Macroeconomic shock scenario against the fan chart of GDP from "Inflation Report – November 2013"



Note: red line marks the shock scenario.
Source: NBP.

The impact of a liquidity shock was examined in a separate analysis. The purpose of the simulation was to test whether banks had an adequate buffer of liquid assets in the event of the shock scenario assuming zloty depreciation, a rise in Polish government bond yields and, additionally, an outflow of some foreign funding and falling confidence from both other domestic financial institutions and real sector entities resulting in a withdrawal of some of their deposits.[69]

Impact analysis of a potential bankruptcy of a bank under both macroeconomic scenarios on the condition of other banks via the domino effect was the last element of the simulation.

The majority of banks would keep a regulatory capital surplus allowing them to meet the adopted capital adequacy criteria and expand business under both scenarios considered. The estimated value of a hypothetical increase in banks' regulatory capital required, if the shock scenario were to unfold, would amount to 2.5 billion zlotys at the end of the simulation period, i.e. around 6 times higher than in the reference scenario (see Table 3.9). Losses arising from interbank exposures would not push up banks' capital needs. The share of banks, which would have to raise the level of regulatory capital to meet the criteria adopted for the analysis, in the banking sector's assets would be 20.9% in the shock scenario and 2.3% in the reference scenario.[70]

The liquidity risk simulation has shown that in the event of materialisation of a very restrictive shock scenario a group of banks with an around 11% share in the sector's assets would not have sufficiently high buffers of liquid assets to cover liabilities associated with foreign capital outflow, zloty depreciation and a fall in customer confidence (see Figure 3.60). The majority of these banks are largely financed with foreign funds or hold substantial foreign currency loan portfolios. A shortfall of liquid funds at these banks would total approximately 25 billion zlotys.

When compared to the results of the simulation per-

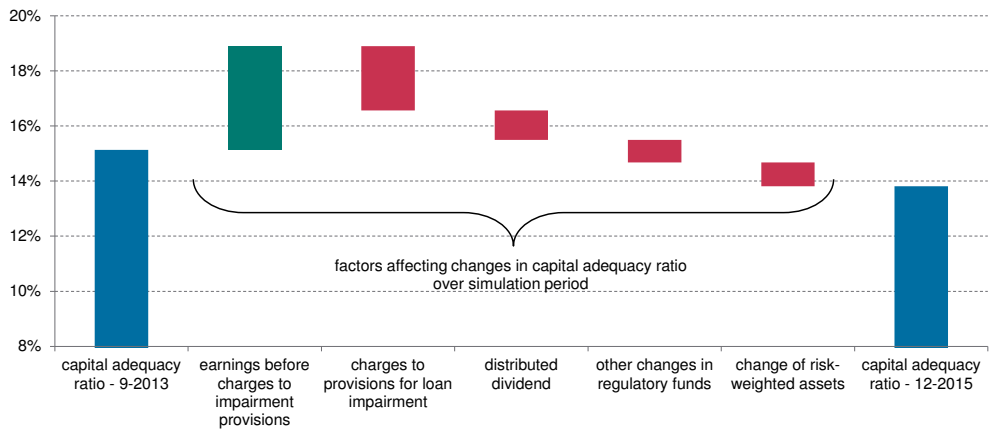
[68] Against bond yields and the zloty exchange rate as of the end of September 2013.
[69] The following, inter alia, were assumed: a withdrawal of 100% of deposits, 10% of loans and 25% of other liabilities towards foreign financial institutions, an outflow of unstable (not classified as core deposits) part of deposits of households, non-financial enterprises and general government sector and, additionally, 5%,10% and 10% of other deposits, respectively.
[70] Although all banks complied with the statutory capital standards at the end of September 2013 (capital adequacy ratio at 8%), the share of banks that failed to meet more restrictive criteria adopted for the analysis (i.e. capital adequacy ratio at 12% and capital adequacy ratio calculated on the basis of core capital at 9%) amounted to 4.3%.

Table 3.9. Results of macro stress tests

	Historical data for the period Q4 2012 – Q3 2013	Simulation results for the period Q4 2013 – Q4 2015	
		reference scenario[1]	shock scenario
On average per year (as % of assets)			
Charges to loan impairment provisions	-0.7	-0.7	-1.0
Net interest income[2]	2.1	2.0	1.9
Net earnings	1.1	1.0	0.5
Capital needs[3] (zloty billion)			
Macroeconomic and market shocks	0.3	0.4	2.5
Domino effect	n/d	–	–
Additional information – market shock in the simulation period (zloty billion)			
Change in bond value recognized in the profit and loss account	n/d	n/d	-0.9
Change in bond value recognized in capital	n/d	n/d	-7.0
Zloty depreciation impact (impairment charges for FX loans to households) recognized in the profit and loss account	n/d	n/d	-2.3

[1] Scenario based on the central path of the NBP macroeconomic projection from "Inflation Report – November 2013".
[2] "Net interest income" includes fees and commissions on extended loans, but does not include interest income on debt securities.
[3] The value of capital injection necessary to ensure that capital adequacy ratios remain above 12%, capital adequacy ratios when taking into account core capital – above 9% and to keep regulatory capital at the level not lower than internal assessment of capital needs at the end of the simulation period.
Notes: data for domestic commercial banks excluding BGK.
The results of simulations for the reference scenario and other simulations in this section should not be regarded as forecasts of the condition of the banking sector.
Source: NBP.

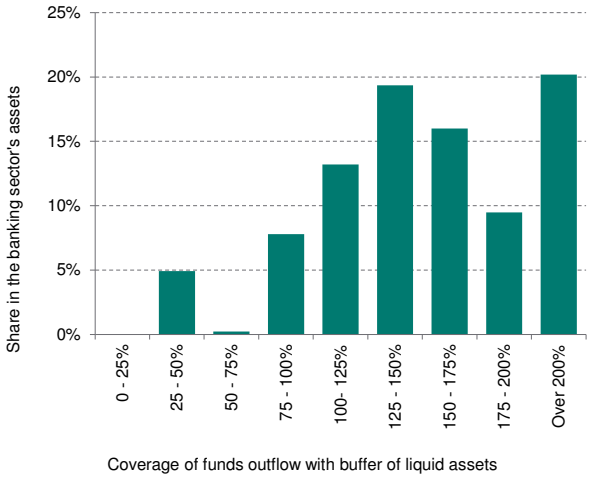
Figure 3.59. Cumulated changes in capital adequacy ratio under the shock scenario (% of risk-weighted assets)



Notes: data for domestic commercial banks excluding BGK.
Blue bars mark the capital adequacy ratio of the banks analysed in the beginning and end of the simulation period under the shock scenario. Factors with a positive influence on the average capital adequacy ratio in the simulation period are marked with green bars, and those with an adverse influence – with red bars. The influence of these factors is expressed in percentage points.
"Earnings before charges to impairment provisions" is equivalent to net income from banking activity decreased by, inter alia, operating costs.
The simulation assumed that banks with positive net earnings that comply with the assumed minimum capital adequacy levels (i.e. capital adequacy ratio above 12%, capital adequacy ratio when taking into account core capital above 9% and regulatory capital at the level not lower that internal assessment of capital needs) would pay out dividends. The dividend rate would depend on the excess of capital adequacy ratios over the criteria.
Source: NBP.

formed in the previous edition of the *Report*, the share of banks with insufficient liquidity buffers did not change. At the same time, however, the size of the liquid funds deficit at these banks diminished (by ca. 5 billion zlotys), which may be evidence of a rise in the resilience of the most sensitive institutions.

Figure 3.60. Assets of domestic commercial banks by coverage of funds outflow with a buffer of liquid funds in the shock scenario



Source: NBP.

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The results of the stress tests and simulations of loss absorption capacity indicate that banks' resilience to shocks is relatively high and has additionally improved since the last edition of the *Report*. As a result, the majority of banks would be able to safely operate and absorb the effects of the materialisation of the restrictive scenario of a significant slowdown of economic growth.

At the same time, capital buffers are discrepant among banks, and several banks are characterised by relatively low resilience. These banks should seek to increase capital buffers to reduce their sensitivity to potential shocks. In addition, banks that play a particularly important role in the financial system should exhibit – in line with recommendations of the Financial Stability Board (FSB) – an increased capacity to absorb potential losses.

It is also important from the point of view of financial system stability that banks with sufficient capital buffers should not reduce them in the coming periods. In particular, the growth of lending in an environment of a gradual economic recovery should not lead to excessive increase of leverage. The pursuit of a prudential dividend policy by banks will enable them to develop their activities in a safe and sustainable way.

The results of the liquidity shock simulation pointed to a slight rise in banks' resilience, however they prove at the same time that to ensure a stable operation of the domestic financial system it is desirable that banks run a diverse funding structure and do not rely too heavily on short-term funding provided by their foreign parent entities.

Box 6. The challenges to cooperative banking

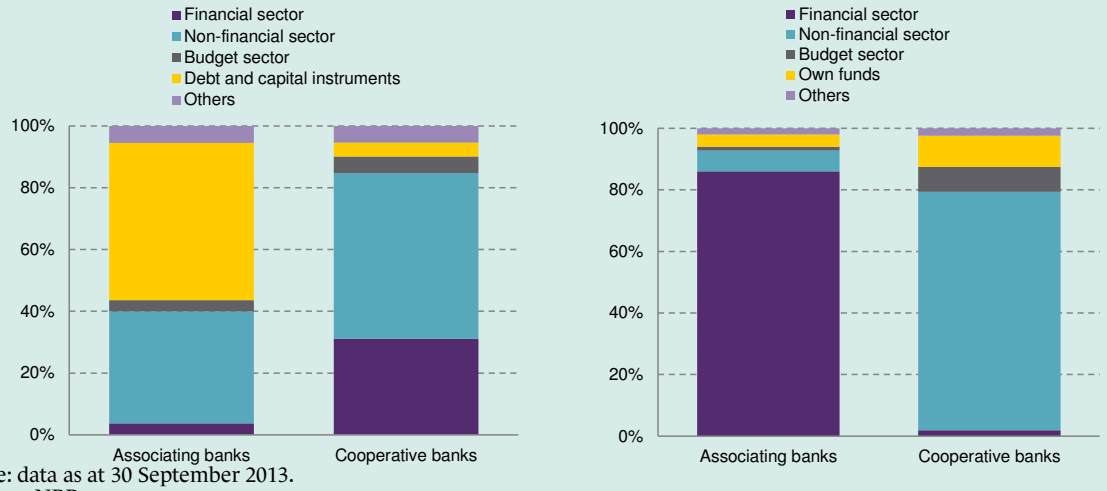
Cooperative banks operate in a structure of two associations[1] The BPS association comprises 365 banks (with assets of 58 billion zlotys), and the SGB Bank association[2] – 206 banks (with assets of 34 billion zlotys). As of 30 September 2013, the assets of the associating banks were 20.2 billion zlotys and 12.3 billion zlotys, respectively. Cooperative banks have more than 1 million shareholders who are natural persons. Employment at cooperative banks is around 33,000. Cooperative banks own very extended networks of banking establishments and ATMs. Cooperative banks are strongly diversified, in terms of size (asset value is in the range of 11 million zlotys to 2.9 billion zloty), number of clients, banking establishments and geographical scope of operations.

The rules for the organisation, operation and association are laid down by provisions of the Act of 7 December 2000

on the Operation of Cooperative Banks, their Association and Associating Banks.[3] Cooperative banks are required to associate with an associating bank under the rules specified in the act. The detailed conditions of the operation of banks within an association are additionally set out in an association agreement. The geographical scope of operations of cooperative banks is dependent on the value of own funds – banks with own funds over the equivalent of 5 million euros can operate in the territory of the whole country, and the remaining banks – in principle in the territory of their respective voivodships.

Cooperative banks are shareholders of the associating banks, and at the same time the associations perform operational and control tasks for cooperative banks, as defined in the act. Due to the interconnectedness between cooperative banks and associating banks, all institutions form a system of connected vessels. Most cooperative banks deposit their excess liquidity at the associating banks. Associating banks properly invest the funds, being concerned with one's effectiveness and meeting the supervisory standards. By the end of March 2013, the interest rate on term deposits at the associating banks was satisfactory for cooperative banks (in 2012 – 4.8% at BPS and 5.2% at SGB Bank[4], in the first half of 2013 in both banks – 3.7%[5], while at the end of September 2013, the interest rate on term deposits was 3.5% and 3.4%, respectively[6]). Such favourable interest rates resulted in an increase of cooperative banks' term deposits at the associating banks by over 7 billion zlotys to 27.5 billion zlotys from September 2012 to March 2013.[7] The high level of cooperative banks' deposits at the associating banks led to a strong concentration of the sources of cooperative banks' interest income and, in effect, raised the sensitivity of their earnings to the interest rates of deposits offered by the associating banks.

Figure 1. The composition of balance–sheet of cooperative banks and associating banks: assets – left–hand panel, liabilities – right–hand panel



Note: data as at 30 September 2013.
Source: NBP.

In order to ensure a safe level of liquidity at the association, the associating banks invested around 56% of funds obtained from cooperative banks into debt instruments. The actual low profitability of the securities portfolio, amid an increased cost of funding obtained from cooperative banks, negatively influence the effective operation of the associating banks. Consequently, their capacity to absorb potential losses in the situation of a likely deterioration of the quality of other asset components (the associating banks are also involved in the lending business) decreases. Therefore, the current model and strategy of future cooperative banking growth towards better effectiveness and compliance with future regulator's expectations need to be changed urgently.

The challenges in implementing the CRDIV/CRR package by cooperative banks and associating banks

The CRDIV/CRR package[8] is the EU regulator's response to the recent financial crisis, therefore the rules for the calculation of own funds and the introduction of liquidity standards that commonly binding to all credit institutions were amended most. The particular challenges to cooperative banks and the associating banks related to the implementation of new regulations result from sector-specific factors, current provisions of law that govern its operation and the designed business model. The major amendments introduced by the CRDIV/CRR package regarding the rules for the operation of the associating banks and cooperative banks relate to:

- elements of initial capital and Tier 1 capital,
- the introduction of short and longterm liquidity requirements.

Initial capital is a type of a prudential standard that defines the access to the activity of credit institutions. CRDIV Directive keeps the minimum initial capital for cooperative banks at the present level, i.e. the equivalent of 1 million euros[9]. For banks operating outside the associations, the current minimum initial capital was maintained at the level corresponding to the equivalent of 5 million euros. However, CRDIV directive changes the list of capital instruments that could – from 2014 – be classified as initial capital. The directive limited the list to Tier 1 capital, at the same time excluding the possibility to include a general risk reserve and additional funds (subordinated loans and issued bonds). According to estimates, an initial capital shortfall may concern very few Polish cooperative banks.

Share fund is an element of Tier 1 capital at cooperative banks. It is built of members' contributions and provisions for shares from a balance-sheet surplus. According to binding law in Poland, this element of the funds is not permanent (perpetual), that consists in full availability and the capacity to absorb unexpected losses. After the entry into force of the provisions of the CRDIV/CRR package, share fund at Polish cooperative banks could not be fully classified as own funds and will have to be straight line-amortised till 2021 (detailed rules will be determined by KNF), while new shares taken up will not be classified as own funds of cooperative banks. The regulators are working to adapt provisions currently in force in Poland to the CRDIV/CRR requirements. A possible gradual exclusion of the share fund from own funds will have an impact on the capital adequacy of few cooperative banks (see Chapter 3.7).

The entry into force of the CRR Regulation additionally implies the obligation for all banks to comply with the Liquidity Coverage Requirement (LCR)[10] and the Net Stable Funding Requirement (NSFR).[11]. Initial simulations carried out by UKNF as of 30 September 2011 showed that the sector would not be able, given then binding manner of the organisation of financial management at the associations, to meet the future LCR requirement. Problems with compliance with the LCR, both by some cooperative banks and the associating banks, arises from the fact that starting from 1 January 2015, it will not be possible to classify deposits placed at the associating banks as liquid assets of cooperative banks and to regard these funds – by the associating banks – as a stable source of funding of their assets. The UKNF analysis shows that cooperative and associating banks may also be unable to meet the NSFR requirement.

One of the possible solutions of the problems is to introduce the *Institutional Protection Scheme*, IPS), defined in the CRR Regulation, that provides for closer ties – than between associations of cooperative banks now operating in Poland – resulting from the mutual guarantees of liquidity and solvency by all participants. If approved by the supervisory authority, such a solution will make it possible to classify deposits of cooperative banks at the associating banks as liquid assets and to regard funds accepted by the associating banks from cooperative banks as stable funds, and compliance with the LCR will be required at the group level.

Besides compliance with the liquidity standards, the implementation of the IPS rules will enable the associating and cooperative banks to use other solutions available to other institutions operating at such integrated groups,

such as the possibility to use 0% credit risk weight for mutual exposures, or the possibility to increase the equity exposure limit towards IPS members. Participation in IPS is to be voluntary.

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[1] Krakowski Bank Spółdzielczy is the only bank that operates independently outside the associations.
[2] By 15 September 2011, SGB Bank operated under the name of GBW. The decision to change the name was connected with a merger of Mazowiecki Bank Regionalny (MR Bank).
[3] Polish Journal of Laws of 28 December 2000, No. 119.
[4] "Informacja o sytuacji banków spółdzielczych i zrzeszających w I półroczu 2013 r." [Information on the condition of cooperative banks and associating banks], 2013, UKNF,
[5] *Ibidem*.
[6] Source: NBP.
[7] At the end of September 2013, liabilities towards the financial sector decreased by 3 billion zlotys (against March 2013).
[8] The final Polish version of the provisions of the so–called CRD IV/CRR package was published in the Official Journal of the European Union on 27 June 2013. The package includes: Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 and Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC. Most requirements were defined in the Regulation which is directly binding in the European Union and prevail over local law.
[9] Credit institutions (including cooperative banks) can, conditionally, operate in the European Union with initial capital below the equivalent of 5 million euros, but not lower than the equivalent of 1 million euros, provided that they operate in an association complying with defined conditions. Setting the minimum initial capital level as an amount expressed in euros may have an impact on preserving capital adequacy due to possible foreign exchange rate fluctuations.
[10] The LCR requirement will enter into force on 1 January 2015.
[11] The NSFR requirement is likely to take effect from 2018.

3.9. Selected indicators of banking sector's condition

in %	2012		2013		
	Q3	Q4	Q1	Q2	Q3
Return on assets (ROA)[1]	1.20	1.17	1.14	1.15	1.10
Return on core capital (ROE)[1,2]	13.2	12.7	12.3	12.4	11.9
Net interest margin (NIM)[1,3]	2.76	2.68	2.59	2.50	2.43
Operating costs[3] to net income from banking activity[3] (C/I)[1]	51.4	51.6	52.3	53.0	54.1
Burden of charges to provisions for impaired loans[3] on net income from banking activity[1]	14.3	14.1	14.2	13.3	13.3
Loan growth rate (y/y)[4]					
nonfinancial sector	5.6	3.4	2.2	2.1	2.3
households	3.6	2.9	2.7	2.5	3.6
consumer loans	-3.9	-4.1	-3.8	-2.9	0.4
housing loans	6.0	5.1	4.6	4.2	4.2
enteprises	9.7	4.1	1.1	1.0	-0.5
large enterprises	7.4	0.5	0.1	3.8	4.0
SMEs	11.4	6.2	2.5	1.1	-1.3
Impaired loan ratios[3]					
nonfinancial sector	8.8	8.8	8.9	8.7	8.5
households	7.5	7.4	7.5	7.2	7.1
consumer loans	17.9	17.2	17.3	16.0	15.5
housing loans	2.7	2.8	2.9	2.9	3.0
enteprises	11.3	11.7	11.8	11.8	11.5
large enteprises	9.7	9.8	9.8	9.6	9.1
SMEs	12.3	13.0	13.2	13.3	13.1
Burden of charges to provisions for impaired loans[3] on net value of loans[1]					
nonfinancial sector	1.13	1.07	1.05	0.96	0.95
households	1.12	0.95	0.92	0.80	0.72
consumer loans	2.52	2.24	2.11	1.90	1.55
housing loans	0.47	0.38	0.35	0.27	0.29
enteprises	1.14	1.33	1.33	1.30	1.41
large enteprises	1.14	1.61	1.57	1.42	1.36
SMEs	1.14	1.15	1.17	1.22	1.44
Funding gap[3]	12.9	12.4	10.9	10.7	9.4
Short-term liquidity standard M2[3,5]	1.45	1.53	1.51	1.47	1.45
Long-term liquidity standard M4[3,5]	1.17	1.19	1.19	1.18	1.19
Capital adequacy ratio[2]	14.1	14.8	15.4	15.2	15.7
Core capital to risk-weighted assets[2]	12.7	13.1	14.0	13.8	14.2
Financial leverage (multiple)[2,3]	10.55	10.80	10.63	10.80	10.78

[1] Annualised data.
[2] Domestic banking sector.
[3] For definition, see *Glossary*.
[4] Loans to residents, data after excluding the impact of foreign exchange rate changes.
[5] Banks from the domestic banking sector with total assets over 200 million zlotys.
Source: NBP.

3.10. Selected items of the banking sector's balance sheet

zloty billion	2012		2013		
	Q3	Q4	Q1	Q2	Q3
Assets – selected items					
Receivables from the non-financial sector	811.1	807.3	814.6	831.9	838.9
- of which: from non-residents	6.6	7.5	8.2	10.0	10.0
Receivables from the financial sector	98.9	100.1	97.3	99.9	114.4
- of which: from non-residents	32.8	34.5	26.3	27.8	34.4
Receivables from the general government sector	77.9	79.9	78.8	78.4	77.9
- of which: from non-residents	0.0	0.0	0.0	0.0	0.0
Securities issued by residents, of which:	268.7	260.6	300.7	321.6	304.5
- treasury securities	123.6	119.0	134.9	146.1	146.1
- money market bills	104.8	99.4	125.0	134.5	116.2
Securities issued by non-residents	1.6	1.5	1.5	1.7	2.2
Liabilities - selected items					
Liabilities to the non-financial sector	701.5	730.1	740.2	749.8	752.7
- of which: to non-residents	12.8	13.3	13.0	13.3	15.7
Liabilities to the financial sector	268.2	269.3	269.7	276.5	283.4
- of which: to nonresidents	171.4	171.8	169.2	180.2	175.8
Liabilities to the general government sector	85.0	61.9	68.6	76.1	90.6
- of which: to nonresidents	0.1	0.1	0.2	0.2	0.2
Liabilities due to the issue of own securities	48.5	48.3	48.5	48.2	47.5
Equity and subordinated liabilities[1]	141.5	143.7	144.2	149.8	152.2
- of which: subordinated liabilities to non-residents[1]	7.1	8.1	7.6	7.8	8.0

[1] Domestic banking sector.
Note: data from monetary statistics, Nominal value.
Source: NBP.

Chapter 4.

Non-bank financial institutions

Due to a minor degree of the interconnectedness between pension fund management companies (PTEs), investment fund management companies (TFIs), and insurance companies (ZUs) and banks, their impact on the condition of the banking sector through the credit, financial and ownership channels in Poland is limited. Mutual ties are mostly indirect as they often participate in the same capital group. The financial situation of these institutions does not pose a threat to financial system stability.

Table 4.1. Assets of open pension funds (OFEs), insurance companies (ZUs), investment funds (FIs) and banks (zloty billion)

	NBFI			NBFI	Banks	NBFI / Banks
	OFE	ZU	FI			
2010	221.3	145.2	121.8	488.3	1 158.5	42.1%
2011	224.7	146.2	117.8	488.6	1 293.9	37.8%
2012	269.6	162.9	151.4	583.9	1 352.6	43.2%
2013	292.0	168.5	171.2	631.7	1 428.2	44.2%

Note: ZUs and FIs – June 2013; OFEs – September 2013; for OFEs and FIs net assets are presented.
Source: UKNF, NBP.

Banks are stockholders or shareholders of 9 insurance companies. As at the end of June 2013, the share of the banking sector in the insurance sector's core capital amounted to 0.9%. Insurance companies in which banks are stockholders or shareholders collected 7.3% of the gross written premium (hereinafter referred as premium).

The risk borne by banks as regards lending to the insurance sector is insignificant. As at the end of September 2013, insurance companies' deposits accounted for 1.6% of the banking sector deposits and the value of loans extended to insurance companies stood at 0.3% of loans extended by banks (see Table 4.2).

Four domestic banks are direct shareholders in PTEs. Since the publication of the previous edition of the *Report*, changes have been made to the ownership

[71] KNF issued a permit for the takeover on 12 February 2013; the merger of OFE POLSAT and PKO BP Bankowy OFE assets took place on 19 July 2013.

structure of pension fund management companies. This resulted from the takeover of OFE Polsat by PKO BP BANKOWY PTE SA.[71] The transaction resulted in the increase in banks' share in PTE equity capital.

Table 4.2. Exposures of pension funds (FEs), insurance companies (ZUs), investment funds (FIs) to banks (zloty billion)

Loans and other banks' receivables from NBFI					
	ZU	FE	FI	NBFI	NBFI Loans/ Loans total
12-2010	0.2	0.4	6.9	7.5	0.9%
12-2011	1.0	0.7	2.2	3.9	0.4%
12-2012	0.3	1.9	4.6	6.8	0.7%
9-2013	3.0	2.0	8.0	13.0	1.2%

Deposits and banks' liabilities to NBFI					
	ZU	FE	FI	NBFI	NBFI Deposits/ Deposits total
12-2010	19.3	9.7	7.7	36.7	3.6%
12-2011	21.6	12.0	10.4	44.0	3.9%
12-2012	24.8	21.2	17.5	63.4	5.4%
9-2013	19.9	17.9	19.4	57.1	4.6%

Source: NBP.

As in previous years, pension funds financed banks to a minor degree. As at the end of September 2013, the deposits they placed represented 1.4% of the banking sector deposits. Banks' risk related to lending to OFEs is minor. As at the end of September 2013, the value of loans to pension funds represented 0.2% of loans extended by banks.[72]

A few banks and insurance companies were direct shareholders of investment fund management companies. Capital ties between TFIs and the banking sector are also indirect. There are a few TFIs in the market that are owned by bank groups. The presence of a bank or an insurance company in the group where a TFI is a member company influences the way participation units of investment funds they manage are distributed. In such cases, participation units can be offered via a bank branch network or under unit-linked insurance.

Investment funds play a minor role in bank funding. As at the end of September 2013, deposits placed by investment funds represented 1.6% of the banking sector deposits. On the other hand, the ratio of loans granted to investment funds to loans extended by banks amounted to 0.8%.[73]

4.1. Insurance companies

Insurers' core activity is to grant insurance protection coverage to the insured against the financial effects of fortuitous events through risk transfer and dispersion. A characteristic feature of the insurance sector is the reversed product cycle. Insurance premium for the period of protection granted is paid in advance for the protection coverage period. Insurance companies create insurance provisions for the payment of claims that may arise in the period for which the premium has been paid. Premium revenue is invested and investments are earmarked for provisions coverage (i.e. liabilities arising from the insurance contracts concluded).

Insurance companies' core business model does not generate systemic risk. However, there may be situa-

[72] Article 154 of the Act of 28 August 1997 *on the Organisation and Operation of Pension Funds* (Journal of Laws No. 34/2010, item 189, as amended) provides that loans and credits contracted by a pension fund must not exceed 1.5% of the value of its assets. Moreover, pursuant to Article 142 (5a) (1) of the above mentioned act, the limit for an OFE investment in bank deposits and bank securities amounts, in the Polish zloty, to 20% of its asset value.

[73] Pursuant to the provisions of the Act of 27 May 2004 *on Investment Funds* (Journal of Laws of 2004, No. 146, item 1546, as amended) open investment funds may draw loans and credits with maturity of no more than one year, exclusively from domestic banks or credit institutions. Their total value cannot exceed 10% of the fund's net assets as at the loan agreement date. Closed-end investment funds may draw loans and credits with maturity of any length from domestic banks, credit institutions or foreign banks. Their total value may not exceed 75% of the fund's net assets as at the loan agreement date. Moreover, the Act imposes limits on investment funds relating to deposits placed in the same bank or the same credit institution – their value cannot exceed 20% of asset value.

tions where the sector's solvency can decrease.[74]

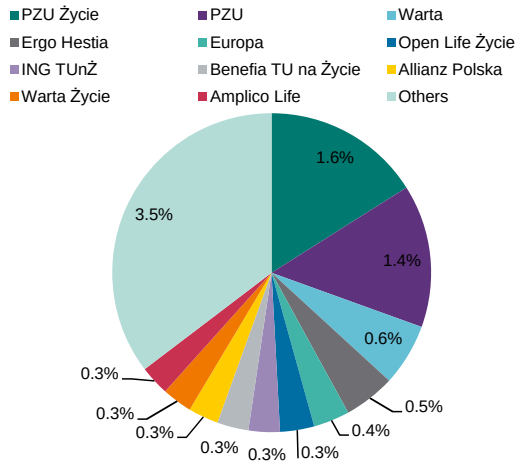
Due to the conservative structure of insurance companies' investment portfolio and the maturity match of assets and liabilities the companies are less exposed to price fluctuations in the financial market than other financial institutions. The exposure of insurance companies to liquidity risk is relatively small as premiums revenue is evenly distributed over time, and claim payments are of a fortuitous nature.

Domestic life insurance companies are characterised by an insignificant share of long-term products with the guaranteed return rate (see Box 7), which could expose them to interest rate risk. Similarly, non-life insurance companies are exposed to this risk to a minor degree due to the small value of their credit insurance and insurance guarantees portfolios. In disability benefits paid under third party liability insurance OC, interest rate risk is minor.[75]

The domestic insurance sector is dominated by large insurance companies owned by domestic (PZU) and foreign capital groups (see Figure 4.1).

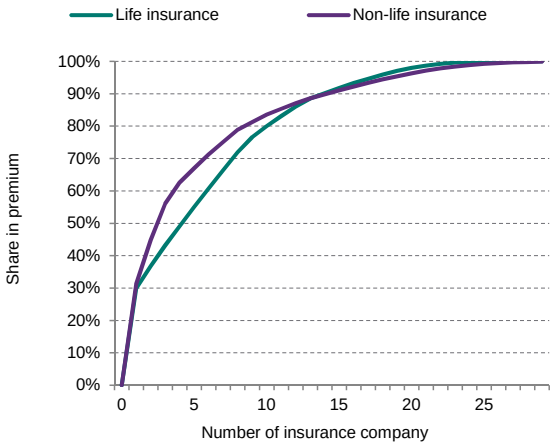
In the first half of 2013, the concentration[76] of the insurance sector did not change significantly. In life insurance, it was slightly higher than in non-life insurance. The largest domestic insurance company collected 16% of premium, and 15 largest life and 15 non-life insurance companies over 90% (see Figure 4.2).

Figure 4.1. The largest domestic insurance companies (share in premium)



Source: UKNF.

Figure 4.2. Distribution of gross written premium in life and non-life insurance



Source: UKNF.

[74] In 2013, one of the insurance companies issued a communication about initiating an investigation into mismanagement and inflicting damage (of significant size) by investing in equities and securities. These investments generated losses and the company had to create provisions due to the losses. The losses were not, however, high enough to jeopardise the sector's solvency, but showed the threats that may occur in the insurance sector. Moreover, KNF raised objections as regards the price of automobile third party liability insurance OC offered by several foreign branches, which are much lower than those offered by domestic insurance companies. At the KNF request, the French, Spanish and Czech insurance supervisors are investigating the correctness of operations carried out by AXA Direct (Avanssur S.A. Branch in Poland), Liberty Direct (Liberty Mutual Group: Liberty Seguros Compania de Seguros y Reaseguros S.A.) and Proama (Česká pojišťovna a.s. branch owned by Generali PPF Holding).

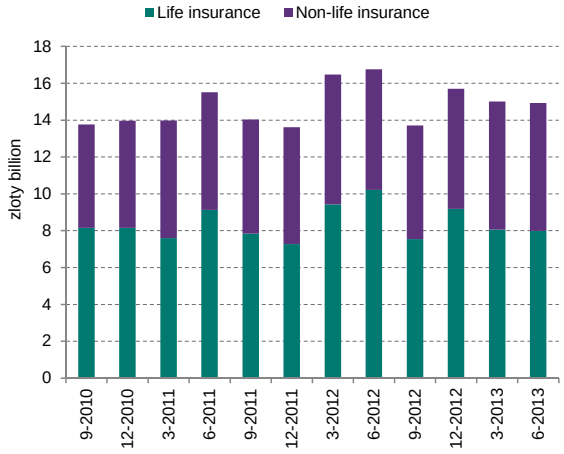
[75] Non-life insurance companies pay disability benefits to victims of transport accidents. The related liabilities are determined with the use of statistical methods, as in the case of life insurance. However, conservative assumptions are used to discount liabilities. Therefore, a fall in interest rates does not significantly affect the amount of these liabilities. Legal risk is the most important risk for disability liabilities.

[76] The most frequently used measure of the insurance sector concentration is the share in the gross written premium. Concentration can also be measured using other aggregates, e.g. the value of assets, investments and insurance provisions.

Insurance premiums and claims

In the first half of 2013, the life insurance sector collected 16.1 billion zlotys in premium, i.e. 3.6 billion zlotys less than in the first half of 2012 (see Figure 4.3). The decline resulted mainly from the limit on the distribution of investment insurance instruments.[77] At the beginning of 2013, the Polish Financial Supervisory Authority issued Recommendation M, aimed, inter alia, at limiting the sale of investment insurance instruments via the banking channel. Therefore, the number of banks offering such products to their clients declined significantly. However, investment insurance instruments are still offered by insurance companies which are not subject to recommendation M, which is confirmed by a high share of single premium insurance in life insurance of group 1 (63.1%).

Figure 4.3. Gross written premium in the insurance sector (zloty billion)



Source: UKNF.

In the first half of 2013, the non-life insurance sector collected 13.9 billion zlotys in premium written, i.e. 0.3 billion zlotys more than in the first half of 2012 (see Figure 4.3). Its value was mostly influenced by the premium on automobile third party liability OC (35.2%) and AC insurance (24.2%), fire insurance and fortuitous events insurance (18.4%) and other third party liability insurance (6.7%).

A slight increase in premium in the non-life insurance sector resulted mainly from lower sales of new cars and insurance companies' pricing policy. The prices of car insurance remained unchanged in the first half of 2013. Moreover, a lot of motor vehicle owners did not subscribe the mandatory third party liability OC insurance policy. It is estimated that the number of subscribed third party liability OC insurance policies was lower than the number of registered cars, and the number of AC insurance policies was fourfold lower than the number of OC policies.[78]

Investment insurance i.a. credit insurance and guarantee had insignificant role in non-life insurance sector. Share in premium amounted to 2.9% in the first half of 2013.

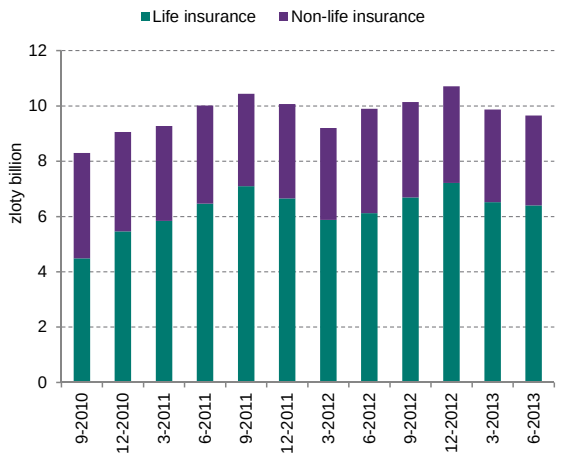
In the first half of 2013, the value of claims paid (12.9 billion zlotys) in the life insurance sector was at a similar level as in the first half of 2012 and did not have a significant impact on the change in this sector's results. Payments were made from investments earmarked for covering insurance provisions. In the non-life insurance sector, claims paid (6.6 billion zlotys) were lower than in the first half of 2012 (Figure 4.4). This was connected with a lower number of traffic accidents.

In the non-life insurance sector, the effectiveness of insurance activity (the ratio of costs related to claims' payment to premium revenue in the reporting period) is described by the loss ratio (see Figure 4.5). The ratio has displayed a downward trend for three years which shows that profitability of insurance ac-

[77] Single premium insurance written in the form of endowment insurance.
[78] As at the end of 2012, the number of cars registered in Poland amounted to 23.8 million, www.stat.gov.pl. As at the end of 2012, the number of automobile third party liability OC insurance policies amounted to 19.5 million and the number of AC insurance policies was 5 million, www.knf.gov.pl. The number of car owners who did not have the mandatory third party liability OC insurance policy is estimated at 250 thousand, www.ufg.pl

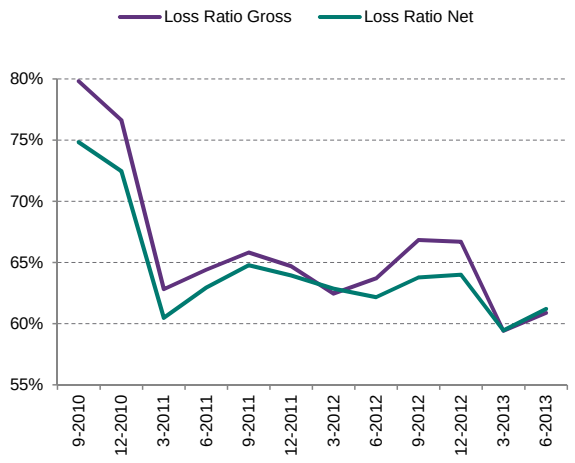
tivity has improved, which also has an impact on technical results of insurance companies.

Figure 4.4. Gross claims paid (zloty billion)



Source: UKNF.

Figure 4.5. Loss ratio gross and net in non-life insurance



Source: UKNF.

Earnings of insurance companies

In the first half of 2013, the technical and financial result of life insurance companies decreased by 14.5% and 18.1%, respectively (see Table 4.3). A decline in premium revenue had the most significant impact on the decrease.

In the period analysed, a significant decline in investment profits was also observed. In the first half of 2012, net investment profit amounted to 3.1 billion zlotys, while in the first half of 2013 the sector posted investment profit amounting to 0.5 billion zlotys. It influenced the earnings of the life insurance sector to a minor degree because the profit was mostly generated by assets invested on account and at the risk of the clients. Only a small portion of profits generated by investments of insurance companies' own funds had an impact on the financial result (0.2 billion zlotys). The remaining portion increased the insurance provisions leading, at the same time, to an increase in costs associated with the increase in the balance of provisions.

The most profitable segment in life insurance was employee group insurance (included in group 1 and 5) which had a major influence on earnings of this sector. The decline in premium observed in the first half of 2013 occurred in the least profitable product group, i.e. investment insurance instruments. Therefore, the impact of the change in premium revenue on the financial result was lower than in traditional life insurance.

In the first half of 2013, technical result in non-life insurance amounted to 0.8 billion zlotys and net profit reached its historical high of 5.2 billion zlotys (see Table 4.3). Such high earnings (which are not justified by insurance activity results) were primarily influenced by income from stocks and shares in subsidiaries, which amounted to 0.4 billion zlotys, including the dividend PZU Życie paid to PZU – 3.8 billion zlotys.

The high earnings and the reduction in own capital of non-life insurance led to the growth of ROE of this sector to 29.1% (see Table4.3).

Investments of insurance companies

At the end of the first half of 2013, the value of investments of the insurance sector decreased compared to the end of 2012. Their structure also changed as

Table 4.3. Earnings of the insurance sector

	6-2011 (in milion zloty)	6-2012 (in milion zloty)	6-2013 (in milion zloty)	6-2013/6-2012 (in %)
Life insurance				
Gross Written Premium	16 738	19 637	16 055	-18.2
Technical Result	1 754	1 715	1 460	-14.5
Financial Result	1 745	1 702	1 393	-18.1
ROE (in %)	28.1	22.4	22.1	-0.3 pp.
Non-life insurance				
Gross Written Premium	12 757	13 596	13 886	2.1
Technical Result	256	624	826	32.4
Financial Result	2 652	2 479	5 223	110.6
ROE (in %)	15.1	16.5	29.1	12.6 pp.

Source: UKNF, PZU.

a portion of the funds was invested in investment funds' participation units.

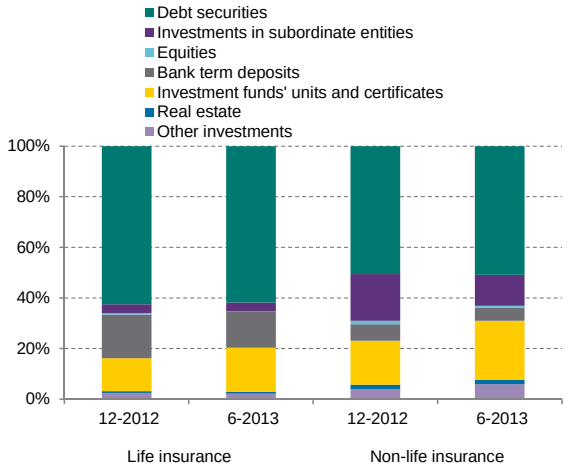
After certain entities stopped selling investment insurance instruments, the value of life-insurance companies' investments declined (from 49.7 to 49.5 billion zlotys, excluding unit-linked investments), in particular term deposits (from 8.6 billion zlotys to 7.1 billion zlotys). Treasury securities had the largest share (28.3 billion zlotys) in the investment portfolio of this insurance sector.

As a result of the purchase by PZU Życie of certificates of non-public asset closed-end investment funds, investments in investment funds' participation units rose from 6.5 billion zlotys at the end of 2012 to 8.6 billion zlotys as at the end of the first half of 2013.

Domestic life insurance companies are characterised by aversion to invest in corporate shares quoted on the regulated market (0.1% of this sector's investments) (see Figure 4.6).

As regards the structure of investments of non-life insurance companies, debt securities accounted for over one half (26 billion zlotys). A significant growth in the share of investment funds' participation units was observed again, from 9.1 billion zlotys at the end 2012 to 11.9 billion zlotys as at the end of the first half of 2013. This growth was driven by the investment policy of the PZU group which increased its exposure to participation units of investment funds. Moreover, domestic non-life insurance companies are characterised by aversion to invest in corporate shares quoted on the regulated market (0.8% of this sector's investments).

Figure 4.6. Structure of investments of insurance companies



Note: in life insurance, unit-linked investments were not taken into account.
Source: UKNF.

Both life and non-life insurance companies did not invest in shares, except for shares of subordinate entities.

The value of unit-linked insurance investments, where investment risk is borne by clients, amounted to 44.1 billion zlotys at the end of the first half of 2013 (43.8 billion zlotys at the end of 2012). The largest

share in the investments had investment funds' participation units and certificates of investment funds and debt securities. Despite a large inflow of funds (6.3 billion zlotys), loss on investments and the payment of benefits were conducive to an increase in investments of UFKs by only 0.3 billion zlotys in the first half of 2013.

Solvency of the insurance sector

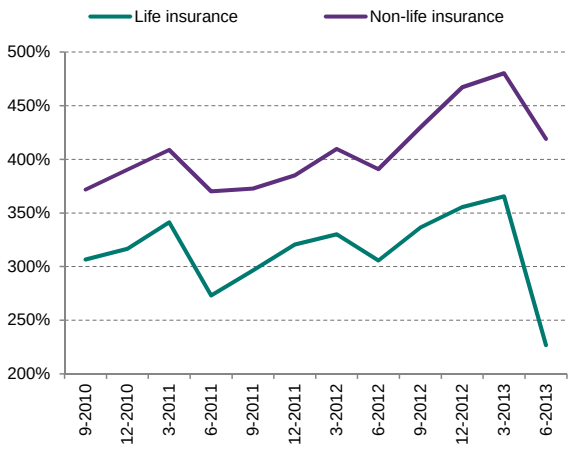
Insurance companies conducted a diversified financial policy, typically guided by the interests of capital groups they belonged to. This had an impact on the solvency of the domestic insurance sector in the first half of 2013.

Own funds decreased from 15.0 billion zlotys at the end of 2012 to 11.4 billion zlotys as at the end of June 2013 in the life insurance sector, and from 21.8 billion zlotys to 20.4 billion zlotys in the non-life insurance sector. The decreases were associated with the capital and dividend policy of the PZU Group for 2013–2015.[79] In accordance with the policy, in the first half of 2013, a decision was made to release a portion of equity of PZU and PZU Życie and transfer these funds to shareholders in the form of a dividend. PZU Życie paid PZU (the sole shareholder of PZU Życie) a dividend amounting to 3.8 billion zlotys, including 1.8 billion zlotys from profit for the financial year ended on 31 December 2012, and 2.0 billion zlotys from supplementary capital created from previous years' profit. Moreover, PZU Życie is to pay an interim dividend toward the dividend anticipated for 2013. The payment of the dividend amounting to 1.7 billion zlotys was announced for the second half of 2013.

The decisions made by PZU led to a decrease in PZU Życie equity from 6.7 billion zlotys at the beginning of the first half of 2013 to 3.7 billion zlotys at the end of the first half of 2013. PZU also released its equity which decreased from 13.5 billion zlotys to 12.5 billion zlotys.

The decrease in own capital in the first half of 2013 led to a sharp decline in both sectors of the activity monitoring ratio describing the solvency of the sector. In the life insurance sector, this ratio fell by nearly 129 percentage points to 227%, and in the non-life insurance sector by 48 percentage points to 419% (see Figure 4.7). Therefore, the value of this ratio in the life insurance sector approximated European average[80], which amounted to 200% at the end of 2012, and in the non-life insurance sector — around 275%.

Figure 4.7. Activity monitoring ratio in the insurance sector



Source: UKNF.

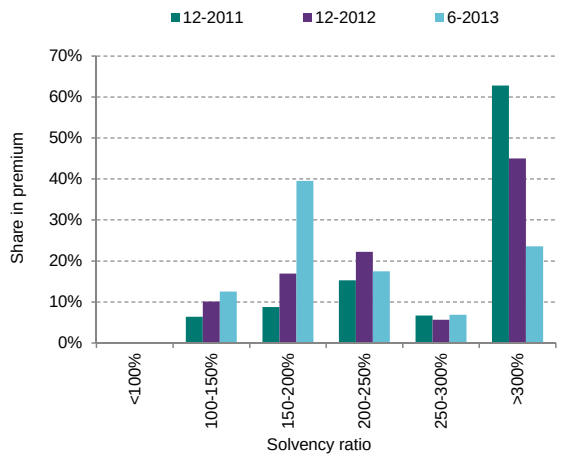
As a result of significant changes in the level of own capital, the distribution of the activity monitoring ratio changed substantially. In the life insurance sector, half of the companies (share measured with the premium) showed the ratio at the level of 150–200%. In the non-life insurance sector, the distribution was more favourable, 2/3 of insurance companies had the ratio over 250% (see Figure 4.8 and Figure 4.9).

At the end of the first half of 2013, the provisions coverage ratio amounted to 111.3% in the life insurance

[79] "PZU Group's Capital and Dividend Policy in 2013–2015", www.pzu.pl
[80] EIOPA Risk Dashboard – 12 September 2013, Appendix – Solvency I ratios, p. 9, www.eiopa.europa.eu

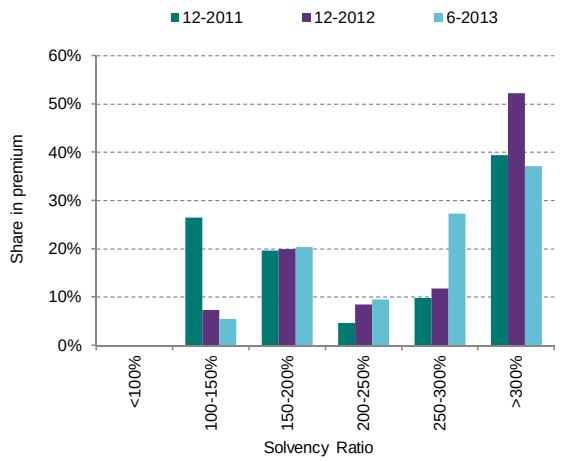
sector, and 122.3% in the non-life insurance sector. The ratio of provisions coverage with deposits, net of reinsurance amounted to 118.7% and 151.9%, respectively.

Figure 4.8. Distribution of activity monitoring ratio in life insurance



Source: UKNF.

Figure 4.9. Distribution of activity monitoring ratio in non-life insurance



Source: UKNF.

Under reinsurance schemes, non-life insurance companies transferred premiums in the amount of 2.0 billion zlotys in the first half of 2013, while reinsurers paid 1.3 billion zlotys in claims. The level of portfolio coverage with reinsurance schemes is reflected in the loss ratio (net of reinsurance) (61.2%) and the gross loss ratio (60.9%), as well as the premiums retention ratio (85.3%) and the claims retention ratio (81.0%). These values indicate that insurance companies transferred premiums in a relatively lower amount than the reinsurers' share in claims. Aviation and financial insurance had the largest reinsurance cover (measured with the share of the premium).

Combined Operating Ratio (COR) (claims paid, including change in provisions and insurance costs to premium earned) for domestic insurance companies (95.7%) was similar to the European average (96%). This ratio was lower than COR on reinsurers' business (102.7%). Therefore, insurance companies posted a positive net result on insurance business in the first half of 2013 while reinsurers posted a loss on reinsurance cover provided to domestic insurance companies.

It should be noted, however, that the settlement of reinsurance contracts, in particular reinsurance provisions and commissions as well as participation in reinsurers' profits (or losses) is carried out when the financial year has ended. Therefore, the assessment as at the end of the first half of 2013 may be incomplete.

Despite a decline in own capital in the first half of 2013, the threat to the insurance sector solvency should be seen as low unless the process is continued in the following years.

In November 2013 political agreement on the content of Omnibus 2 and QuickFix 2 directives was achieved. The term of transposition of Solvency II was established for 31st of March 2015, while the term of application was proposed for 1st of January 2016. Initiation of new requirements of solvency will cause the intensification of actions made by supervising authority and supervised subjects. It will be an organizational challenge for the whole insurance sector, in particular for insurance companies for which new regulations could result the increase of capital requirements.

Box 7. Long-term insurance products with a guaranteed rate of return

By its very nature, life insurance is a long-term business, for which the discount rate is of key significance for determining the amount of the premium and creating insurance provisions. In the case of saving insurance products, such as life annuity, whole life insurance and endowment life insurance, the key element of the investment strategy is the term of the contract. Therefore, the time horizon for which the insuring parties have to invest funds (to cover long-term liabilities) is correlated with the maturity of liabilities.

The problem of low interest rates concerns those insurance companies that in the past offered and guaranteed interest rates higher than the current market rates. Part of the insurance companies took excessive risk to make their offer more attractive (not taking into account the possibility of interest rate decreases over the horizon of the life insurance contract). Losses arising from these decisions should, therefore, be covered from the companies' own funds. If these funds were insufficient, the loss should be covered by the shareholders.

The dominating type of insurance in Poland is short-term insurance, which makes the domestic insurance sector different from that of the EU. The most popular types of insurance are Group employee insurance policies (where the discount does not play a significant role) and unit-linked insurance investments (where the risk is borne by the insured). Among the specificities of the Polish insurance sector were investment insurance instruments which did not generate investment risk for insurance companies.

In Poland, life annuities and dowry insurance have the largest share in long-term guaranteed rate of return life insurance. These are, however, niche products. Therefore, interest rate risk and biometric risk (the risk related to the death, disability or longevity of the insured) do not play a significant role in the domestic insurance sector. Also, there are no grounds to believe that long-term insurance (e.g. life annuity) will start to play an important role in the Polish insurance system, which could have an impact on the term structure of investments and prompt domestic insurance companies to purchase financial instruments with long maturities.

Capital requirements laid down in the Solvency II directive are very sensitive to interest rate changes. This is the reason why European Parliament, Council of European Union and European Commission constructed set of proposal, which aimed to stabilize solvency requirements. It was proposed to supplement regulations which would compensate change of market valuation assets and liabilities caused by interest rate.

In the first half of 2013, a Long Term Guarantees Technical Assessment, LTGA was conducted in the European Union to examine the impact of potential regulatory solutions on insurance products with long-term guarantees for the insured. The purpose of the exercise was to assess the impact of the proposed solutions on the policy holder and the insurer protection, insurance companies' solvency, preferences regarding investment in long-term assets, and the cost of the system implementation. In addition, the exercise was to test the risk management effectiveness in companies and the efficiency of supervisory activities.

The main subject of the LTGA exercise was to assess the impact of the Classical Matching Adjustment (CMA), the Extended Matching Adjustment (EMA), the Counter-cyclical Premium and the methodology for extrapolation of the risk-free interest rate on the solvency capital requirement (SCR).

The implementation of new solutions that would reduce the capital requirements should market interest rates decrease, may temporarily alleviate the problem of the lack of funds to cover the new solvency requirements. However, this will not solve the problem of insufficient funds to pay insurance benefits if low interest rates persist for a long period of the term of the guaranteed rate of return (higher than the market rate) insurance contract.

The results of the LTGA exercise for domestic insurance companies stand out against other EU countries. Polish insurance companies held the largest amount of funds to cover the solvency capital requirement. For the baseline scenario (without implementing the additional mechanisms mitigating the effects of low interest rates), the SCR

coverage ratio amounted to around 302% at the end of 2011 (compared to the EU average of 77%), including 367% for the life insurance sector and 260% for the non-life insurance sector.

4.2. Pension fund management companies and open pension funds

The current financial situation of the pension fund management companies sector should be evaluated as stable. A shortfall in an open pension fund arising from not achieving the minimum required rate of return (MWSZ) could generate risk to the stability of particular pension fund management companies. The current situation in the OFE sector does not identify such a risk. It seems, however, that changes in the pension system presented in September 2013 may significantly impact the financial situation of pension fund management companies.

Financial results of pension fund management companies

In the first half of 2013, financial results of the PTE sector improved as compared with the first half of 2012 (see Table 4.4). The rise in technical profit and technical profitability of pension fund management companies was driven by higher revenues from the management of open and voluntary pension funds and lower costs.[81]

Table 4.4. Financial results and profitability of PTEs

	6-2011 (in million zloty)	6-2012 (in million zloty)	6-2013 (in million zloty)	Change 6-2013/6-2012 (in %)
Revenues from funds' management:	948	734	760	3.4
- contribution fee	393	141	167	18.7
- management fee	490	504	542	7.6
Funds' management costs:	594	356	327	-8.1
- obligatory costs	262	185	189	2.0
- other costs, including:	332	171	138	-19.1
costs of aquisition	222	69	44	-35.8
Technical profit on funds' management	354	378	432	14.3
PTEs net profit	328	357	393	10.2
Technical profitability on funds' management (in %)	37.4	51.5	56.9	5.4 pp.
ROE (in %)	19.2	20.2	20.8	0.6 pp.

Source: UKNF.

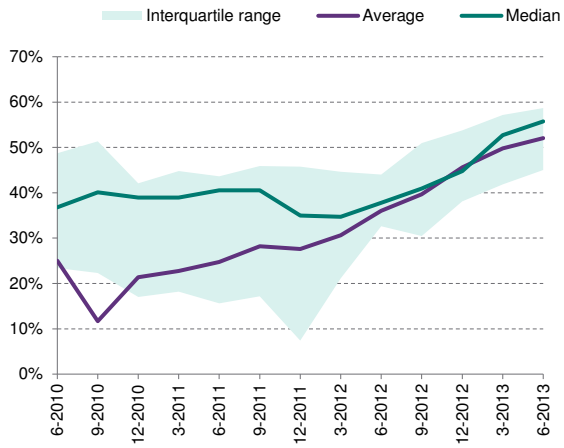
[81] Due to a low value of voluntary pension funds' assets, the financial situation of PTEs was primarily affected by revenues and costs associated with the management of OFEs.

The management fee was the most important component of PTE revenues in the period analysed. The increase in the fee resulted from the considerable growth of OFE net assets. At the same time, PTE revenues arising from contribution fees increased significantly as a result of the raising from 1 January 2013 of the rate of contribution transferred to OFEs from 2.3% of its base to 2.8%. The decline observed in pension fund management costs was driven by the prohibition of providing acquisition services to OFEs, effective from 1 January 2012. Acquisition services can only be provided to voluntary funds. As it is possible to calculate acquisition costs over time, some of the PTEs continued to present them in their financial statements.

In the first half of 2013, there was an increase in technical profitability of the PTE sector (see Figure 4.10). This was related to an increase in technical profit on the management of OFEs and voluntary pension funds (DFEs) arising from revenue growth, combined with a decline in management costs. Although all PTEs posted a positive technical profitability, the value of this ratio for individual PTEs was very discrepant. The technical profit of pension fund management companies to fund management revenues was in the range of 38–64%, with the average for this market at 52%. A high value of this ratio was primarily registered by PTEs that manage the largest funds, which resulted from the economy of scale in the area of operating costs of PTEs.

Legal regulations relating to OFEs and PTEs are among the factors influencing the technical profitability of PTEs. The January 2010 reduction of the rate of contribution fee charged by PTEs from 7% to 3.5% and setting the limit on the management fee contributed to the worsening of the aggregate PTE technical profitability ratio in 2010. On the other hand, the introduction of the prohibition of providing acquisition services to OFEs had an impact on the significant rise in technical profitability as acquisition costs accounted for a significant portion of PTE costs. Currently, the technical profitability ratio of the sector of pension fund management companies remains at a very high level.

Figure 4.10. Technical profitability of pension fund management companies

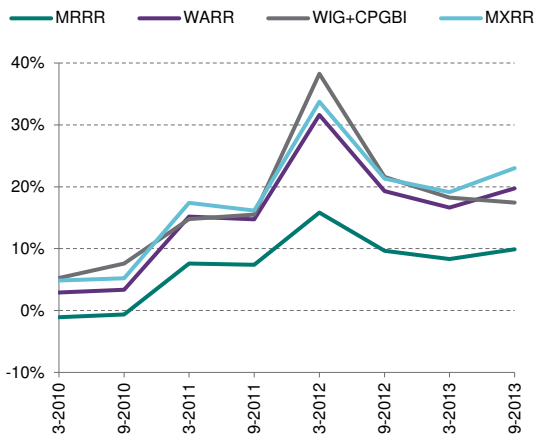


Source: NBP calculations based on UKNF data.

Rates of return of OFEs

As at the end of September 2013, all pension funds generated 36-month rates of return which were higher than MWSZ. The weighted average rate of return (SWSZ) for the period from 30 September 2010 to 30 September 2013 amounted to 19.8%, while MWSZ was 9.9%. Since the publication of the previous edition of the*Report*, rates of return posted by OFEs slightly improved (see Figure 4.11), which was mainly driven by increases in stock prices traded on the GPW in this period.

Figure 4.11. Rates of return of pension funds

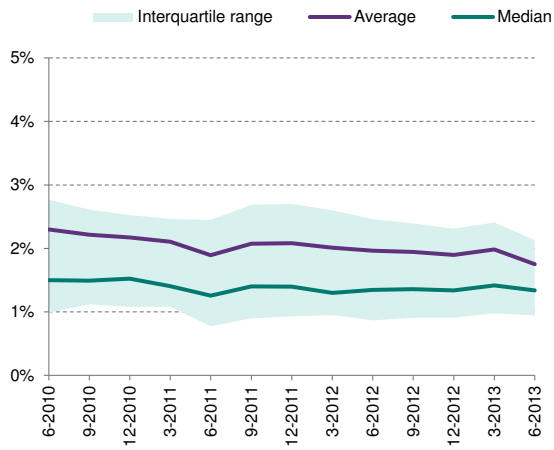


Note: MWSZ/SWSZ/MXSZ – minimum required/weighted average/ maximum rate of return of OFE. WIG+CPGBI – WIG and CPGBI rate of return, proportionally to the corresponding average share of bonds and equities in OFE portfolio in the 36-month horizon of setting rates of return. CPGBI – Citigroup Poland Government Bond Index. The rate of return calculated on the basis of changes in WIG and CPGBI indices does not account for management fees.
Source: UKNF, GPW, Thomson Reuters.

Equity capital of pension fund management companies

The PTEs capital to net asset value of OFEs they managed did not change significantly compared to the end of December 2012 (see Figure 4.12). The equity capital of pension fund management companies are of particular importance for the stability and solvency of the capital part of the pension system. PTE equity capital may be used to cover the shortfall arising from a lower rate of return attained by an open pension fund than the minimum required rate of return, when the resources accumulated on the reserve account and in the additional section of the Guarantee Fund are insufficient to adequately increase the value of an accounting unit of the fund. In the context of the planned changes in the PTE and OFE sectors (see Box 8), consisting, inter alia, in lifting the internal benchmark in the form of average weighted rate of return, the value of PTE equity capital will not have a major significance for preserving the stability of the capital part of the pension system as the shortfall mechanism will disappear.

Figure 4.12. Ratio of pension fund management companies' capital to the value of open pension funds' net assets they manage



Source: NBP calculations based on UKNF data.

Structure of OFE investments

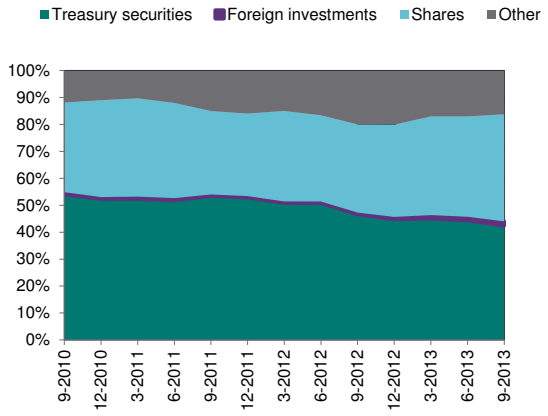
The structure of OFE investment portfolio depends on the regulatory investment limits and the situation in financial markets. PTEs continued to invest the majority of OFEs assets in Treasury securities and shares of companies traded on the GPW (see Figure 4.13). Since the publication of the previous *Report*, the tendency of increasing the share of the equity part of the portfolio and reducing exposure to domestic Treasury securities continued. As a result, at the end of September 2013, the share of the two main categories of OFE investments was at a similar level.

As at the end of September 2013, the share of domestic Treasury securities in OFE portfolio declined to 42.5% and was the lowest since the capital part of the pension system came into operation. On the other hand, in the period analysed pension funds raised their exposures to equities from 36.6% of the portfolio as at the end of 2012 to 39.7% as at the end of September 2013, the highest share of this investment category since 1999. This resulted both from the rise

in stock prices on the GPW and the purchase of equities. As at the end of September 2013, three pension funds had a higher share of shares than of government bonds in their investment portfolios.

In terms of the size of investments, domestic non-government debt securities are a substantial component of OFE portfolio. As at the end of September 2013, their share in OFE portfolio amounted to 10.4%. The main component of this category were bonds issued by BGK for the Toll Motorways and National Road Fund. Open pension funds invest their assets in these debt securities because their interest rates are slightly higher than that on government bonds and credit risk is similar (bonds are guaranteed by the State Treasury).

Figure 4.13. Structure of OFE investment portfolios



Source: UKNF.

Box 8. Changes planned in the pension system

In June 2013, the "Review of the pension system functioning. Safety through sustainability"[1] was published, which sets out recommendations of changes in the pension system. The document was developed following a review of the pension system functioning carried out by the Council of Ministers in line with the obligation imposed in the Act on Amending Certain Acts related to the Functioning of the Social Insurance System.[2] The proposals of changes in the sector of open pension funds presented in the *Review* related to two areas: a manner of paying out pensions from the contributions accumulated in open pension funds and changes in the functioning of open pension funds.

On the basis of these recommendations, on 4 September 2013, the government announced the proposed changes in the pension system and on 10 October 2013 submitted for consultation the draft law on amending certain laws in connection with setting principles for the payout of pension benefits from the funds accumulated in open pension funds. The changes to the pension system are to consist in:

- a transfer of 51.5% of the open pension funds' net assets to the ZUS sub-account,
- the introduction of voluntary transfer of future pension contributions to OFEs,
- a gradual transfer of assets of the insured from OFEs to ZUS 10 years before retirement age.

In addition, the proposals also put forward the following:

- ZUS would pay pension benefits from funds accumulated in OFEs and from the state part portion of the pension system,
- OFEs would not be allowed to invest in bonds, bills and other securities issued or guaranteed by the State Treasury or NBP, governments and central banks of the EU Member States that are parties to the European Economic Area, or members of the Organisation for Economic Cooperation and Development, deposits, credits and loans guaranteed by these entities, as well as in bonds, bank securities or mortgage bonds issued by Bank Gospodarstwa Krajowego if they are guaranteed by the State Treasury,

- funds' investment policy should be liberalised in that the OFE limit for investment in shares and investments made outside Poland should be raised,
- the contribution transferred to OFEs should be increased from the present level of 2.8% of the contribution base for social insurance to 2.92%,
- the maximum rate of contribution fee should be reduced to 1.75%,
- internal benchmark and the shortfall mechanism should be lifted.

The publication of the planned changes in the pension system on 4 September 2013 resulted in a fall of shares' prices and government bonds, notably the shares of these companies in which pension fund management companies were major shareholders. Investor response was short-lived, as after two days of falls the stock exchange indices rose and returned to the level prior to 4 September. In the government bond market, prices dropped significantly but the tendency was temporary. Within two weeks, the rises in bond yields were almost entirely offset.

The implementation of the changes in the pension system presented above will impact the financial situation of the PTE sector. It may be expected that PTEs revenues will decline as a result of the reduction in the fee rate of contribution fee charged by PTEs and depending on the number of persons who will decide to transfer their future pension contributions to ZUS. As PTEs revenues will decline to a greater degree than their costs, in the long term the technical profitability is likely to fall.

Due to the adoption of the solution consisting in the transfer of assets of the insured persons from OFEs to ZUS 10 years before their retirement age, OFEs will have to transfer funds to ZUS in the appropriate amount.[3] OFEs will be able to finance these transfers from incoming contributions whose future value depends on the number of persons who will decide to remain OFE members. In the event of a significant outflow of participants from a given OFE, it is likely that the OFE will have to sell part of the securities it holds to transfer funds to ZUS.

Moreover, OFEs will be required to transfer 51.5% of their net assets (as at 31 January 2014) to the ZUS sub-account. The following asset categories will be transferred to ZUS: in the first instance, bonds and bills issued by the State Treasury, and next, bonds issued by Bank Gospodarstwa Krajowego in accordance with the principles laid down in the Act of 27 October 1994 on Toll Motorways and the National Road Fund, other securities, accounting for money benefits, guaranteed by the State Treasury, cash, dematerialised bank securities, dematerialised bonds and other debt securities issued by local governments, their associations or the capital city of Warsaw. If the assets of a given category do not account for 51.5% of the net asset value the OFE will transfer assets from the next category until the appropriate amount is reached. The share of bonds and government bills, bonds for toll motorways and securities guaranteed by the State Treasury in assets as at the end of January 2014 cannot be lower than as at 3 September 2013.

An analysis has been carried out of OFE investments in: bonds and bills issued by the State Treasury, bonds for toll motorways, other securities accounting for money benefits, guaranteed by the State Treasury, and municipal bonds that can be transferred to ZUS.[4] The analysis of data as at the end of August 2013 shows that in the case of 8 out of 13 OFEs investments in the abovementioned categories were sufficient to transfer 51.5% of the fund's net assets to ZUS. Yet, the analysis of OFE investment portfolios as at the end of September leads to the conclusion that only four OFEs held sufficient investments in the categories indicated above. The fall in the number of funds that meet the criterion of 51.5% of net assets as compared with the end of August 2013 was associated with a higher rise in the value of net assets than the rise in the value of the portfolio of debt securities issued or guaranteed by the State Treasury, despite the net purchase of government bonds by the sector as a whole in September 2013. Similar situation occured in October. At the end of October 2013, only one fund had sufficient investments to transfer 51.5% of the fund's net assets to ZUS, despite the net purchase of government bonds by the OFE sector. In October, the equity portion of OFE portfolio increased to a bigger extent than in September, which may have been conducive to the reduction in the number of OFEs meeting the required limit. It should be noted, however, that OFEs will be required to meet the analysed criterion only on 31 January 2014.

As a result of the prohibition for OFEs to invest in debt securities issued or guaranteed by the State Treasury the share of non-residents in the government bond buyer structure should be expected to grow. An analysis of banks' sensivity to market risk indicates that if this situation caused a decrease in market liquidity and rise in price volatility of government bonds, impact of these changes on financial system stability should not be significant.

[1] "Przegląd funkcjonowania systemu emerytalnego. Bezpieczeństwo dzięki zrównoważeniu" [Review of the pension system functioning. Safety through sustainability], Ministry of Labour and Social Policy and Ministry of Finance, June 2013
[2] Article 32 (2) of the Act of 25 March 2011 on Amending Certain Acts related to the Functioning of the Social insurance System (Journal of Laws, No. 2011/75, item 398, as amended.).
[3] In accordance with the explanatory memorandum of 10 October 2013 to the draft law, *on amending certain acts in connection with setting principles for the payout of from the funds accumulated in open pension funds*, in 2014 OFEs will have to transfer to ZUS 4.4 billion zlotys, and in 2015 – 6.6 billion zlotys
[4] In the analysis, it was not possible to take into account OFE investments in bank securities and the cash held. However, it seems that due to the insignificant value of these categories their transfer to ZUS would not significantly affect compliance with the required limit.

4.3. Investment fund management companies and investment funds

Given the specific nature of services provided by investment funds, they do not generate risk to financial system stability. Investment funds do not guarantee the set investment objective will be met and the risk underlying their activities is borne in whole by the holders of participation units. The provisions of the Act on Investment Funds and the Regulation on specific accounting principles of investment funds do not permit the establishment of constant net asset value money market funds.

Financial results of investment fund management companies

In the first half of 2013, the financial condition of investment fund management companies improved (see Table 4.5). The increase in TFI revenues was associated with the growth in the average value of investment funds' assets.

Table 4.5. Financial results and basic indicators for the TFI sector vs. average monthly net asset value of investment funds

	6-2011 (in million zloty)	6-2012 (in million zloty)	6-2013 (in million zloty)	Change 6-2013/6-2012 (in %)
Total revenues:	1 295	1 073	1 161	8.2
- management fee	1 193	972	1 057	8.7
Total costs	983	866	945	9.1
Pre-tax profit	312	207	216	4.6
Net profit	254	168	176	4.4
Equity capital	1 099	1 022	880	-13.8
Equity capital requirement	226	229	241	5.6
Average value of net assets	126 815	132 001	166 462	26,1
Equity capital coverage ratio (in %)	4.9	4.5	3.7	-0.8 pp.
Pre-tax profit margin (in %)	24.1	19.3	18.6	-0.7 pp.
ROE (in %)	41.5	29.2	34.8	5.6 pp.

Note: annualised ROE. Due to the adjustments, the data on the average asset value of investment funds may differ from those presented in previous editions of the *Report*.
Source: UKNF, NBP, GUS.

The fee for investment fund management charged by TFIs increased, however, to a lesser degree than the average level of investment funds' assets. This came on the back of changes observed in the structure of investment funds sector in terms of investment policy. At the end of the first half of 2013, funds investing in debt securities had the largest share in the sector's net assets, while the importance of equity funds, balanced and stable growth funds decreased as compared to the end of the first half of 2012. The level of fees charged by TFIs for managing funds investing a significant portion of their assets in debt securities is clearly lower than in the case of funds investing in the equity market.

The first half of 2013 also saw an increase in the costs borne by TFIs. The largest, 17 per cent, rise concerned variable distribution costs.[82] The sector's aggregate financial result was slightly higher than at the end of the first half of 2012.

Equity capital of investment fund management companies

Despite the increase in TFI financial result the sector's equity capital did not increase. At the end of the first half of 2013, it amounted to 880.3 million zlotys and was lower by 13.8% than at the end of the first half of 2012. The decline in the aggregate equity capital of TFIs was driven by the decline in supplementary capital.[83] As a result of a decrease in equity capital as well as an increase in financial result there was a rise in the aggregate ROE of the sector of investment fund management companies. TFI equity capital was 3.6 times higher than the aggregate capital requirement for the sector.[84]

The equity capital coverage ratio was lower than at the end of the first half of 2012, which resulted both from a decline in the sector's equity capital and an increase in the aggregate capital requirement.

Structure of assets of investment funds

At the end of the first half of 2013, investment funds' net assets amounted to 171.2 billion zlotys and were higher by 19.9 billion zlotys than at the end of 2012. In the first half of 2013, similarly as in 2012, assets increased primarily due to a high net inflow. Net inflows amounted to 18.7 billion zlotys. Most net inflows were paid to other funds (around half of 18.7 billion zlotys), including to funds addressed to specific investors, and debt securities funds (around 40% of 18.7 billion zlotys). Nearly 5 billion zlotys were paid to two closed-end private equity investment funds set up only for entities from the insurance capital group.

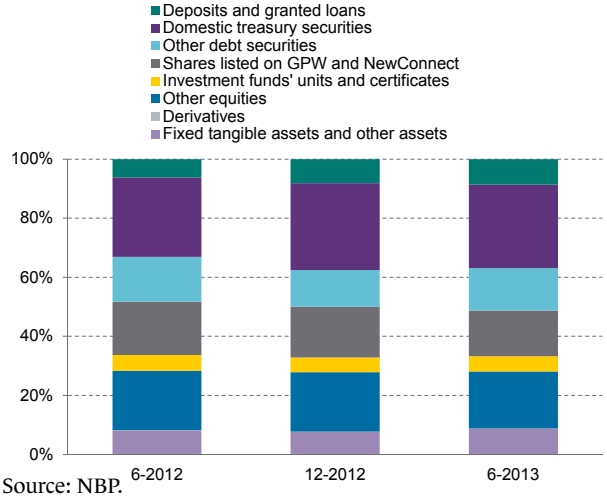
[82] Variable distribution costs are the main item of costs borne by TFIs. In the first half of 2013, they represented over a half of the sector's total costs. Variable distribution costs include costs that were directly linked to accepting, transferring for execution and executing of sale orders, repurchasing or exchanging participation units of an investment fund or accepting subscriptions for investment certificates and their allocation, or costs that constituted the fee of distributors and were directly related to the participation in investment funds managed by a TFI, or were borne as the fund's promotion and marketing costs.

[83] The way TFI supplementary capital is used is decided by the shareholders' meeting. Supplementary capital can be allocated to cover a loss, create reserve capital and pay dividends.

[84] As provided for in Articles 49 and 50 of the Act of 27 May 2004 on Investment Funds, an investment fund management company is obliged to keep its shareholder's equity at a level not lower than 25% of the difference between the value of overall costs and the value of variable distribution costs incurred in the preceding financial year, and, at the same time, at a level not lower than the zloty equivalent of EUR 125 thousand, or EUR 730 thousand if the object of its activities is extended to include managing portfolios including one or more financial instruments. Moreover, from the time when the value of assets of investment funds and the value of assets of collective portfolios of securities managed by a management company exceeds the zloty equivalent of EUR 250 million such management company is obliged to increase the level of its shareholders' equity by an additional amount, equal to 0.02% of the difference between the sum of the value of assets of the investment funds and the value of assets of collective portfolios of securities, and the zloty equivalent of EUR 250 million.

The structure of assets accumulated in investment funds did not change significantly (see Figure 4.14). Domestic debt securities and other equities, including, in particular, unlisted equities continued to have the major share in the asset structure. The majority of unlisted equities formed part of investments of private equity investment funds, used frequently to offer asset management solutions for high-net-worth clients.

Figure 4.14. Structure of assets of investment funds



Source: NBP.

Chapter 5.

Credit unions

The financial condition of the credit unions (SKOK) in the first half of 2013 was presented by the Polish Financial Supervision Authority (KNF) in the report "Informacja o sytuacji spółdzielczych kas oszczędnościowo–kredytowych w I półroczu 2013 r." [Information on the condition of credit unions in H1 2013] released in October 2013. It is based on reporting data and data derived from individual surveys sent directly to credit unions.

The capital position of credit unions remains difficult, the value of regulatory capital is not adequate to their operations, and 35 credit unions have posted current losses.

In the first half of 2013, deposit-taking activities were developing faster than lending. Credit unions reported a large surplus of deposits over extended lending facilities and loans (hereinafter referred to as loans), and the credit unions show a surplus of liquid funds. They are mainly deposited as mandatory and non-mandatory deposits at the National Association (Krajowa Spółdzielcza Kasa Oszczędnościowo–Kredytowa).

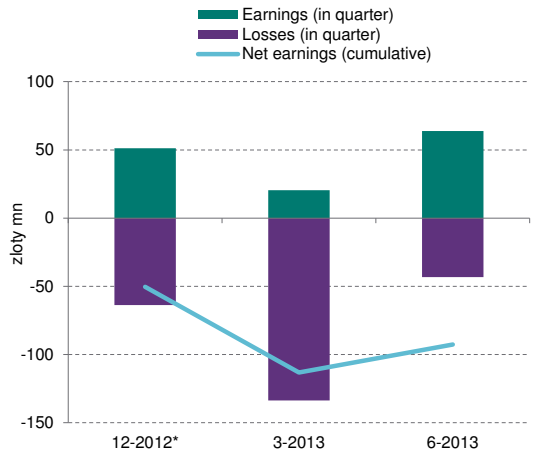
When the value of the regulatory capital of credit unions is falling, the development of deposit-taking activities and the credit unions assets increase the risk inherent to their activities.

Poland's five largest credit unions continue to have a dominant share in the credit unions assets. Scale of SKOK operations remains small – the assets of credit unions equals 1.3% of the banking sector's assets.

The earnings of credit unions

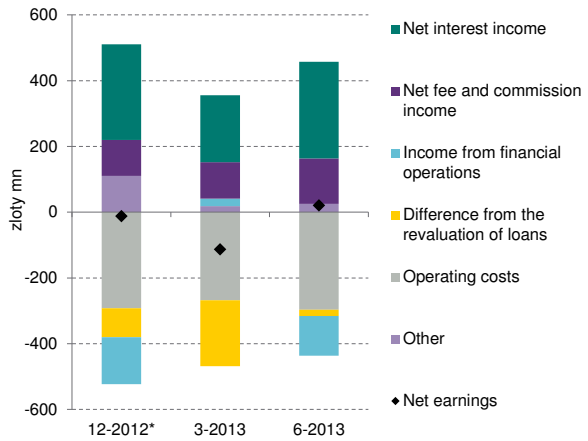
At the end of the first half of 2013, 35 credit unions accounting for around 37% of assets reported a current loss, and total earnings of all 55 credit unions were -93 million zlotys. The earnings were negatively affected by the deteriorating quality of loan portfolio, a low lending growth rate and high interest expense arising, inter alia, from the fact that some credit unions accepted long–term fixed–interest rate deposits.

Figure 5.1. Net earnings of credit unions



* Earnings/losses – quarterly average in 2012.
Source: UKNF.

Figure 5.2. Structure of the quarterly P&L accounts of credit unions



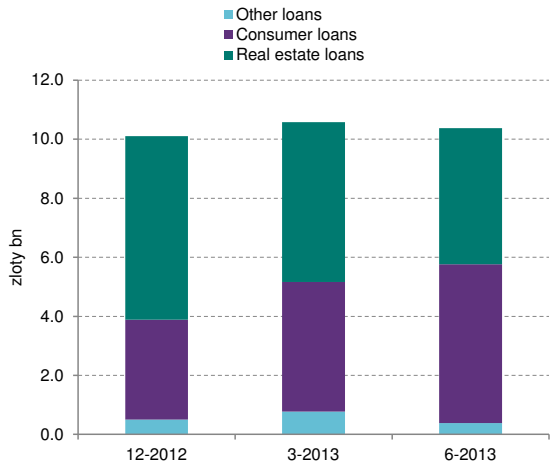
* Quarterly average in 2012.
Source: UKNF.

The first quarter 2013 earnings had the highest impact on the negative net earnings for the first half of 2013. In the second quarter of the year, the sector posted low positive net earnings of 20.6 million zlotys.

Lending and credit risk at credit unions

The balance–sheet value of loans at the end of June 2013 stood at 10.4 billion zlotys, or 56.6% of the assets. In the first half of 2013, the loan portfolio grew by 4.6%, as asset growth amounted to 9%. Loans with residual maturity over 12 months have a 70% share in the structure of loans extended by credit unions, and loans with original maturity over 3 years – 84%. Consumer loans and real estate loans constitute the largest portion of the portfolio, around 51.9% and around 44.5%, respectively.

Figure 5.3. The structure of credit unions' loan portfolio

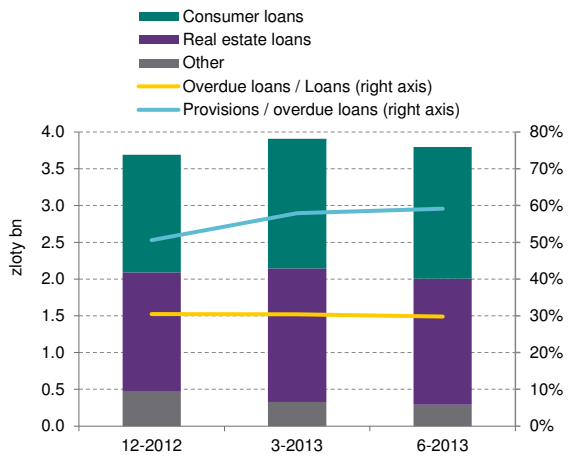


Source: UKNF.

Loans with values from 10,000 to 50,000 zlotys account for around 49% of the portfolio. Loans over 100,000 zlotys account for 23%, and loans over 1 million zlotys constitute around 18% of the portfolio. Around 13% of the value of the loan portfolio were subject to restructuring, of which 61% are restructured loans over 1 million zlotys (around 43% of over 1 million zloty loans were subject to restructuring).

At the end of June 2013, the value of overdue loans (arrears in loan repayment – at least 1 day) was 3.8 billion zlotys, which represented 30% of the loan value. Among overdue loans, around 57% were loans overdue more than 12 months. After taking into account promissory notes purchased by credit unions in exchange for sold overdue receivables, this share would grow to 37.5% of the loan portfolio value.

Figure 5.4. Overdue loans at credit unions – structure, share in the loan portfolio and level of loan coverage with provisions



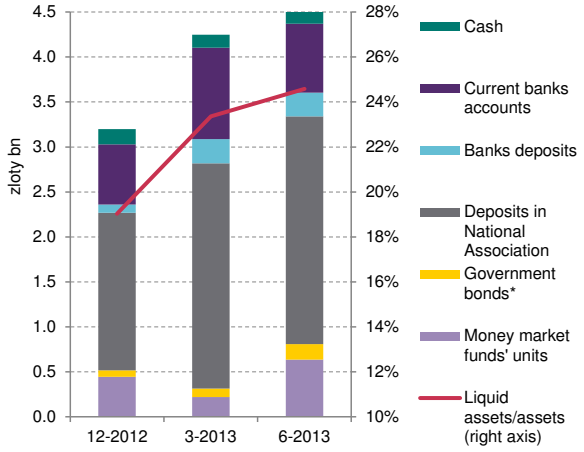
Source: UKNF.

Consumer loans (47.2%) and real estate loans (45.2%) prevail among overdue loans. Credit unions created provisions of 2.3 billion zlotys for all overdue receivables. In the first half of 2013, several debt sale transactions for the amount of 0.24 billion zlotys were carried out, of which 97% were receivables over-due more than 3 months. As of 30.06.2013, the gross value of sold loans amounted to 1.97 billion zlotys. The balance–sheet value of debt securities obtained from the sale of overdue debt was 0.98 billion zlotys (5.3% of assets total). At the end of June 2013, shares, participating interests and debt securities accounted for 11.9% of assets.

Liquidity risk at credit unions

At the end of June 2013, liquid assets remained at the level of 4.5 billion zlotys, which represented around 25% of assets total. Compared to the end of December 2012, liquid assets increased by 1.2 billion zlotys. Credit unions deposited liquid funds mostly at the National Association (over 2.5 billion zlotys), in current bank accounts and participation units of money market funds.

Figure 5.5. The structure of liquid assets and their share in credit unions' assets

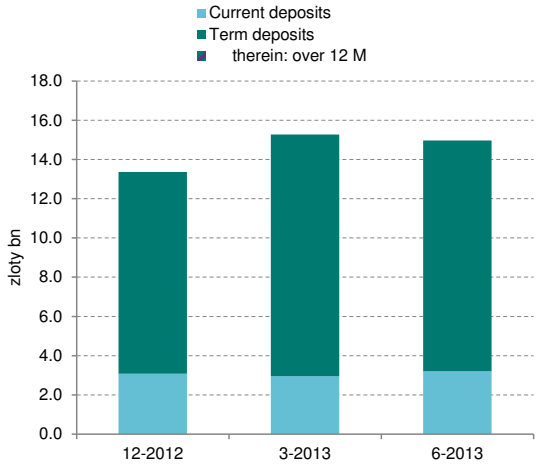


*Incl. debt instrument guaranteed by the State.
Source: UKNF.

The activities of credit unions are primarily funded with members' deposits that amounted to 17.3 billion zlotys. In the first half of 2013, deposits grew by 1.5 billion zlotys, i.e. by 9.6%, whereby the growth occurred mainly in the first quarter of the year.[85] Term deposits, with maturity of up to 12 months, dominate in the structure of deposits of credit unions. Among term deposits, deposits with value above 100,000 zlotys account for around 29% of their total value, and only for around 4%, in terms of the number of accounts.

[85] The significant rise in the value of deposits in such a short time did not go hand in hand with lending growth. Some of the funds were deposited at National Association.

Figure 5.6. The structure of deposits of credit unions



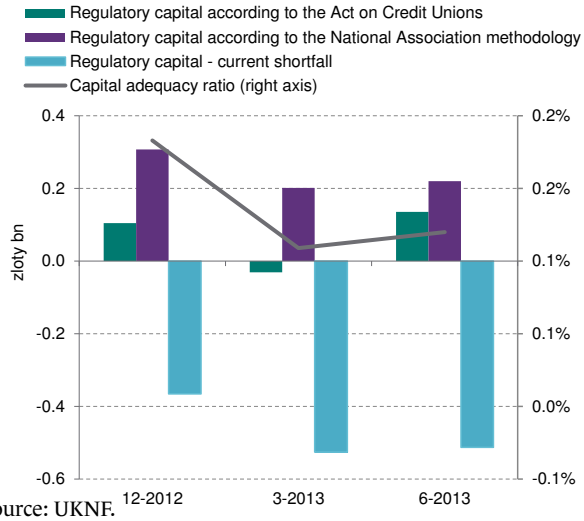
Source: UKNF.

Credit unions report a big surplus of deposits over extended loans, and a surplus of liquid assets.

The capital position of credit unions

The capital position of credit unions remains difficult and the value of regulatory capital is not adequate to the scale and risk of their activities.

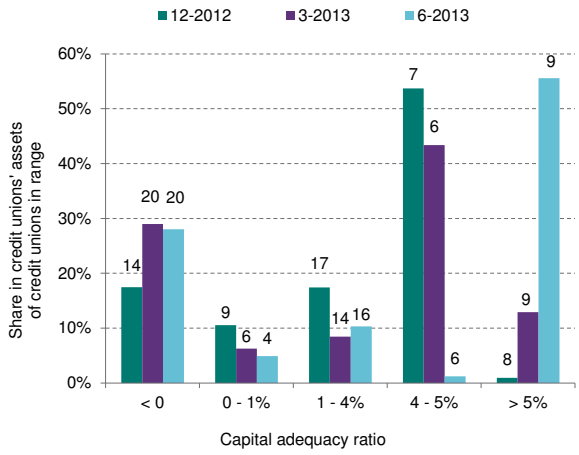
Figure 5.7. The regulatory capital and the capital adequacy ratio of credit unions



Source: UKNF.

According to the National Association methodology it uses to calculate the capital requirement to set the capital adequacy ratio – current profit and profit under authorisation are classified as regulatory capital. The regulatory capital thus determined differs significantly from the value of regulatory capital calculated according to the Act on Credit Unions. However, the rules concerning capital adequacy ratio, currently in force, are temporary and will remain in effect till the end of January 2014.

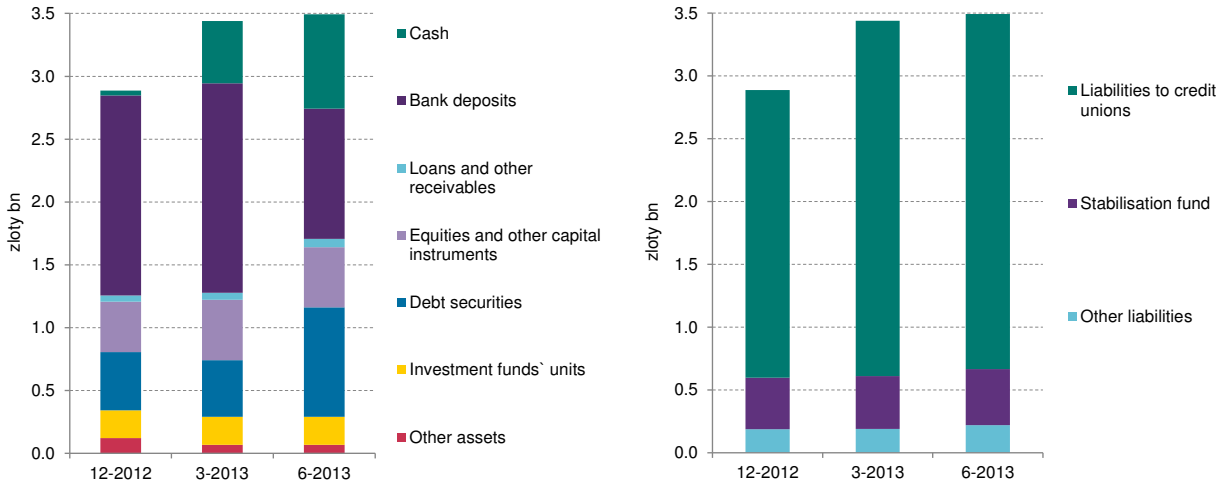
Figure 5.8. Distribution of credit unions assets by the capital adequacy ratio



Note: numbers on the graph indicate numbers of credit unions in range.
Source: UKNF.

At the end of the first half of 2013, the credit unions regulatory capital calculated according to National Association methodology amounted to 220 million zlotys and – due to provisions created for overdue loans – was by 87.1 million zlotys lower than at the end of 2012 figure. Regulatory capital calculated according to the Act on Credit Unions at the end of June 2013 was 135 million zlotys and was higher by 30 million zlotys than at the end of 2012 after the resource fund was provisioned by profits earned by some credit unions in 2012 and the share fund was raised. The 14.9 million or 11.5% increase in the share fund was associated with a rise in credit union membership (in the period analysed, the membership rose by 61,000) and the increase in the number of non–mandatory

Figure 5.9. Composition of the balance–sheet of the National Association: assets - left-hand panel, liabilities – right-hand panel)



Source: UKNF.

shares declared by existing members.[86] The capital adequacy ratio, calculated according to National Association methodology, dropped from 1.83% at the end of December 2012 to 1.20% at the end of June 2013, and the fall was driven by both a decrease in regulatory capital and an increase in assets. At the end of June 2013, 15 credit unions met the minimum capital adequacy ratio standards (4%), and 20 credit unions reported a negative ratio. The shortfall of regulatory capital of credit unions was estimated by the KNF at 513 million zlotys.

Composition of the balance–sheet of the National Association

Liquid funds are a significant part of assets of the National Association. Cash and cash equivalents, and receivables in the form of deposits at banks accounted for around 51.4% of assets of the National Association, i.e. 1.8 billion zlotys. Funds from credit unions in the form of (mandatory or non-mandatory) deposits and charges are, practically, the only funding source of the Association's activities, which means that they are heavily dependent on this source. At the end of June 2013, the National Association showed the balance of the stabilisation fund at 447.3 million zlotys. In June and July 2013, the stabilisation fund provided 180.5 million zlotys in support, and in August increased its value to 188.8 million zlotys.

The restructuring processes at credit unions

On June 12 2013, the act of 19 April 2013 amending the Act on Credit Unions and Certain other Acts entered into force, under which the KNF is able to use a set of instruments allowing it to effectively conduct restructuring the credit unions.

By 30 June 2013, 44 credit unions were covered by the rehabilitation process. In accordance with the act, a credit union is obliged to develop a rehabilitation programme once a balance-sheet loss occurs or an imminent loss arises, when it is threatened with

[86] Share fund, although classified as regulatory capital, is not a fully permanent and perpetual fund. Members of credit unions have the right to claim share withdrawal, therefore the loss absorption capacity is limited.

insolvency or a loss of payment liquidity. In July and August 2013, KNF decided to establish an administrator at three credit unions. The administrator is appointed to take measures aimed at strengthening a credit union by increasing its capital strength, performance and by improving risk management standards; the measures are based on a detailed review of a credit union's financial condition supervised directly by the administrator.

Glossary

Activity monitoring ratio – the ratio of insurer's capital to the statutory capital requirement, which is the value of solvency margin or the guarantee capital (whichever is higher).

Adjusted net interest margin – the ratio of net interest income posted in a given period less interest income on securities held and net charges to provisions for impaired loans to assets (or the relevant loan portfolio) in this period.

Adjusted one-month liquidity gap – the difference between the book value of assets of up to 1 month (adjusted for the value of overdue claims and for the value of Treasury securities earmarked to cover the fund for protection of guaranteed deposits of the Bank Guarantee Fund) and the surplus of deposits from non-financial customers of up to 1 month over the core deposits and other liabilities of up to 1 month.

Annualised data – in the case of data on flows – the value of cash flow in a year; in the case of data on balance (stock) – average value of balance in a year.

Assets of limited liquidity – according to KNF Resolution No. 386/2008 defining liquidity standards binding for banks, approximately, assets resulting from banking activities outside the wholesale financial market.

Auto casco insurance AC – comprehensive auto insurance of land vehicles, excluding track vehicles, covering damage in automobiles or land vehicles lacking own drive – subsector no. 3 of the non-life insurance sector according to the Act on Insurance Activity.

Automobile third party liability insurance OC – third party liability insurance for land vehicles with own drive – subsector no. 10 of the non-life insurance sector according to the Act on Insurance Activity.

Bail-in – resolution tool consisting in write-down or conversion to equity of eligible liabilities of the credit institution.

Banking sector – all domestically incorporated commercial and cooperative banks as well as branches of foreign credit institutions operating in Poland.

Claims retention ratio – relation of claims paid net of reinsurance to gross claims paid.

Combined Operating Ratio – the ratio of gross claims and expenses to premiums earned.

Commercial banks – all domestically incorporated commercial banks and branches of foreign credit institutions.

Consumer loans – credit card lending, consumer instalment loans and other consumer loans to natural persons.

Core capital – according to the Polish Banking Act of 27 August 1997 (Journal of Laws of 2002 No. 72, item 665), it consists of paid-up and registered capital (in cooperative banks paid-up members share fund), capital surplus (resource fund), reserve capital (reserve fund), general risk reserve, undistributed profit from previous years, profit under authorisation and net profit from current period reduced by expected dividends and other burdens. Core capital is diminished through deduction of own shares and intangible assets in possession of a bank, prior period losses, loss pending confirmation and current period net loss. Other balance sheet items added to core capital are specified by the KNF Resolution No. 434/2010 of 20 December 2010 *on other bank's balance sheet items that are included in original own funds, their amount, scope and conditions for their inclusion in the bank's additional own funds*. Other regulatory deductions are defined by the KNF Resolution No. 381/2008 of 17 December 2008 *on other deductions from original own funds, their amount, scope and conditions for the deduction of these items from the original own funds of a bank, other bank's balance sheet items that are included in the additional own funds, their amount, scope and conditions for their inclusion in the bank's additional own funds, deductions from the additional own funds, their amount, scope and conditions for the deduction of these items from the bank's additional own funds and the scope and manner of inclusion of banks' operations in holdings in calculation of own funds*.

Core deposits – the stable part of deposits of the non-financial sector.

Core liquidity reserve – according to KNF Resolution No. 386/2008 defining liquidity standards binding for banks, approximately, cash, receivables and other assets in the amount obtainable within 7 days.

Coverage of insurance provisions by investments – the ratio of investments to insurance provisions net of reinsurance.

Credit Default Swap (CDS) – a credit derivative whose seller undertakes to pay the buyer the face value of a third party's contractually specified defaulted obligation in case of a credit event pertaining to a third party (reference entity) in exchange for a premium. A credit event may be the reference entity's declaration of bankruptcy, a contractually specified change to the credit rating of the entity or a change to the rating of a specified debt security.

Cross Currency Interest Rate Swap (CIRS) – commits both sides of the transaction to the exchange of periodic interest payments calculated on the basis of a given nominal amount over an agreed period of time and, if so determined in the terms of a transaction, the exchange of nominal amount (at the agreed exchange rate) at the end of the transaction date and potentially at its inception. Interest payments are denominated in different currencies and calculated on the basis of interest rates agreed for each currency.

Cross Currency Interest Rate Swap (CIRS) basis – CIRS transaction, where interest rates set for both counterparts are floating rates and one of them is adjusted for an agreed margin, so-called basis.

Deleveraging – reducing exposures in host country entities by foreign investors. Deleveraging may take the form of reducing foreign investors funding to financial institutions (especially their subsidiaries) as well as a reduction of investments in financial instruments of the host country, such as host country Treasury debt securities or shares listed on host country stock exchange.

Deposit margin – the difference between market interest rate and the interest rate on bank deposits.

Deposit rating (long-term) – a measure of the capacity of a financial institution to repay its liabilities with a maturity of 1 year or more. It reflects the risk of default and the scale of possible losses in the case of default of a financial institution.

Deposit rating (short-term) – a measure of the capacity of a financial institution to repay its liabilities with a maturity of less than 1 year. It reflects the risk of default and the scale of possible losses in the case of default of a financial institution.

Domestic banking sector – domestic commercial banks and cooperative banks.

Domestic commercial banks – domestically incorporated banks operating in the legal form of state bank or joint-stock company.

Effective interest rate – the ratio of interest income (cost) to average value of claims (liabilities) in a given period.

Equity coverage ratio (TFI) – the ratio of equity to capital requirement.

European Financial Stability Facility (EFSF) – a special purpose vehicle created on June 7th 2010 (decision to establish the EFSF was taken in May 2010). Its purpose is to raise funds, by issuing bonds in the financial market, for euro area Member States experiencing financial difficulties and unable to do so on their own. Bonds issued by the EFSF are backed by guarantees given by the euro area Member States. The capacity of the EFSF to extend new loans to distressed euro area Member States expires as of June 2013. After that date the EFSF will not enter into any new programmes, but will continue the management and repayment of any outstanding debt issued by the EFSF.

European Stability Mechanism (ESM) – an intergovernmental organization that commenced its operations in October 2012. Its aim is to safeguard financial stability in the euro area Member States. It is the main mechanism to fund new financial support programmes for euro area Member States from the contributions of its members. The ESM, together with the EFSF, has a maximum lending capacity of EUR 700 billion.

Financial leverage – the ratio of assets to core capital before regulatory deductions.

Financial strength rating – a measure of long-term capacity of a financial institution to conduct its business independently, without support of third parties, calculated by Moody's on the basis of fundamental data, franchise value, and the scale of activity diversification as well as the level of development of the financial system in which the institution operates, the quality of supervision, and the strength of the economy.

Forward Rate Agreement (FRA) – a transaction under which the parties are obliged to pay interest on an agreed nominal amount for a defined period beginning in the future. The interest is accrued according to the interest rate set on the contract date.

Funding gap – the difference between the amount of loans to non-financial customers and the general government sector, and the amount of deposits accepted from those sectors, expressed as percentage of the value of loans.

Gross written premium – the value of gross premium (before taking into account the share of reinsurers): in the case of life insurance sector – payable under the contract within the reporting period, whether or not the premium has been paid; in the case of non-life insurance sector, where the duration of coverage is determined – amounts payable for the whole period of liability, notwithstanding its duration, arising from the agreements concluded during a particular reporting period, whether or not the premium has been paid; in the case of non-life insurance, where the duration of the period of liability is not determined – amounts payable during a particular reporting period, whether or not the premium has been paid.

Illiquid assets – according to KNF Resolution No. 386/2008 defining liquidity standards binding for banks, approximately, assets not resulting from banking activities.

Impaired loan ratio – the ratio of loans with identified impairment to total loans.

Individual rating (SACP) – (the assessment of the rating agency S & P), a measure of long-term capacity of financial institution to perform its activities without the support of third parties, calculated on the basis of the assessment of the risk of operating in different countries in which it is active and the individual characteristics of this financial institution.

Insurance provisions – provisions of an insurance company to cover current and future liabilities from written insurance contracts.

Interest Rate Swap (IRS) – a transaction under which two parties are obliged to exchange interest payments from given nominal amount for a fixed term. Payments are settled in the same currency and valued with interest rate defined for each party. IRS rates presented in the *Report* are the fixed interest rates paid in exchange for floating interest based on WIBOR.

Interquartile range – the difference between the value of the third quartile and the value of the first quartile in the distribution of a variable.

Lending margin – the difference between the interest rate on bank loans and market interest rate.

Loan to value – the ratio of the value of loan outstanding to current value of property on which the loan was secured.

Loans with identified impairment – loans from portfolio B for which objective evidence of impairment and decrease in the value of expected cash flows have been recognised (in banks applying IFRS) or loans classified as irregular pursuant to the Regulation of the Minister of Finance regarding principles for creating provisions for the risk of banking activity (in banks applying the Polish accounting standards).

Loss ratio – the ratio of insurance claims and benefits paid, taking into account the changes in the amount of provisions for unpaid claims, to premiums earned – gross or net (after reinsurance).

M2 liquidity ratio – according to KNF Resolution No. 386/2008 on the establishment of liquidity standards binding for banks, in case of banks with total assets over 200 million zlotys – the ratio of the sum of primary and supplementary liquidity reserves to the value of unstable external funds. The minimum value of the ratio is 1.00.

M4 liquidity ratio – according to KNF Resolution No. 386/2008 on the establishment of liquidity standards binding for banks, in case of banks with total assets over 200 million zlotys – the ratio of the sum of own

funds and stable external funds to the sum of non-liquid assets and assets of limited liquidity . The minimum value of the ratio is 1.00.

Modified Duration – a measure of price sensitivity of debt securities to changes in market interest rates. It approximates the percentage change in price of a debt security in response to a change in market interest rates by 100 basis points.

Net charges to provisions for impaired loans – charges to provisions for impaired loans less releases of provisions for impaired loans in a given period.

Net income from banking activity – the sum of net interest income and net non-interest income.

Net interest margin – the difference between interest income and interest expenses, divided by average assets in a given period.

Net percentage – a measure aggregating qualitative survey results; in the NBP senior loan officer opinion survey, the net percentage is calculated as the difference between the percentage of asset-weighted banks which eased credit policies (or observed a growth in loan demand) and the percentage of asset-weighted banks which tightened credit policies (or observed a decline in loan demand). Negative values of the net percentage reflect the tightening of credit policy (decline in loan demand) in net terms.

Non-interest income – net income on fees and commissions, income on stocks or shares, other securities and financial instruments of a variable rate of return, net/gains losses on financial operations, net FX gains/losses.

Non-interest margin – the ratio of non-interest income in the given period to the average value of assets in this period.

One-month liquidity gap – the difference between the book value of assets with the maturity of up to 1 month and the book value of liabilities with the maturity of up to 1 month.

Operating costs – the sum of bank's general expense and amortisation.

Outright Monetary Transaction (OMT) – a programme of euro area sovereign bonds purchase in the secondary market introduced by the ECB in September 2012. It is designed for countries that apply for financial support from the EFSF/ESM. Its aim is to improve the ECB monetary transmission mechanism in all euro area Member States. The programme will primarily cover bonds with maturity of 1 to 3 years.

Overnight Index Swap (OIS) – a transaction under which two parties are obliged to exchange interest payments from given nominal amount for a fixed term. Payments are settled in the same currency and valued with interest rate defined for each party. OIS rates presented in *the Report* are the fixed rates paid in exchange for interest based on average O/N rate for the duration of the contract.

Portfolio B – a portfolio of assets separated in banks' prudential reporting, comprising claims classified as available for sale or held to maturity as well as all financial instruments (including debt securities) classified as loans and receivables.

Premiums retention ratio – relation of premiums net of reinsurance to gross written premiums

Pre-tax profit margin activity (TFI) – the ratio of gross financial result and total revenues.

Price-to-book value ratio – ratio of the price of one share of a company to accounting value of capital per share.

Provisions coverage ratio – ratio of assets to gross insurance provisions.

Sales profitability rate – the quotient of profit from sales of products, goods and materials and net revenues from sales of products, goods and materials.

Stable external funds – according to KNF Resolution No. 386/2008 defining liquidity standards binding for banks, approximately, funds that the bank includes in stable funding sources, in particular core deposits, own securities issued that are not included in regulatory capital, other liabilities with the original maturity over 1 year, which the bank intends to renew and other liabilities resulting from banking activities, whose plan of obtaining and renewing has been approved by the supervisory board.

Single Supervisory Mechanism (SSM) – the mechanism in which the ECB is exclusively responsibile for banking supervision in accordance with Council Regulation (EU) No. 1024/2013 of 15 October 2013. Scope of ECB's supervision will cover banks operating in the euro area and those in other EU countries which decide to hand over supervisory powers to the ECB. In addition to transferring supervisory powers (hitherto on a national level) over banks, the ECB is to receive certain powers regarding macroprudential policy in Member States participating in the SSM.

Solvency margin – defined by law parameter that determines the level of the insurance company's own capital.

Supplementary liquidity reserve – according to KNF Resolution No. 386/2008 defining liquidity standards binding for banks, approximately, receivables and other assets in the amount obtainable within 7–30 days.

Systemic risk – a risk of disruption in the financial system with the potential to have serious negative consequences for the internal market and the real economy (in accordance with Regulation European Parliament and Council Regulation (EU) No. 1092/2010 of 24 November 2010 on the EU macroprudential oversight of the financial system and establishing a European Systemic Risk Board).

Technical result – the difference between income from premiums as well as the so-called other technical income and claims and benefits paid, changes in insurance provisions, the costs of conducting insurance activity (inter alia, administrative and acquisition expenses), the so-called other technical costs and a part of income from investments.

Technical profit/loss of PTE from the management of pension funds – the difference between revenues from managing pension funds (inter alia, fees from premiums paid-in and remuneration for pension fund management) and the costs of pension fund management (inter alia, commissions for ZUS on premiums paid-in, the costs of acquisition, PTE general costs).

Technical profitability of the insurance – the ratio of technical result and premiums earned, net of reinsurance.

Technical profitability on pension fund management – ratio of technical profit from pension fund management to revenues from pension fund management.

Unstable external funds – according to KNF Resolution No. 386/2008 defining liquidity standards binding for banks, approximately, funds not included in stable external funds.

Value at risk – maximum loss that can be incurred in a given time horizon with a given confidence level, estimated on the basis of historical data.

Viability rating – individual rating given by the Fitch rating agency, reflecting the financial situation of individual entities.

Abbreviations

AC	Auto Casco
BFG	Bank Guarantee Fund
BGK	Bank Gospodarstwa Krajowego
BIK	Credit Information Bureau
BIS	Bank for International Settlements
BPS	Bank Polskiej Spółdzielczości
CCP	Central counterparty
CDS	Credit Default Swap
CIRS	Cross Currency Interest Rate Swap
CMA	Classical Matching Adjustment
COR	Combined Operating Ratio
CPGBI	Citigroup Poland Government Bond Index
CPI	Consumer Price Index
CPSS	Committee on Payment and Settlement Systems
CRD	Capital Requirements Directive
CRR	Capital Requirements Regulation
DFE	Voluntary Pension Fund
DJIA	Dow Jones Industrial Average
EBA	European Banking Authority
ECB	European Central Bank
EFSF	European Financial Stability Facility
EMA	Extended Matching Adjustment
EMIR	European Market Infrastructure Regulation
ESCB	European System of Central Banks
ESM	European Stability Mechanism
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EC	European Commission
EU	European Union

EURIBID	Euro Interbank Bid Rate
EURIBOR	Euro Interbank Offered Rate
EURO STOXX 50	Stock index of the biggest companies in the euro area
EURO STOXX BANKS	Stock index of the biggest banks in the euro area
Fed	Federal Reserve System
FI	Investment fund
FOMC	Federal Open Market Committee
FRA	Forward Rate Agreement
FSB	Financial Stability Board
G-20	Group of Twenty Finance Ministers and Central Bank Governors
GDP	Gross domestic product
GPW	Warsaw Stock Exchange
GUS	Central Statistical Office
IFRS/IAS	International Financial Reporting Standards / International Accounting Standards
IMF	International Monetary Fund
IOSCO	International Organization of Securities Committees
IPS	Institutional Protection Scheme
IRS	Interest Rate Swap
KDPW	Central Securities Depository of Poland
KNF	Polish Financial Supervision Authority
LCR	Liquidity Coverage Requirement
LFS	Labour Force Survey
LIBOR	London Interbank Offered Rate
LTGA	Long Term Guarantees Technical Assessment
LtV	Loan-to-value
MdM	“Home for the Young”
MSCI EM	Stock index of companies from emerging economies
mWIG40	Warsaw Stock Exchange index of medium–sized companies
MWSZ	Minimum required rate of return
MXSZ	Maximum rate of return of Open Pension Fund
NBFI	Non-bank financial institution
NBP	Narodowy Bank Polski
NC	NewConnect
NEG	Negative rating outlook – expected downgrade
NIM	Net interest margin
NSFR	Net Stable Funding Requirement
O/N	Overnight
OC	Third party liability insurance

OFE	Open Pension Fund
OIS	Overnight Index Swap
OMT	Outright Monetary Transactions
OTC	Over-the-counter
PAS	Polish Accounting Standards
POLONIA	Polish Overnight Index Average
PTE	Pension fund management company
RnS	"First family home"
ROA	Return on Assets
ROE	Return on Equity
RPP	Monetary Policy Council
S&P	Standard & Poor's
S&P 500	Stock index of US companies
SACP	Stand-Alone Credit Profile
SCR	Solvency Capital Requirement
SIG	Skin in the game
SKOK	Credit unions
SME	Small and medium-sized enterprise
SP	Treasury
SSM	Single Supervisory Mechanism
STA	Stable rating outlook
sWIG80	Warsaw Stock Exchange index of small companies
SWSZ	Average weighted rate of return
TFI	Investment fund management company
TFEU	Treaty on the Functioning of the European Union
UFK	Insurance investment fund
UKNF	Office of the Polish Financial Supervision Authority
VaR	Value at Risk
WIBOR	Warsaw Interbank Offered Rate
WIG	Main index of the Warsaw Stock Exchange
WIG20	Warsaw Stock Exchange index of large companies
WIG–Banki	Warsaw Stock Exchange index of banks
ZBP	Polish Bank Association
ZU	Insurance company
ZUS	Social Insurance Institution

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