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 all its functions in a continuous and effective way, even when unexpected and adverse disturbances occur on a significant scale.

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 of the NBP due to its 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. 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* covers the period from March 2010 and is based on data available up to 20 November 2010. The *Report* was approved by the Management Board of the National Bank of Poland at a meeting on 9 December 2010.

Contents

Chapter 1.

Assessment of financial stability and risk outlook

Since the publication of the previous Financial Stability Report in July 2010, the current situation of the banking sector continued to improve. The acceleration of Poland's economic growth rate, observed since the first quarter of 2009, has contributed to the improvement of the earnings of the banking sector in subsequent quarters of 2010. However, the earnings of banks are still lower than in the period prior to the global economic and financial crisis, which is primarily the result of the materialisation of credit risk accumulated the balance sheets of banks in times of favourable economic conditions and higher funding costs.

Due to the distinctive nature of financial services, including insurance, provided by non-bank financial institutions (NBFI) and the relatively minor degree of connections with banks, the impact of NBFIs on the situation of the banking sector in Poland is limited. Furthermore, the situation of the NBFI sector does not pose major threats to financial system stability. The claims paid and other benefits arising from damages caused by adverse weather conditions in the first half of 2010 led to the deterioration of technical results of the non-life insurance sector, but this did not threaten the sector's solvency. The NBFI sector remains resilient to a potential deterioration of the conditions in which it operates.

Macroeconomic developments, especially with regard to the economic climate in the countries that are Poland's major trade partners, remain one of the main risk factors for financial system stability. The trends in the world economy still point to a continuation of economic recovery, however, the difficult fiscal situation of certain euro area countries remains a source of uncertainty over the future economic climate and situation in financial markets. Concerns over the solvency of these countries have been mitigated by measures undertaken by the EU and international organisations. The risk of a repeated occurrence of global recession is lower, although an increase in risk aversion and financial market disruptions are still possible. The risk of a deterioration of the operating environment of the Polish financial system has thus only slightly decreased. However, the loss absorption capacity of banks has improved, which makes it possible to conclude that the risk for their stable functioning has diminished.

The loss absorption capacity of banks has increased as a result of higher capital levels and maintaining high capital adequacy ratios. No bank required recapitalisation with public funds. Banks' sound capital levels are confirmed by the results of macroeconomic stress tests, which indicate that a significant majority of commercial banks possess sufficient capital to absorb the effects of a serious economic slowdown. Even during an economic slowdown, the majority of banks will maintain the capacity to generate a net operating income that would limit the negative impact of potential provisions for impaired loans on the level of capital.

If macroeconomic risk does not materialise and economic growth in Poland accelerates, loosening of banks' lending policy and excessive credit growth may become a long-term risk factor. The risk refers mainly to loans to households, particularly housing loans. A rapid growth of loans to households would be particularly undesirable if it were financed by a large-scale inflow of capital to Poland. This may lead to the re-accumulation of credit risk on banks' balance sheets, which would increase their sensitivity to negative shocks. In this context the renewed growth of housing loans denominated in foreign currencies observed since second half of 2009 is an undesirable development. Negative consequences of foreign currency lending include, inter alia, increased credit risk arising from exchange rate changes, as well as increased refinancing risk. Foreign currency lending is also accompanied by currently observed unfavorable increased concentration of foreign funding in part of domestic banks being members of European banking groups.

The most important factor affecting Poland's macroeconomic situation and the operating environment of the Polish financial system was the global economic recovery following the severe financial crisis of 2008-2009. In the second and third quarter of 2010, most EU countries and other developed economies recorded positive economic growth. However, many of these countries face necessary reforms of their public finances, due to high public sector deficits resulting from recession, counter-cyclical fiscal policy and need to support financial institutions with public resources.

In the period since the publication of the previous edition of the *Report*, global growth forecasts have improved. However, economic recovery in developed countries will likely be slow. The slow pace of recovery will be a consequence of the necessary reduction of macroeconomic imbalances in a number of countries, particularly excessive private sector debt accumulated in times of favourable economic conditions and elevated public sector deficits. Uncertainty regarding the outlook for economic growth particularly applies to euro area countries with an excessive level of public debt and public sector deficits. Investor confidence towards these countries remains low, which increases the cost of refinancing their public debt. The establishment of the European Stability Mechanism and assistance granted within its framework have reduced concerns over the long-term solvency of these countries, however, an increase in the risk aversion of investors and financial market volatility remain a possibility. Therefore, the risk for global financial system stability continues to be elevated.

The growth rate of the Polish economy increased – although growth was slower than in the years preceding the crisis – in the second and third quarter of 2010 (3.5% and 4.2% y/y). As a result of slower economic growth compared to previous years, the unemployment rate remains higher than in the years 2007-2008 (9.5% and 9.1% according to Labour Force Survey data in the sec-

ond and third quarter of 2010), while real wage growth is lower. The fall in employment was limited due to the relatively high flexibility of wages in the Polish economy. This allowed enterprises to adjust to the more demanding conditions of operation without the need to make large employment adjustments. Such a manner of adjustments in the labour market is favourable in terms of macroeconomic stability as well as the conditions in which the financial system functions.

Poland's economic growth outlook is similar to the assessment presented six months ago in the July *Financial Stability Report*. The NBP macroeconomic projection of October 2010 points to an acceleration of Poland's economic growth rate from 3.5% in 2010 to 4.3% in 2011 and 4.2% in 2012. The situation in the labour market within the projection horizon should gradually improve.

Global financial markets in the last six months were affected by the sovereign debt crisis in the peripheral countries of the euro area. The factors which contributed to containing market turmoil and reduced risk aversion included the establishment of the European Stability Mechanism and non-conventional measures undertaken by the ECB. The reduced tensions in global financial markets, as well as the continuation of expansionary monetary policy in the world's largest economies were conducive to the inflow of capital to the financial markets of emerging market economies. As opposed to the period of market turmoil, investment decisions of market participants were determined to a greater degree by local factors, and their approach to CEE markets was varied, depending on the economic outlook of individual countries. Sound economic fundamentals in Poland and a stable zloty exchange rate contributed to the considerable inflow of foreign investors to the domestic capital market.

The situation in the domestic money market improved since the previous edition of the *Report*. Turnover increased in the interbank deposits market, while credit risk premia fell. Overnight transactions continued to display the greatest liquidity. Turnover in the domestic FX swaps market also grew, while the deviation of FX swaps valuation from interest rate parity decreased. However, both of these markets are still not functioning fully efficiently. A lower adjusted liquidity gap and the high value of liquid securities on banks' balance sheets causes short-term liquidity risk for banks resulting from market turbulence to be at a low level. However, surplus liquidity remains concentrated within a small group of banks, and its redistribution through the interbank deposits market is still limited.

In the first three quarters of 2010, the earnings of the banking sector improved significantly compared to the previous year. The net profit of the banking sector during this period was approximately 25% higher than in the respective period of 2009. Although the earnings of the Polish banking sector were lower than in the period preceding the global financial crisis, its condition is favourable compared to banks in developed economies. Most commercial banks controlled by non-residents reported a higher return on assets than their parent entities.

The improvement of net profits in the analysed period was mainly suppressed by the rising cost of credit risk, resulting from an increase in value of loans in arrears. The cost of credit risk was concentrated in the consumer loans portfolio. The quality of housing loans, denominated both in zlotys and foreign currencies, was stable. The growing cost of credit risk is a natural consequence of the economic slowdown, but also – most notably in the segment of consumer loans – a reflection of the lenient lending policy of banks in times of rapid lending growth. Due to the cyclical character of credit risk, its cost may be expected to remain at an elevated level until the financial position of enterprises and the situation in the labour market improve firmly. The recent NBP macroeconomic projection suggests that such conditions may appear in the upcoming quarters.

The intensity of competition among banks for stable funding sources, particularly for house-

hold deposits, subsided slightly compared to the period analysed in the previous edition of the *Report*. The average interest rate for new deposits continues to be lower than interbank market rates, however, it remains at a higher level than in the period prior to the crisis. The introduction of new savings instruments at a time when banks compete for deposits indicates that the increase of funding costs obtained from the non-financial sector may likely be lasting in character. The stabilisation of funding costs and higher loan spreads compared to previous periods contributed to a slight improvement of net interest margin.

In the second and third quarter of 2010, banks did not change their lending policy with regard to loans to enterprises. The implementation of Recommendation T caused a further tightening of lending policy in the segment of consumer loans, which resulted in lower growth in this category of loans. In the segment of housing loans, more restrictive lending criteria were accompanied by an easing of lending terms, particularly loan spreads. In the past several quarters – as was the case in the period prior to the crisis – competitive pressure has been a factor inducing banks to ease their lending policy with regard to housing loans.

The tightening of banks' lending policies during the crisis has contributed to a stabilisation in the growth of loans at a level much lower than in previous years. The value of loans to enterprises is declining, which is a result of tighter lending policies, as well as lower demand for loans. Enterprises are attempting to limit their bank debt, while planning to finance potential investment mainly from retained earnings. Such tendencies may – as during the period following the previous economic slowdown – continue for several quarters.

Housing loans are currently the most stable category of loans in terms of growth. The demand for housing loans is relatively stable, despite loan spreads being higher by an average of 1.5% compared to the years 2007-2008. Most housing loans are currently denominated in zlotys, although in subsequent months of 2010, the share of loans denominated in foreign currencies in new loans – mainly euros – started to increase. From the perspective of financial stability, the renewed growth of foreign currency loans is not a favourable development, in particular due to the possible recurrence of turmoil in international financial markets.

Raising new capital through share issues and retaining earnings in order to increase capital, in addition to the stabilisation of lending growth at low levels, have contributed to maintaining high capital adequacy ratios. Simulations presented in this publication show that the capacity of banks to absorb the cost of credit risk that could arise from a stronger than expected deterioration in the quality of loan portfolios, has not changed significantly in the last two quarters. Most banks possess substantial capacity to absorb losses. Macro stress test simulations indicate that the majority of the banking sector is able to absorb higher than expected credit risk through generated revenues and capital buffers without threatening its capital adequacy. This conclusion also holds true if we take into account the decline in net interest income, resulting from a deterioration in the quality of loan portfolios in the hypothetical scenarios analysed in the *Report*. The sensitivity of banks to a potential increase in credit spreads of Polish government bonds, caused by a recurrence of turmoil in financial markets, is low as a consequence of the relatively short duration of banks' portfolios.

The situation of the sector of non-bank financial institutions does not pose major threats to financial system stability. As these institutions focus on providing conventional financial and insurance services, and the scale of relationships between these institutions and banks is relatively minor, the impact of non-bank financial institutions on the Polish banking sector is low. On the other hand, any substantial deterioration in the quality of mortgage loan portfolios may have an influence on the situation of certain entities in

the insurance sector, as there is a high concentration of the portfolio of mortgage loan insurance among non-life insurance companies.

In the first half of 2010, a considerable majority of insurance companies held sufficient capital to operate their business and there were no reports of developments that could threaten the stability of the sector. Claims and other benefits on damages caused by low temperatures and heavy snowfall in the first quarter of 2010, as well as floods and inundations in the second quarter of 2010 contributed to the deterioration in the technical result of the non-life insurance sector, but did not threaten the sector's solvency. The improved situation in financial markets, particularly the rise in share prices, led to a growth in assets of open pension funds and investment funds in the first half of 2010. During this period, pension fund management companies reported a modest fall in their technical profit and net profit, compared to the first half of 2009, which was the result of lower contribution fees, effective from January 2010. Initial data indicate that in the first half of 2010, investment fund management companies reported in increase in revenue, due to an rise the average value of net assets of investment funds, which is the basis for calculating management fees.

The analysis presented in this *Report* supports the view that economic developments, in line with the central path assumed in the October NBP projection, will not pose threats to the stable functioning of the financial system, despite the fact that earnings are likely to remain lower for a period of several quarters compared to the years 2007-2008. The global economic outlook is still highly uncertain, however. Two mutually exclusive risk factors have been identified, which will impact the stability of the domestic financial system.

Macroeconomic developments in countries of the European Union and other developed economies are the first risk factor. As a result of the global financial and economic crisis, interdependence has grown between macroeconomic trends, the condition of financial institutions and the state of public finances in these countries. In the first stage of the crisis, the governments of a number of countries were forced to support systemically important financial institutions with public funds on account of concerns over their solvency. In addition, fiscal policy became more expansionary in response to the recession, which contributed to its suppression, but led to a very strong increase in the deficit of public finances in a number of countries. In the second quarter of 2010, the rising values of the public finance deficit and of public debt of a number of euro area countries raised fears regarding their long-term solvency. These fears have a negative influence on the position of banks, which are among the largest holders of government bonds, and also may undermine the credibility of state aid provided to financial institutions. The introduction of the European Stability Mechanism reduced these fears, however, countries experiencing difficulties with their public finances will have to carry out fiscal consolidation. There is still the risk of negative feedback, in which mutually reinforcing concerns over the solvency of countries and institutions result in a recurrence of economic slowdown. Due to the very low level of interest rates in the world's largest economies, the capacity to contend with this process by means of conventional monetary policy is limited.

The materialisation of this scenario would lower economic growth in Poland. This would be primarily driven by a decrease in external demand, as well as by a forced pro-cyclical fiscal policy response (in order to preserve sovereign creditworthiness). The limited effect of past market turmoil on government bond prices indicates that investor assessment of Poland's solvency is positive, which supports the view that a possible increase in risk aversion may apply to other countries to a larger extent. Economic developments in recent months suggest that the risk of a recurrence of recession resulting from the sovereign debt crisis only applies to limited number of countries. However, economic recovery in

developed countries may be slow due to the need to reduce imbalances in public finances and private sector debt. In the longer perspective, implementation of credible fiscal consolidation programs and structural reforms in countries facing a tight fiscal situation is the prerequisite for EU economies to return to the path of sustainable economic growth and to ensure financial system stability. The current crisis should also prompt economic decision makers to pay special attention to the long-term sustainability of public and private sector debt.

The analysis above indicates that during the period in question, the probability of a full materialisation of the discussed risk factor, i.e. a recurrence of global recession, decreased. Due to the continuing fiscal problems of a number of euro area countries, the probability of a limited materialisation of this factor – in the form of a more severe debt crisis in these countries combined with a rise in volatility in financial markets – remains elevated. The impact of a materialisation of the discussed risk factor for the stability of the domestic financial system has been analysed by means macro stress tests. The results of these tests point to a sufficient resilience of the Polish banking sector.

The second identified risk factors relates to the lending outlook. The most likely scenario described in a number of forecasts is that of accelerated growth in the global and Polish economy. Under such conditions, demand for loans may be expected to grow. Potentially excessive lending growth, most notably in the segment of housing loans, thus counts among risk factors. As economic growth accelerates, the growing number of households in the perspective of next dozen or more years may push up demand for housing loans. The risk of excessive lending growth during upcoming quarters is low, but may grow as the economic outlook improves. At present, there has been a notable easing in the price of bank loans. Therefore, the measures undertaken by the Polish Financial Supervision Authority (KNF) aimed at strengthening credit risk management at banks should be assessed positively from the perspective of financial system stability in the future. In particular, the introduction by the KNF of Recommendation T will limit the accumulation of risk on banks' balance sheets.

An unfavourable development is the renewed increase in the share of loans denominated in foreign currencies among new housing loans. In the view of the NBP, housing loans denominated in foreign currencies should be a niche product, offered to borrowers who receive income in the currency of the loan. The NBP supports measures aimed at a significant restriction of the availability of this type of loan.

The rapid growth in lending would be particularly adverse if it were funded by an inflow of capital (increasing banks' foreign liabilities). From the perspective of long-term, sustainable growth, foreign direct investment is the most favourable channel of capital inflows. The inflow of capital through the banking sector is associated with an elevated risk of the emergence of asset price bubbles. The probability of a significant inflow of capital to Poland is currently elevated, due to expansionary monetary policy in the world's largest economies. A potentially effective tool of economic policy, which could be used for containing the inflow of capital through the banking sector, is the introduction of a tax on banks' wholesale funding (including liabilities towards parent and affiliated entities).

The previous edition of the *Report* stated that one of the factors of uncertainty for the functioning of the domestic financial system were planned regulatory changes in relation to the quality of banks' capital, capital adequacy levels and liquidity requirements. Since the publication of the previous edition of the *Report*, the Basel Committee on Banking Supervision presented a more comprehensive set of reform measures on these subjects, along with an implementation schedule. These measures are expected to be reiterated in EU regulations. At present it is possible to assert that due to the sound capital levels of the Polish banking sector, a favourable balance

sheet structure (a relatively low ratio of loans to deposits) and distant implementation timeline of the new requirements, they will not have a major impact on the functioning of the Polish banking sector within the next several years. Apart from regulatory requirements, in order to improve the stability and diversify the sources of funding for banks, it would be desirable to develop the market for securities issued by banks. In the view of the NBP, banks that meet certain conditions, related to the security of trading and low costs of refinancing, should be allowed to issue covered mortgage bonds.

Chapter 2.

Financial institutions' economic environment

In the first half of 2010, developed economies recorded an acceleration of economic growth. The rate of growth in Poland also increased. Present macroeconomic tendencies point to a sustained period of gradual recovery in the global economy. A risk factor for economic growth in Poland and other countries is the need to carry out fiscal consolidation. This factor is particularly important for euro area countries experiencing fiscal difficulties. The Polish financial system and economy remain resilient to the sovereign debt crisis in a number of euro area countries.

In the second half of 2010 global financial markets were still affected by the sovereign debt crisis in euro area peripheral countries. The effects of this crisis have been mitigated by the establishment of the European Stabilisation Mechanism and non-conventional measures undertaken by the ECB. Investment decisions of market participants were determined to a greater degree by local factors, and their approach to CEE markets varied, depending on the economic outlook of individual countries. Sound economic fundamentals in Poland and a stable zloty exchange rate contributed to the considerable inflow of foreign investors to the domestic capital market.

In the second and third quarter of 2010 ask prices of flats in most large cities fell slightly. The office space market in the first half of 2010 was characterised by a lower demand on the part of tenants and a stabilisation of rent levels. The situation in the residential property and office space market did not pose a threat to financial stability.

2.1. Macroeconomic developments

The first half of 2010 was marked by a continuation of the global economic recovery, which was supported by a growth in international trade and an expansive fiscal and monetary policy in developed economies. However, in the second quarter of 2010 there were signals pointing to a slowdown of economic activity in a number of countries, including the United States and Japan.

As a consequence of the global financial crisis,

most developed countries experienced a sharp rise in the public sector deficit and public debt. This increase was caused by anti-crisis measures, the effect of automatic stabilisers and government support provided to the financial sector. As a result, the level of public debt in a number of euro area countries neared, or even exceeded 100% of GDP. This, in combination with a gloomier outlook for economic growth, contributed to a fall in financial market participants' confidence in these countries and increased the probability of a fiscal policy tightening in countries with the highest levels of debt.

In Poland, the slower rate of economic growth contributed to a significant increase in the public sector deficit. It grew from 1.9% of GDP to in 2007 to 7.2% in 2009 and is expected to reach 7.9%[1] in 2010. The general government debt in Poland is lower than in most European Union countries, but its continued increase and the level approaching prudential thresholds stipulated in the Act on Public Finance increases the susceptibility of the economy to tensions in international financial markets. However, it should be stressed that the Polish financial system and economy remained resilient in the previous year to the contagion effect resulting from the Greek debt crisis and financial problems in other European countries.

The Polish economy is currently in a stage of growth, having achieved the trough of economic growth in the first quarter of 2009 (0.7% y/y). Real GDP growth amounted to 3.0% y/y in the first quarter, 3.5% y/y in the second quarter, and 4.2% y/y in the third quarter of 2010. GDP growth in recent quarters was positively influenced by the increases of individual consumption, changes in inventories, as well as net exports in the first quarter of 2010. In addition, the sharp decline in investment in early 2010 was reduced. The current annual real GDP growth in Poland is one of the highest among European Union countries. However, the rates of growth of major main macroeconomic indicators are considerably below their peak levels recorded in the past ten years (see Figure 2.1).

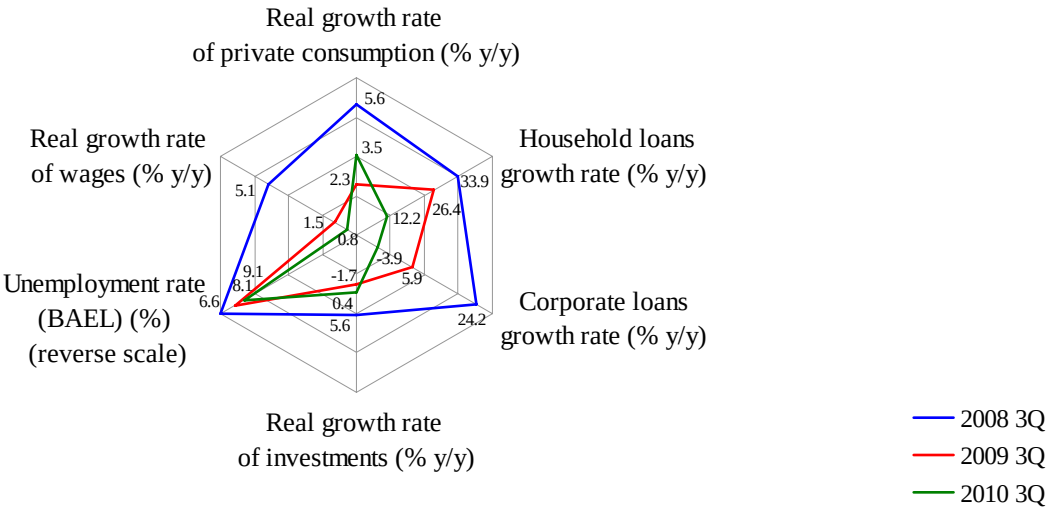
Thanks to a healthier economic climate, the situation of households and enterprises improved slightly. The unemployment rate has stabilised in recent months. There was an increase in the number of persons employed, while real wages continued to grow at a slow pace. The earnings of enterprises increased, with relatively stable indicators of profitability and liquidity. The financial condition of enterprises and households and its impact on lending and the quality of banking sector assets is presented in detail in chapter 3.3.2 and 3.3.3.

In the Polish economy there are no signs of external imbalances. A relatively low annual current account deficit, amounting to -2.6% of GDP in August 2010, improved slightly compared to last year, mainly as a result of a lower foreign trade deficit. The capital account balance remained positive, at a level of approximately 1.5% of GDP. In the last 12 months there has also been an increase in foreign investment, particularly portfolio investment in debt securities, and to a smaller extent, in direct investment. The annual increase of liabilities of domestic monetary financial institutions towards non-residents was significantly lower than in the previous year.

A potential sudden outflow of foreign capital, caused by a possible loss of confidence by market participants towards economic policy in Poland combined with an increase of risk aversion caused by the public debt crisis in other countries, would pose a risk to the external balance of the Polish economy. However, the probability of this risk materialising seems very low, due to the relatively stable condition of public finances and positive outlook for economic growth. If an outflow of capital from the domestic government bond market were to occur, the protracted high structural surplus of short-term liquidity in the banking sector could act as a buffer supporting the financing of public debt.

[1] Based on fiscal notification submitted by the Ministry of Finance to Eurostat. The deficit is calculated according to the ESA 95 methodology.

Figure 2.1. The change of macroeconomic indicators over the last three years



Note: points in the graph are shown after standardisation, in which for each presented variable (x) the largest ($xmax$) and smallest ($xmin$) value from the period from the fourth quarter of 2000 to the third quarter of 2010 was transformed by the formula $y=(x\text{-}xmin)/(xmax\text{-}xmin)$. Thus, the individual economic variables are presented in relation to their highest and lowest values over the business cycle. Unemployment rate is, however, presented on a reversed scale (the minimum values are placed on the outside of the graph). Numbers placed by the points in the graph present the actual values of the analysed variables (before standardisation) in a given period.
Source: GUS and NBP.

The government deficit in the period from January to October 2010 amounted to 41.8 billion zlotys, i.e. less than the expected figure of 52.2 billion zlotys. Moreover, on 3 August 2010 the Polish government adopted a plan to reform public finances (Long-term National Financial Plan), which includes proposals for measures aimed at reducing the public sector deficit in upcoming years and maintaining public debt below the 55% of GDP threshold. The components of the Plan include:

- VAT rate changes, including a 1 per cent increase in the standard VAT rate for a period of three years (starting from next year, VAT rates will amount to: 5%, 8% and 23%),
- adopting the so-called expense rule (the maximum increase in flexible expenses cannot exceed the level of 1% plus the inflation rate),
- a commitment by the government to present in the future proposals for additional structural reforms aimed at maintaining the stability of public finances in the medium and long term, related i.a. to the pension reform for military and police employees, the principle for calculating incapacity benefits and national defence expenditures,
- an increase in GDP in the years 2011-2013 at a rate of: 3.5%, 4.8% and 4.1%, respectively, and a reduction in the unemployment rate in the same period to a level of: 9.9%, 8.6%, and 7.3%, respectively,
- maintaining public debt in the next three years at a level of: 54,4% of GDP, 54.6% of GDP and 53.7% of GDP, respectively.

According to the central path of the projection presented in the October edition of the *Inflation*

Report, the real GDP growth rate in Poland will be 3.5% in 2010, 4.3% y/y in 2011 and 4.2% in 2012. According to the European Commission forecast of November 2010, GDP growth in Poland will amount to 3.9% in 2011 and 4.2% in 2012. The course of macroeconomic processes in line with these forecasts should contribute to strengthening the stability of the financial system.

The economic situation in Poland will to a large degree be dependent upon economic developments abroad. The next few quarters could possibly bring a slowdown in global economic growth, caused by tensions in financial markets, the rise of protectionism and slowdown in international trade[2].

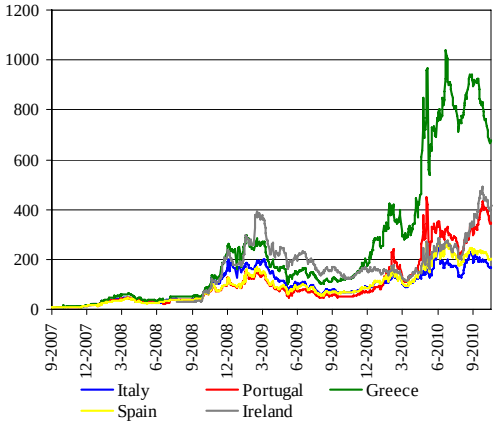
2.2. Developments in financial markets

2.2.1. Global markets

Greece's problems with rolling over its government bonds and with servicing its public debt caused a recurrence of turmoil in global financial markets in late April and early May 2010. In response to rising risk aversion, volatility and a fall in prices of assets seen as risky, on 9 May the European Stabilisation Mechanism (ESM) was established. Its purpose is to create a tool that would make it possible to solve problems of the kind the euro area faced when Greece was confronted with possible insolvency. One of the measures undertaken by the ECB aimed at containing the growing risk aversion was the Securities Markets Programme. Under the Programme, starting from 10 May 2010 the ECB purchased government bonds of some of the euro area countries. The funds released through these bond purchases were fully absorbed in open market operations.

The above measures contributed to mitigating the concerns in global financial markets in June and July 2010. There was a temporary fall in CDS premia on bonds of euro area countries with troubled public finances and high public debt to GDP ratios, further called euro area peripheral countries[3] (see Figure 2.2). Furthermore, the encouraging results of stress tests of European banks, published on 23 July 2010, had a mildly positive effect on investor sentiment, as was the case with public finance reform packages introduced in many countries.

Figure 2.2. CDS premia on 5-year government bonds of selected euro area countries



Source: Bloomberg.

Although the establishment of the ESM eased concerns over the solvency of peripheral countries of the euro area and alleviated tensions in financial markets, the lingering uncertainty regarding the intensity and durability of the economic recovery and related fears over the public finance situation in these countries contributed to a renewed increase in credit risk in August 2010. Investors were still concerned by the possibility of a "double-dip" recession in the United States. A major upturn in investor confidence in late September and early October 2010 was a consequence of the expected extension of the period of expansionary monetary policy in the United

[2] Detailed information concerning the projection of the economic situation in Poland and abroad can be found in the October "Inflation Report".
[3] The term refers to Ireland, Portugal, Spain, Italy and Greece.

States and the launch of a new programme of monetary easing (Quantitative Easing 2).

Under these circumstances, market participants reacted calmly when Ireland's credit rating was downgraded from AA- to A+ by Fitch on 6 October 2010. However, in subsequent weeks, recurring information concerning the problems of the Irish banking sector and higher than expected forecasts of the fiscal costs stemming from the need for the further recapitalisation of banks resulted in an increase in uncertainty in financial markets, higher yields on government bonds of euro area peripheral countries and a rise in CDS premia on these bonds. In order to avoid contagion to other euro area countries, the EU and the IMF engaged in talks with Ireland regarding the possibility of providing assistance through the ESM and IMF loans, on the condition of carrying out a reform of Ireland's public finances. The reaction of financial markets to events in Ireland was relatively restrained compared to the turmoil that occurred over Greece's solvency problems, which can be attributed to the establishment of the ESM and commitment of the IMF to extend loans, soothing the behaviour of market participants.

Over the next several months, global financial markets will likely remain affected by the announcement of 3 November 2010 concerning the purchase of bonds by the Federal Reserve, extending the period of expansionary monetary policy in the US, as well as by the sovereign debt crisis in peripheral countries of the euro area. The continuing low level of interest rates in developed countries and global liquidity surplus will be factors sustaining the inflow of capital to the financial markets of developing countries with a stable macroeconomic outlook. A permanent improvement of the sentiment in global financial markets would require the implementation of fiscal reforms in the most indebted countries of the euro area. The lack of effective fiscal consolidation programmes in these countries may result in a significant increase in risk aversion and disturbances in the functioning of financial markets, particularly if the newly established euro area stabilisation programme turned out to be insufficient to cover the needs of successive countries affected by excessive indebtness.

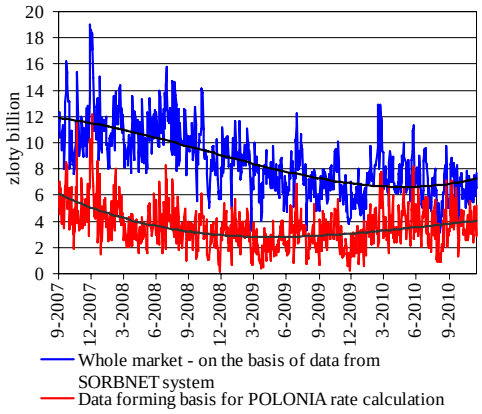
2.2.2. Money market

Since the publication of the previous *Report*, the situation in the domestic money market continued to improve, however, it still does not function fully efficiently. The activity of banks remains at a relatively low level. Average daily net turnover in the interbank deposit market from June to November amounted to 6.5 billion zlotys, while the average daily value of overnight transactions, on which the POLONIA money rate is based, amounted to 3.6 billion zlotys (see Figure 2.3). Due to low credit limits mutually applied by banks, and the aversion to taking risk, along with the related preference for maintaining liquid funds, domestic banks continued to conduct interbank transactions with the shortest possible maturity to manage their liquidity. As a result, turnover was mainly concentrated in the O/N transactions segment. The share of O/N transactions in the turnover structure in September 2010 amounted to 94% (prior to the intensification of the global financial crisis, these transactions constituted approximately 80% of turnover). Due to the very low liquidity of the interbank market in the segment of transactions with a maturity of over two weeks, the rates of interbank loans with these maturities may have not reflected the actual cost of obtaining funds.

In the analysed period there was a further drop in the credit risk premium in the domestic money market, although it remained higher than in developed markets. This was reflected in the narrowing of the spread between the WIBOR 3M and OIS 3M rates from approximately 90 b.p. in May to 65 b.p. in November (see Figure 2.4). The narrower spread was largely due to a rise in the OIS 3M, combined with a relatively stable WIBOR 3M. This was most likely related to the expectations of banks with regard to a bet-

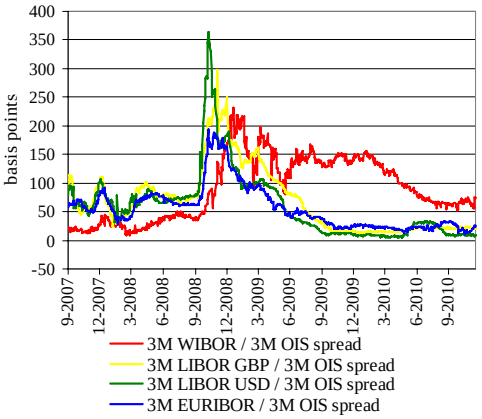
ter matching of liquidity in the banking sector in successive periods of maintaining the reserve requirement, resulting in an increase in the average POLONIA rate to the vicinity of the NBP reference rate. Such expectations may have been the outcome i.a. of a reduction in the first half of 2010 of the scale of fine-tuning repo operations, combined with the greater absorption of funds from the banking sector by means of issuing NBP bills.

Figure 2.3. Turnover in the interbank deposit market



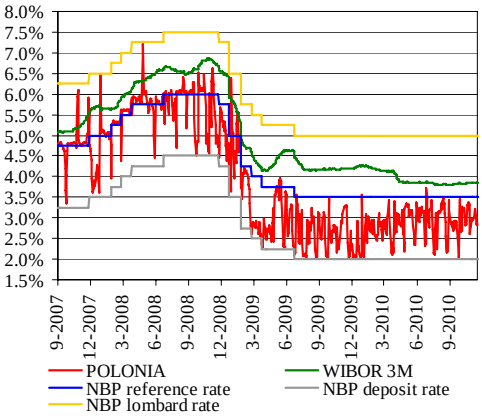
Source: NBP.

Figure 2.4. Risk premium in interbank deposit market



Source: NBP, Thomson Reuters.

Figure 2.5. Market interest rates against NBP reference rate



Source: NBP, Thomson Reuters.

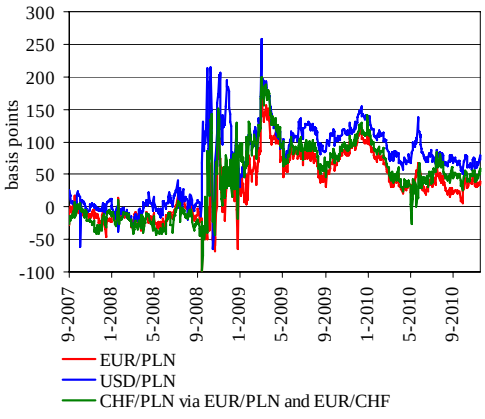
At the start of periods of maintaining the reserve requirement, banks generally placed surplus funds above the required level in current accounts with the NBP. As a result, they were able to achieve the requirement earlier (frontloading). This in turn was the reason why, during the final days of maintaining the reserve requirement, banks had large surpluses of funds at their disposal, which they placed in O/N transactions, causing a sharp fall in the POLONIA rate to the vicinity of the NBP deposit rate.

In the period from June to September 2010 inclusive, domestic banks still had the possibility to use fine-tuning repo operations. The NBP conducted four operations of this type with a three-month maturity (one in each month). The supply offered by the NBP in each operation amounted to 100 million zlotys, while demand ranged between 40 and 90 million zlotys. From the beginning of October 2010, the NBP stopped conducting liquidity-providing repo operations, which was the consequence of an improved situation in financial markets and declining demand for such transactions with the NBP on the part of the banking sector.

The turbulence in the international FX swap market, caused by increased concern over Greece's solvency in late April and early May

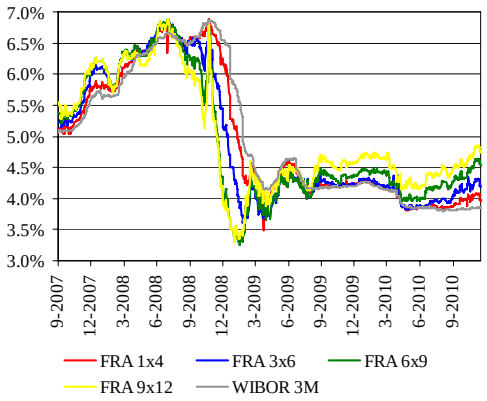
2010, resulted in a temporary fall in the liquidity of the domestic FX swap market and a rise in the cost of obtaining foreign currencies for zlotys (see Figure 2.6). However, in the period from June to September 2010 the average daily net turnover in the domestic FX swap market amounted to 10.9 billion zlotys, which is an increase of approximately 24% compared to the turnover recorded in the period from January to May 2010. The increased turnover may have possibly been i.a. a consequence of the change in non-residents' portfolio of the domestic government bond (see Figure 2.11). The significant asymmetry in the demand for FX swap transactions involving the zloty between domestic and foreign banks (high domestic banks' demand for FX swaps in order to hedge their exposure resulting from housing loans denominated in foreign currencies) and the limited arbitrage between the interbank deposit market and the FX swap market (due to a liquidity shortage in the former market) contributed to the deviation of FX swap valuation from interest rate parity.

Figure 2.6. Premia in foreign exchange swap markets



Note: premia defined as the spread between the interest rate implied by foreign exchange swap prices and the interest rate differential observed in the interbank deposit market.
Source: NBP calculations based on Bloomberg data.

Figure 2.7. Current and expected WIBOR rates



Source: Bloomberg.

FRA rates indicated that in late November, market participants expected the start of a cycle of increasing interest rates by the NBP in the beginning of 2011. At the time, FRA contracts valuated the NBP reference rate in December 2011 at a level of 4.50%.

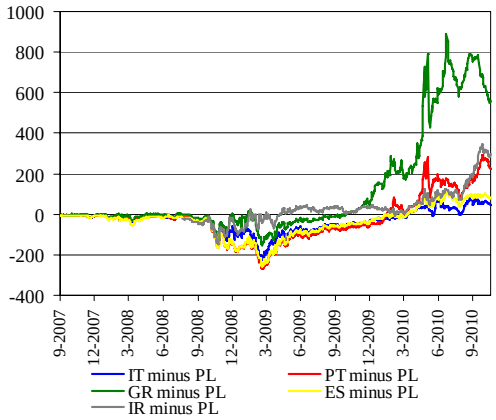
2.2.3. Bond market

In the analysed period, Poland's credit risk was perceived to be lower than peripheral countries of the euro area, as evidenced by the continuing positive differential between CDS premia on government bonds issued by those countries and Polish government bonds (see Figure 2.8). In the perception of a country's solvency risk, the key factor was the macroeconomic situation in individual countries, particularly the state of public finances, and not membership in the euro area.

Starting from the third quarter of 2010, there has been a notable stabilisation of CDS premia on government eurobonds of the CEE countries, which was the result of i.a. the establishment of the European Stabilisation Mechanism and the adoption of a rescue package for Greece and the related general upturn in investor sentiment (see Figure 2.9). The only exception was Hungary, whose CDS premia increased sharply following the breaking off of talks with the EU and the

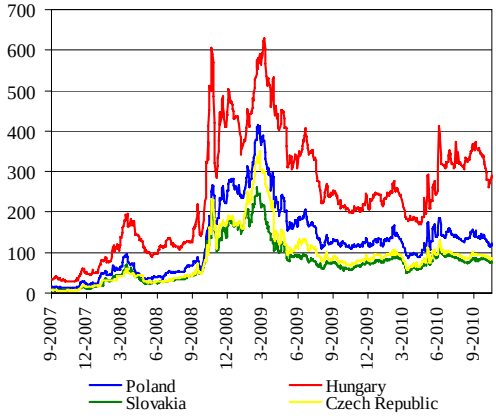
IMF in mid July 2010 concerning an aid plan for that country. The plan was eventually agreed on 7 September 2010, and as a result foreign investors returned to the Hungarian capital market, the country's credit risk premia fell and the forint appreciated considerably.

Figure 2.8. Spreads between CDS premia on 5-year Polish eurobonds and the bonds of euro area peripheral countries



Source: Bloomberg.

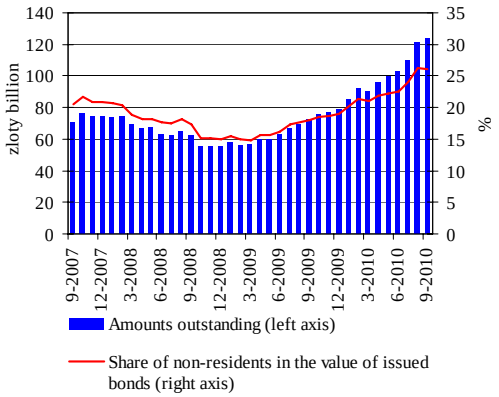
Figure 2.9. CDS premia on 5-year eurobonds of CEE countries



Source: Bloomberg.

The factors that contributed to the favourable valuation of Poland's credit risk, measured by CDS premia, included the relatively stable condition of public finances and a positive outlook for economic growth.

Figure 2.10. The value of Polish government bonds held by non-residents



Source: Ministry of Finance.

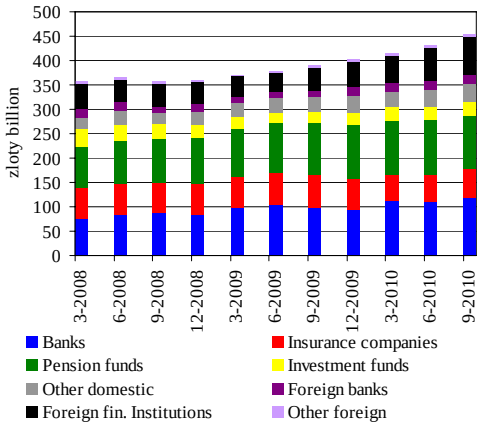
In 2010 there was a sharp increase in the value of domestic government bonds held by non-residents (from approximately 19% of the value of outstanding bonds at the beginning of January to approximately 26% at the end of September). The establishment of the ESM contributed to the renewed inflow of investors to the bond market in Poland, following a temporary slowdown in the growth of their portfolios' value in the second quarter of 2010 due to concerns over Greece's solvency. In the period from July to September 2010 there was an inflow of capital amounting to nearly 21 billion zlotys (see Figure 2.10). The increase in Polish government debt by 27.6 billion zlotys as a result of domestic bond issues in the period from June to September 2010 was financed in more than 90% by foreign investors (primarily by non-bank entities, see Figure 2.11).

As a result of transactions concluded in the third quarter of 2010 in the secondary market, bonds flowed mainly from the portfolios of domestic financial institutions to the portfolios of foreign investors, non-bank financial institutions in particular. Moreover, there was a continuation of the trend observed in 2009-2010 involving the shortening of average maturities of government fixed-rate debt portfolios, held by foreign investors, as well as reducing their exposure to interest rate risk. This was partially a natural phenomenon,

related to the strategy of the Ministry of Finance for the management of public debt (in the years 2009-2010 bond issues were predominantly for short maturities).

The growing value of foreign investors' domestic government bonds portfolio was due to i.a. growing concern over the solvency of a number of euro area economies and the related restructuring of portfolios, as well as the opportunity to obtain a relatively high rate of return on investment in these instruments (partly due to the expected appreciation of the zloty). Especially the latter factor was the likely cause of increased interest in Polish government bonds among foreign insurance companies and defined benefit pension funds, which were forced to increase their exposure in local government bond markets in developing countries in order to achieve higher returns. As interest rates in developed markets were at low levels, these entities were finding it difficult to achieve technical rates of interest or benchmarks at levels assumed prior to the global financial crisis.

Figure 2.11. Structure of investors in the Polish government bond market



Source: Ministry of Finance.

The inflow of foreign investors to the domestic government bond market led to an increase in the price of these instruments. In the period from July to mid September 2010 a fall in yields on Polish debt was observed (in the case of 10-year government bonds, from approximately 6.0% to 5.5%). Apart from the factors already mentioned, other reasons for the fall in yields included:

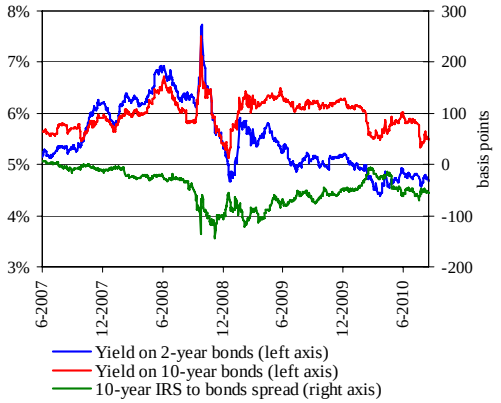
- a relatively high forecast rate of economic growth in Poland (compared to other countries of the region and a number of euro area economies) and the adoption of the Long-term National Financial Plan by the Polish government,
- sustaining Poland's rating by credit rating agencies (Fitch, 21 September 2010) or indicating the possibility of an upgrade (Moody's, 16 September 2010), on the condition of implementing the announced reforms by the government,
- the relatively high degree of satisfying Poland's borrowing needs in 2010 and the possible reduction in the supply of bonds to the domestic market in the final months of 2010.

In the second half of September 2010 there was a slowdown in the growth of value of Polish government bonds issued in the local market held by foreign investors and a slight increase in their yields, caused by increased demand on the part of these investors for government bonds of euro area peripheral countries (see Figure 2.12). The rise in yields on 2-year bonds may have also been the result of an expected increase of interest rates by the NBP in the upcoming months.

The significant rise in foreign investors' demand contributes to a fall in bond yields, but at the same time generates additional risk of an outflow of capital in the event of a solvency crisis in other European countries or a deterioration of the condition of public finances in Poland. The materialisation of such a risk could lead to a sharp increase in government bond yields and a depreciation of the zloty, as data concerning the value of FX swap and CIRS transactions market point out that only some purchases made by foreign

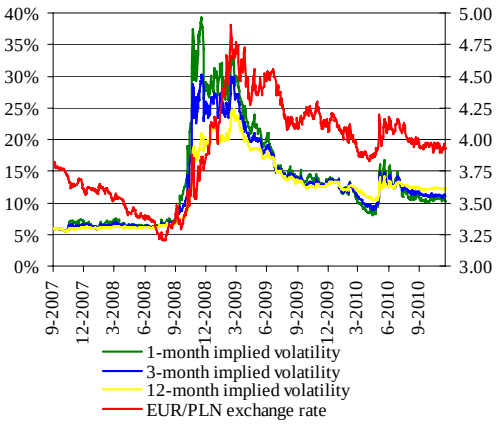
investors were hedged against the risk of zloty depreciation.

Figure 2.12. Yields on Polish government bonds and IRS-bonds spread



Source: Bloomberg.

Figure 2.13. The zloty exchange rate and its volatility

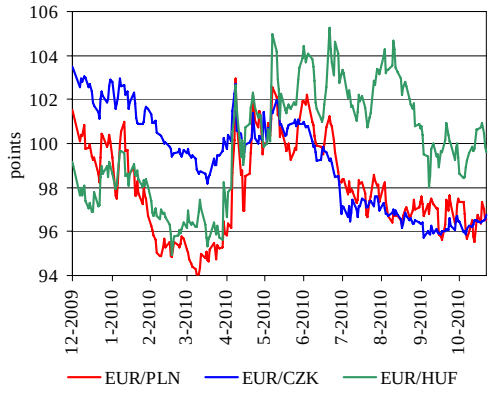


Source: Bloomberg.

2.2.4. Foreign exchange market

In the analysed period, the zloty exchange rate remained under the strong influence of global factors, particularly changes in risk aversion. From May to July 2010, the EUR/PLN exchange rate fluctuated above the level of 4.00 (see Figure 2.13). Adversely affecting CEE currencies, including the zloty, were unfavourable tendencies in euro area peripheral countries (e.g. downgrading of Spain's credit rating), as well as local developments (e.g. the statement by a representative of Hungary's ruling party concerning the very difficult condition of public finances and the suspension of talks by the Hungarian government with the IMF and EU concerning a financial assistance plan). However, even with strong pressure on the depreciation of currencies of the region, the scale of depreciation of the zloty was lower compared to the Hungarian forint (see Figure 2.14). A divergent course of developments in the bond and FX markets in Hungary and Poland may indicate that the economies of Central and Eastern Europe are coming to be less frequently perceived in a homogenous manner. It appears that investors are focusing greater attention on the macroeconomic condition of individual countries.

Figure 2.14. Exchange rates of the zloty, Czech koruna and forint



Note: data normalised to 100 points as of 31 May 2010
Source: Bloomberg.

In July 2010 there was an appreciation of the zloty and a fall in its volatility. This was a consequence of the gradual improvement of sentiment in global markets, due to i.a. the unperturbed expiry of the ECB's annual refinancing operation and the publication of the results of stress tests for European banks, as well as local factors, such as the extension of Poland's FCL. In

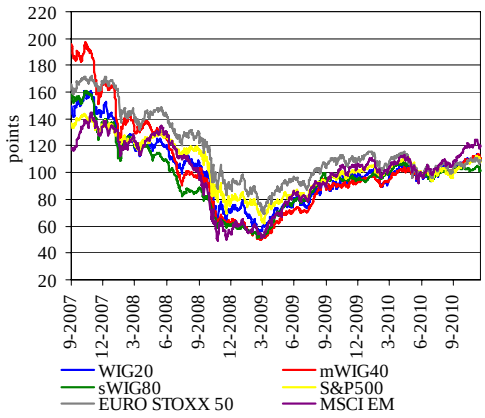
early August 2010, the EUR/PLN exchange rate was below the level of 4.00. In mid November both the EUR/PLN exchange rate, as well as the zloty's volatility remained at levels slightly higher than prior to the Greek solvency crisis. In the upcoming months, market participants expect a further appreciation of the zloty. In all likelihood, the Polish currency will continued to be strongly affected by global factors, including expansionary monetary policy and the assessed effectiveness of public finance reforms.

2.2.5. Equity market

Stock indices of the Warsaw Stock Exchange (the WIG20 index in particular) were closely correlated with indices of developed markets and continued the upward trend that started in the first quarter of 2009, with corrections of stock prices in January and May 2010 (see Figure 2.15). The increase in stock prices was the result of improved sentiment in global financial markets, following the publication of better than expected macroeconomic data and expansionary monetary policy conducted by the world's leading central banks. The VIX index, reflecting investors' risk aversion, reached its annual peak (45.8%) on 20 May 2010, and gradually declined to 18.0% on 19 November 2010.

In 2010, stocks traded in the Warsaw Stock Exchange, as was the case with domestic government bonds, were to an increasing degree purchased by foreign investors. In the period from June to September 2010, the balance of transactions by non-residents involving shares of domestic companies listed on the WSE was positive. As of the end of September 2010, the value of stock of domestic companies in the portfolios of non-residents amounted to 200.9 billion zlotys and was the highest since December 2007 (220.3 billion zlotys). This increase was a result of purchases of stock by investors (in net terms), as well as a rise in prices of these securities. As of the end of September, foreign investors held 41,2% of outstanding shares of domestic companies, which is a 0.1 percentage point decrease compared to the end of May 2010. Portfolios of non-residents consisted predominantly of stock of companies from the WIG20 index (64,5%).

Figure 2.15. Selected stock market indices



Note: data normalised to 100 points as of 31 May 2010
Source: Bloomberg.

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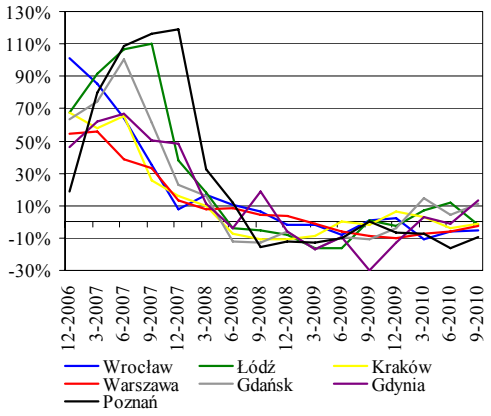
Among the most important threats to financial system stability, arising from the functioning of financial markets, is the materialisation of credit risk associated with government bonds of countries with unstable public finances, including euro area peripheral countries. A major rise in the global level of risk aversion and a decline in confidence by participants of global financial markets could result in further reduction of credit limits set at group level, which in consequence would lead to a contraction of the activity of banks in the domestic interbank deposit market and make it more difficult for them to obtain financing in foreign currencies in the FX swap market.

Another significant threat is related to the large portfolios of domestic government bond held by foreign investors, which currently supports the fall in yields on these instruments, but negative

developments abroad may lead to a rapid sell-out and a sharp decline in prices. An outflow of foreign capital from the domestic government bond and stock market may result in a severe depreciation of the zloty and increased volatility of its exchange rate, particularly in a scenario of a weaker macroeconomic outlook and deterioration of public finances in Poland or an increase in global risk aversion. The situation in domestic financial markets may also be affected, should the level of public debt exceed 55% of GDP, which would entail the requirement of planning a balanced budget.

Figure 2.16. Growth in residential property ask prices in the biggest cities – primary market (y/y)



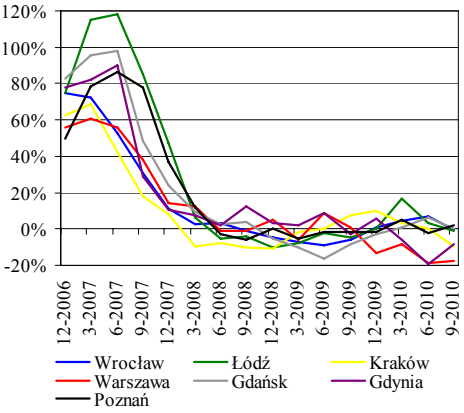
Source: NBP calculations based on Pont Info Nieruchomości data.

2.3. Property market

Residential property market

In the second and third quarter of 2010, minor declines in the ask prices of flats were observed on the primary and secondary market. In Tri-city (Gdańsk, Gdynia, Sopot) and Poznań these prices slightly increased (see Figures 2.16 and 2.17).

Figure 2.17. Growth in residential property ask prices in the biggest cities – secondary market (y/y)



Source: NBP calculations based on Pont Info Nieruchomości data.

The structure of flats offered, in terms of finish level, on Poland's six biggest residential property markets[4], which illustrates the demand for flats, did not change considerably in the second and third quarter of 2010. In the third quarter of 2010, completed flats represented around 26% of the primary market offer while in the periods of the largest imbalance between supply and demand and a quick rise in prices on property markets, flats at an early construction phase prevailed in the offer (14% in the first quarter of 2009). This may lead to the conclusion that in the past six months demand for flats did not change significantly[5].

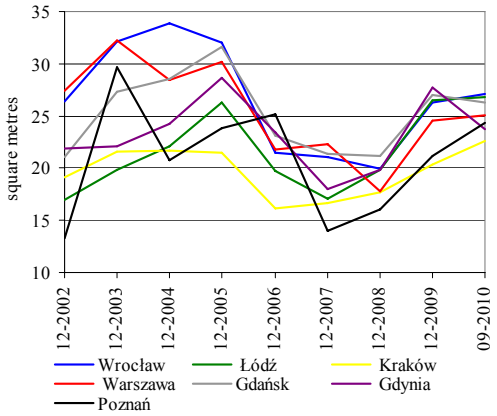
Banks' lending policies in 2010 did not support a rise in demand on the property market. Some banks eased their price terms for housing loans (they primarily reduced loan spreads above interbank market rates) but continued to tighten their lending standards (see Chap-

[4] According to Reas, the largest number of flats is built in Warsaw, Krakow, Wrocław, Tri-City (Gdańsk, Gdynia, Sopot), Poznan and Łódź urban areas, representing around 60% of the residential property market, around 75% of the market in terms of value.

[5] In the opinion of some analysts, a relatively large share of completed flats in developers' offer may also result from some mismatch between supply and demand, i.e. excess of large flats for which currently there are no buyers.

ter 3.2). On the other hand, demand was supported by the government program "First family home" (Rodzina na swoim), where the interest on zloty-denominated housing loans is subsidised. The value of housing loans extended under this program in the first half of 2010 accounted for around 20% of the total value of housing loans extended to households in that period.

Figure 2.18. Purchasing power of the consumer on 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 the purchase with a loan, could afford to buy. 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, as calculated by GUS; the maximum amount earmarked for repayment of loan instalment does not exceed 50% of net income; monthly funds left to cover expenses after loan instalment has been repaid are min. PLN 1,000; loan maturity of 25 years; loan repaid in diminishing instalments.
Source: NBP calculations based on Pont Info Nieruchomości and GUS data.

As a result of wage growth and a slight fall in the prices of flats, the purchasing power of households increased. However, due to the tightening of lending standards for housing loans the increase in the purchasing power did not fully translate into an increase in households' real capability of purchasing a flat.

In 2011, dwelling prices may be expected to stabilise as factors driving the rise and fall in prices should be balanced. Economic growth rate and improvement on the labour market will contribute to increased demand of households for housing loans, and to an increase in the prices of flats, accordingly. On the other hand, the gradual commencement of new projects by developers who had received permits in the period of lower optimism over housing market developments will support the rise in demand and, as a consequence, the fall in the prices of flats[6].

In the longer term, it may be expected that demand for housing loans will increase due to a high fundamental demand for flats.

Office space market

In the first half of 2010, there was an improvement in the situation on the office space market[7]. The number of transactions conducted in that period was equal to around 80% of transactions registered in 2009. It should be emphasized, however, that renegotiation of agreements and transactions prolonging the existing lease agreements continued to dominate among the executed transactions.

Despite tenants' increased interest in office space, the office space vacancy rate increased mainly due to new buildings completed. At the end of June 2010, the office space vacancy rate in Warsaw amounted to 8% (7.3% in December 2009).

The rise of the office space vacancy rate had no influence on rents for office space. In the first quarter of 2010, rents for office space in the main cities stabilised and their level was similar to that recorded in the fourth quarter of 2009. In the first quarter of 2010, rents for office space in Warsaw ranged from 18 to 25 euro per square metre;

[6] In the first three quarters of 2010, there was a considerable rise in the number of construction projects. The number of construction projects started by developers in the first three quarters of 2010 increased by 60.6% compared to the corresponding period in 2009.

[7] The analysis of the office space market draws on materials published by Colliers International, among others, "Real Estate Review. First half of 2010. Office space", www.colliers.com

in Poland's other main cities they ranged from 12 to 16 euro per square metre.

Market analysts expect that in 2011 demand for office space will increase, which should push up rents.

Chapter 3.

Banking sector stability

The acceleration of economic growth in Poland contributed to an improvement in the earnings of the banking sector in comparison to 2009. However, the earnings of banks are still lower than in the period prior to the global economic and financial crisis, which is primarily the result of the materialisation of credit risk accumulated the balance sheets of banks in times of favourable economic conditions and higher funding costs. The group of banks with negative earnings has a small share in the banking sector. Since the publication of the previous Financial Stability Report in July 2010, the current situation of the banking sector improved.

The improvement of net profits in the analysed period was mainly suppressed by the rising cost of credit risk, resulting from an increase in value of loans in arrears. The cost of credit risk was concentrated in the consumer loans portfolio. The quality of housing loans, denominated both in zlotys and foreign currencies, was stable. The growing cost of credit risk is a natural consequence of the economic slowdown, but also – most notably in the segment of consumer loans – a reflection of the lenient lending policy of banks in times of rapid lending growth. Due to the cyclical character of credit risk, its cost may be expected to remain at an elevated level until the financial position of enterprises and the situation in the labour market improve firmly. The recent NBP macroeconomic projection suggests that such conditions may appear in the upcoming quarters.

The intensity of competition among banks for stable funding sources, particularly for household deposits, subsided slightly compared to the period analysed in the previous edition of the Report. The average interest rate for new deposits continues to be lower than interbank market rates, however, it remains at a higher level than in the period prior to the crisis. The introduction of new savings instruments at a time when banks compete for deposits indicates that the increase of funding costs obtained from the non-financial sector may likely be lasting in character. The stabilisation of funding costs and higher loan spreads compared to previous periods contributed to a slight improvement of net interest margin. A lower adjusted liquidity gap and the high value of liquid securities on banks' balance sheets causes short-term liquidity risk for banks resulting from market turbulence to be at a low level. However, surplus liquidity remains concentrated within a small group of banks, and its redistribution through the interbank deposits market is still limited.

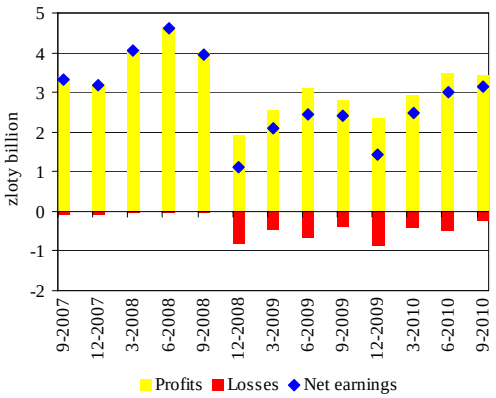
The loss absorption capacity of banks has increased as a result of higher capital levels and maintaining high capital adequacy ratios. No bank required recapitalisation with public funds. Banks' sound capital levels are confirmed by the results of macroeconomic stress tests, which indicate that a significant majority of commercial banks possess sufficient capital to absorb the effects of a serious economic slowdown. Even during an economic slowdown, the majority of banks will maintain the capacity to generate a net operating income that would limit the negative impact of potential provisions for impaired loans on the level of capital. The sensitivity of banks to a potential increase in credit spreads of Polish government bonds, caused by a recurrence of turmoil in financial markets, is low as a consequence of the relatively short duration of banks' portfolios.

3.1. Earnings

In the period covered by the Report the earnings and profitability ratios of the banking sector were improving. These developments resulted primarily from the decrease of the growth rate of charges to provisions for impaired loans and operating costs. However, at the same time the diversification of banks, in terms of profitability, widened. Some medium-sized and small banks that specialize in providing loans to households reported negative profitability ratios due to the rapidly deteriorating quality of the portfolio of consumer loans.

In the first three quarters of 2010, the earnings and profitability ratios of the banking sector improved (see Tables 3.1 and 3.2). It is worth point out an upward trend in net profit posted in the subsequent quarters of 2010 (q/q and y/y). However, the sum of profits generated by Polish banks was still lower, and the sum of losses – higher, than in the period prior to the financial crisis (see Figure 3.1)[8].

Figure 3.1. Quarterly net earnings of the banking sector



Source: NBP.

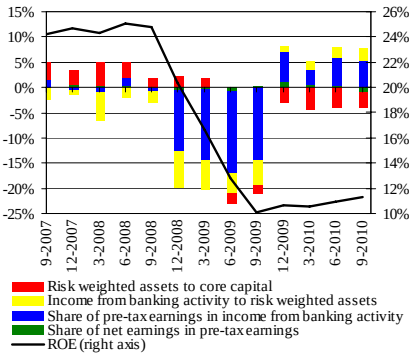
The growth of ROE of the domestic banking sector was mostly due to a decrease of the burden of credit risk materialisation and operating costs on net income from banking activity, as well as a higher return on assets (measured as the ra-

[8] Data on Polish banks presented in Chapter 3 are derived from the database "Bankowa Informacja Sprawozdawcza" (banking reporting information – former prudential reporting based on the Polish Accounting Standards) as long as respective data were available in the database (for data on capital adequacy – until December 2007, for other data – until February 2010). Starting from the next period the data used come from the database "System Informacji Sprawozdawczej" (reporting information system – new prudential reporting based on the CEBS-approved COREP and FINREP standards). If in the former reporting system, a particular data breakdown was not available (by counterparty, by product *etc.*), only data derived from the new reporting system were analysed (in such cases starting from December 2008).

[9] The formula of decomposition of ROE presented in Figure 3.2:

tio of net income from banking activity to risk-weighted assets) (see Figure 3.2)[9]. The increase of net income from banking activity (in terms of volume and in relation to risk-weighted assets) was primarily the result of the increase of net interest income and net fee and commission income (more details of net interest income and charges to provisions for impaired loans are presented in Chapter 3.3). The growth of ROE was constrained by the raise of banks' capital (see Chapter 3.6).

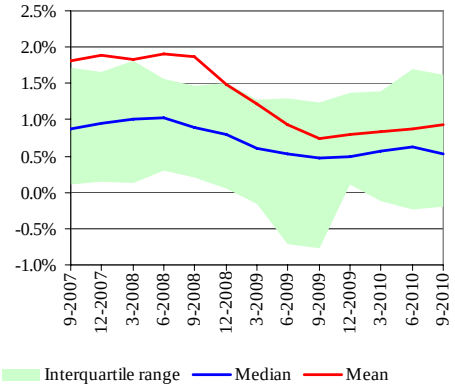
Figure 3.2. ROE of the domestic banking sector and decomposition of changes



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

The discrepancy among banks in terms of the profitability of their activity has widened (see Figure 3.3). The major part of the sector's earnings (73.7%) was concentrated in six largest institutions[10], controlling 49.3% of the banking sector's assets. At the same time, the number of loss-making banks did not change considerably and was still much higher than before the end of 2008. After the first three quarters of 2010, losses were posted by 19 institutions (7 commercial banks, 10 branches of credit institutions, 2 co-operative banks), controlling 7.9% of the banking sector's assets (a year earlier – 23 institutions controlling 13.9% of assets).

Figure 3.3. Return on assets



Notes: annualised data.
Unless otherwise indicated, the dispersion plots in Chapter 3 relate to domestic commercial banks and branches of credit institutions. At the end of September 2010, the assets of these banks accounted for 94.2% of the assets of the banking sector as a whole.
Source: NBP.

Negative profitability ratios were reported not only by banks in the early stages of operation and banks operating on a small scale, but also by medium-sized entities[11], including primarily banks specializing in granting loans to households[12] (73.2% of assets of banks with negative profitability ratios). The poor quality of the consumer loan portfolios of these institutions was reflected in the high burden of the costs of credit risk materialisation on net income from banking activity (see Figure 3.4). The net profit of these banks may have deteriorated on the back of the excessive loosening of lending policies in times of good economic conditions – the growth of their

$ROE = \frac{netearnings}{corecapital} = \frac{netearnings}{pre-taxearnings} * \frac{pre-taxearnings}{netincomefrombankingactivity} * \frac{netincomefrombankingactivity}{risk-weightedassets} * \frac{risk-weightedassets}{corecapital}$

[10] Banks with assets over 50 billion zlotys.
[11] With assets above 1 bn zlotys.
[12] See Box 3.

consumer loan portfolios in this period was much faster than the average in the banking sector. These entities exhibited a large funding gap and a considerable share of liabilities towards foreign financial institutions (mainly parent entities or other entities of the group).

In the coming quarters a further gradual growth of profits and improvement of the banking sectors' profitability ratios may be expected. Diversification of banks, in terms of earnings, is not likely to decrease – some institutions will be affected by the economic slowdown for a longer time. This concerns, in particular, the above-mentioned loss-making banks that specialize in providing loans to households. These banks imposed stronger restrictions on the provision of consumer loans than other banks, which is likely to result in generating lower net interest income. It may also be expected that not all losses on the loan portfolios of these banks have been identified yet (see Chapter 3.3).

The slower-than-expected rate of economic growth could jeopardize the expected improvement in banking sector earnings due to a renewed acceleration in the growth of credit risk materialisation costs and the halted growth in fee and commission income. In addition, the increase in yields of Polish government bonds in the case of a hypothetical downgrade of Poland's creditworthiness rating could negatively impact the result of valuation and trading activities.

Levying additional fiscal burden on banks would also have a negative influence on banks' earnings (see Box 1).

Table 3.1. Selected items of the profit and loss account of the banking sector

	9-2009 (zloty billion)	12-2009 (zloty billion)	9-2010 (zloty billion)	Change 9-2010/ 9-2009 (in %)
Interest income	41.58	55.51	42.36	1.9
Interest expense	22.37	29.12	19.68	-12.0
Net interest income	19.21	26.39	22.68	18.1
Net non-interest income	17.40	23.25	16.72	-3.9
- net fee income	9.19	12.48	10.27	11.7
- dividends received	1.32	1.39	0.75	-42.9
- gains/losses on valuation and trading activities[1]	6.89	9.38	5.69	-17.3
Net income from banking activity	36.61	49.64	39.39	7.6
General expense	18.28	24.73	18.69	2.2
Depreciation	1.87	2.54	2.02	8.0
Net charges to provisions for financial instruments	7.73	11.51	8.15	5.4
- of which: net charges to provisions for impaired loans	7.63	11.49	8.15	6.8
Pre-tax earnings	8.45	10.30	10.63	25.8
Net earnings	6.91	8.41	8.65	25.2

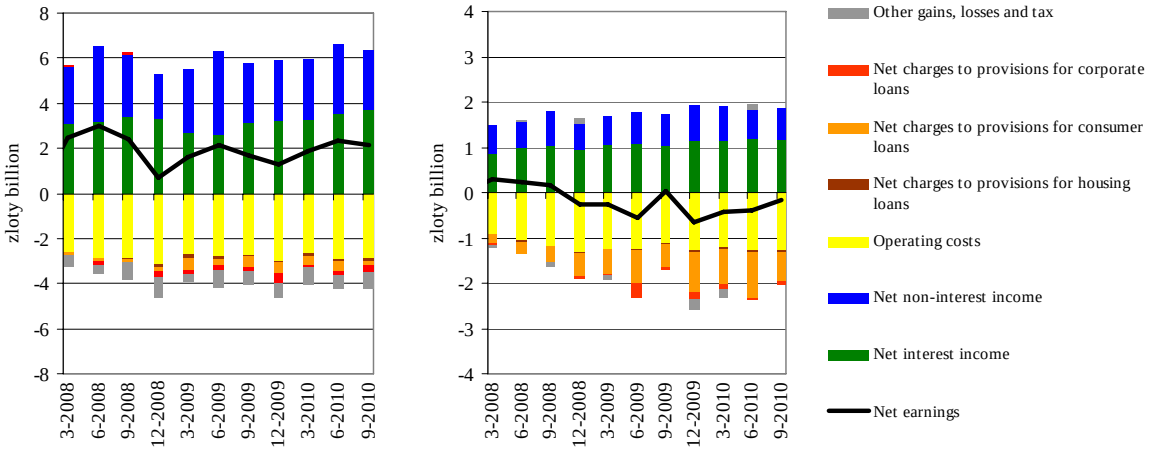
[1] This item comprises gains/losses on financial assets and liabilities of the portfolios "held for trading" and "designated at fair value through profit and loss account", realised gains/losses on financial assets and liabilities from other portfolios and gains/losses on foreign exchange rate movements.
Source: NBP.

Table 3.2. Selected operating indicators of the banking sector

	As % of average assets				As % of net banking income			
	2009	2010			2009	2 010		
		Q1	Q2	Q3		Q1	Q2	Q3
Net interest income	2.51	2.58	2.70	2.74	53.16	54.32	56.59	56.95
Net non-interest income	2.21	2.17	2.07	2.07	46.84	45.68	43.41	43.05
Net income from banking activity	4.72	4.74	4.77	4.81	100.00	100.00	100.00	100.00
Operating costs[1]	2.59	2.56	2.55	2.55	54.93	53.95	53.54	53.07
Net charges to provisions for financial instruments	1.09	1.11	1.10	1.09	23.18	23.36	23.06	22.75
- of which: net charges to provisions for impaired loans	1.09	1.11	1.10	1.10	23.15	23.34	23.21	22.93
Pre-tax earnings	0.98	1.01	1.06	1.14	20.74	21.24	22.30	23.80
Net earnings	0.80	0.83	0.88	0.93	16.94	17.43	18.39	19.36
Pre-tax earnings as % of core capital[2]	12.78	12.80	13.28	13.92	-	-	-	-
Net earnings as % of core capital (ROE)[2]	10.46	10.52	10.93	11.35	-	-	-	-

[1] Operating costs = general expense + depreciation.
[2] Core capital without deductions; profits of foreign bank branches are deducted from the numerator.
Note: annualised data.
Source: NBP.

Figure 3.4. Sources and allocation of net income from banking activity of six largest banks (left-hand panel) and banks posting negative profitability ratios (right-hand panel)



Notes: quarterly data.
Banks classified as at end of September 2010.
Source: NBP.

Box 1. European initiatives regarding bank levies

Rationale for and purposes of additional taxation of banks

The question of imposing additional levies/taxes on banks has recently become a topic discussed at international level and an element of fiscal policy of a number of governments. This is due to two major reasons:

- in the course of the crisis, banking sectors of many countries had to be supported by public funds (according to European Commission estimates, the public assistance amounted to 16.5% of GDP of the EU),
- the financial crisis has also contributed to a decline in tax revenues, resulting in a severe widening of budget deficits and growing public debt.

The purpose of imposing additional levies/taxes on banks in individual EU countries can be divided into two main groups:

- short-term (fiscal) - the new tax supports the growth of fund inflows to national budgets and shifts part of the cost of the crisis borne by state budgets onto financial institutions,
- long-term (stabilising) - the levies serve to set up special funds that would be used to fund the resolution or winding down of banks in case future crises occur.

Initiatives of the European Union

Initial proposals at EU level addressed the long-term goals. They were focused on improving crisis management and introducing mechanisms to enable the internalisation of external costs arising from the functioning of the banking system. To meet this goal, it is necessary to increase the share of private funding in the costs related to solving bank crises. Therefore, the European Commission issued a Communication in May 2010[1] in which it supported the establishment of a harmonised network of bank resolution funds as an element of the crisis management framework. The fund's funding source would be an ex ante levy paid by banks. It would be possible to earmark funds accumulated in these funds for restructuring banks in distress or carrying out an orderly winding down thereof. It would also be possible to use the funds to finance various resolution activities, such as establishing a bridge bank, transferring assets/liabilities of an ailing institution to another entity, and financing a 'good bank' / 'bad bank' split.

Measures taken by Member States

EU initiatives in respect of new levies or taxes on banks were a response to the increasingly widespread introduction of taxes on banks and other financial institutions by individual Member States in a non-coordinated manner. The differences in national solutions (see Table 1) concerned, among others, the tax base and rate, the range of entities subject to the tax, the purpose and designation of the levy/tax. In view of differences in the range of entities subject to taxes in individual countries, the problem of double taxation has emerged in relation to branches and subsidiaries of banks from one Member State operating in another one.

Additional taxation of banks in Poland

Although Poland did not need to provide banks with public funds during the recent crisis, it joined the group of countries that are considering the introduction of additional levies to be paid by banks. Imposing an additional levy on banks in Poland appears to be practically settled in the context of the European Commission's Communication "Bank Resolution Funds" of 26 May 2010. However, such issues as specifying the place of holding the funds collected from additional levies (resolution fund, state budget), the taxation base and rate level, require further discussion.

Table 1. Initiatives of the European Union counties related to additional taxation of banks

Country	Aim of introducing	Allocation	Base	Rate
Belgium	Financial stability	Deposit guarantee fund	Deposits	Increase of existing levies to deposit guarantee scheme
Denmark	Financial stability	Winding up fund (a part of deposit guarantee scheme)	Covered deposits and securities	0.2%
France	Fiscal	State budget	Risk weighted assets	0.25% of capital requirements (based on RWA)
Germany	Financial stability	Bank resolution fund	Liabilities excluding capital and deposits; nominal value of derivatives	0.02%, 0.03%, 0.04% depending on bank size
Hungary	Fiscal	State budget	Balance sheet total excluding certain items	0.015% (net assets up to 50 billion HUF) i 0.53% (above 50 billion HUF)
Sweden	Financial stability	Bank restructuring fund	Liabilities excluding equity capital and certain assets	0.04%
United Kingdom	Fiscal	State budget	Liabilities excluding i.a. Tier 1 capital, insured deposits	Is to be announced by year-end (according to unofficial reports 0.1%)

Notes: The table lists countries in which an additional levy on banks has already been introduced and countries in which specific proposals have been formulated in this respect.
Source: NBP, state at 26 November 2010 .

In the NBP's view, the adoption of levies of a stabilising character and earmarking them for a resolution fund would be a more favourable solution. This fund would be used to finance resolution and manage the orderly winding down of banks should potential problems in the banking sector arise. With regard to the institutional location of the fund, the right solution for Poland would be to delegate resolution functions to the Bank Guarantee Fund (BGF) and broaden the toolbox of measures at its disposal accordingly. The extensive experience of the BGF in carrying out Polish banking sector-stabilising tasks as well as its personnel potential weigh in favour of this solution.

In the short term, the proposed solution will entail an additional burden for the banking sector; however, in the long term it should have a positive impact on domestic financial system stability.

[1] "Bank Resolution Funds", Brussels 2010, European Commission, COM (2010), 254.

3.2. Lending

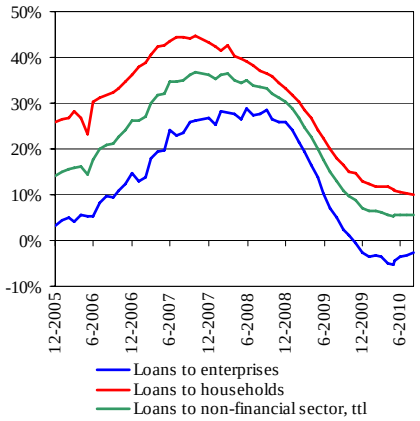
Since the publication of the previous Report, the growth rate of all major loan categories has stabilised. A relatively high growth was maintained for loans to households, and the rate at which the value of corporate loans was falling decreased.

Over the next few quarters, it may be expected that the growth rate of lending will gradually increase. Housing loans should maintain the category that exhibits the highest growth rate. In the longer term, fast credit expansion may return, especially in the segment of housing loans.

Since the publication of the previous *Report*, lending growth to the non-financial sector has stabilised – since May 2010, nominal lending growth rate (y/y) to the non-financial sector was in the range of 10-11% and lending growth rate adjusted for exchange rate differences – in the range of 5.5-5.7% (see Figure 3.5). Annual growth rate of lending to households has not changed, and the rate at which the value of corporate loans falls has decreased.

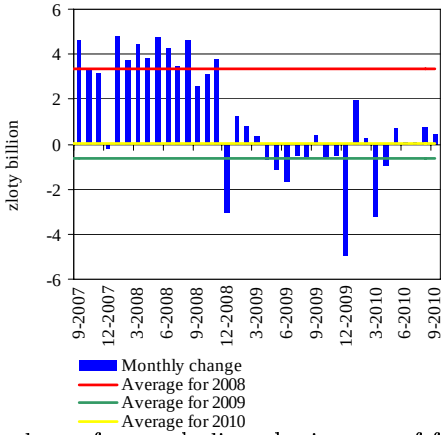
It has to be pointed out that since May 2010, monthly increases in the value of corporate loans have been positive (see Figure 3.6). In the case of large enterprises, the value of loans slightly decreased (average monthly fall in the value of loans in the second and third quarter of 2010 amounted to 8 million zlotys, while in the previous two quarters the respective average figure was 1.1 billion zlotys). In the analysed period, small and medium-sized enterprises increased their debt in banks (on the average, by around 296 million zlotys per month; previously, the fall had been by around 120 million zlotys – see Figure 3.7).

Figure 3.5. Growth rate of lending (y/y)



Notes: data after excluding the impact of foreign exchange rate changes.
Data on lending referred to in the *Report* relate to residents' debt (at the end of September 2010, loans to households-residents accounted for 99.6% of total loans to households, loans to corporates-residents – 98% of total loans to corporates).
Source: NBP.

Figure 3.6. Changes (m/m) in the value of loans to corporates

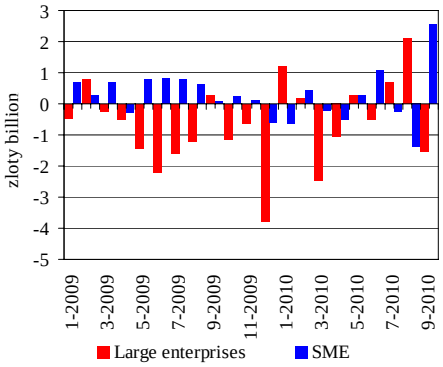


Note: data after excluding the impact of foreign exchange rate changes.
Source: NBP.

In the second and third quarter of 2010, banks

kept the standards of granting loans to corporates unchanged, and at the same time lowered spreads charged on them, and – to a much lesser extent – increased maximum loan size and extended maximum loan maturity[13].

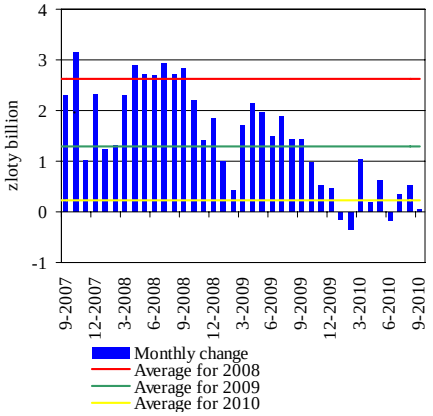
Figure 3.7. Changes (m/m) in the value of loans to corporates broken down by size of corporate



Notes: data after excluding the impact of foreign exchange rate changes.
Large corporates are defined as employing at least 250 persons, SMEs – fewer than 250 persons.
Source: NBP.

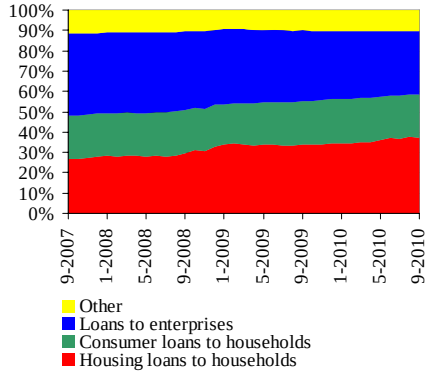
Average monthly increases in consumer loans were almost two times lower than in the period covered by the previous edition of the *Report* (see Figure 3.8). Banks continued to tighten their lending policies – in the third quarter of 2010 two thirds of the banks tightened the standards of granting consumer loans. According to the banks, the need to implement Recommendation T was the main reason for tightening their lending policies. At the same time, for the first time since second quarter of 2008 a small group of banks defined the change in the quality of the portfolio of consumer loans as a factor that supported easing lending policy. The banks registered a fall in demand for consumer loans, with tightening of the terms of granting loans mainly contributing to this decrease.

Figure 3.8. Changes (m/m) in the value of consumer loans to households



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

Figure 3.9. Structure of loan portfolio to the non-financial sector



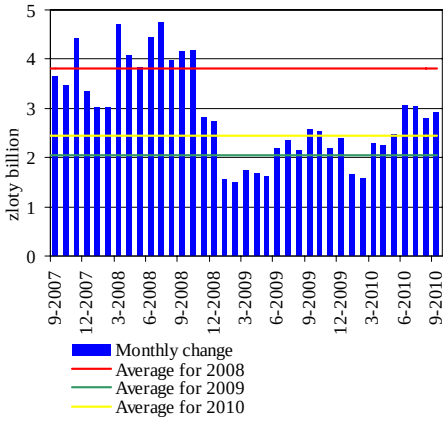
Source: NBP.

Monthly increases in housing loans – that constitute the largest category of loan portfolio in the banking sector[14] (see Figure 3.9) – stabilised at a higher level than the average for 2009 (see Figure 3.10). In this period, the banks tightened

[13] More on changes in banks' lending policies in: "Senior loan officer opinion survey – on bank lending practices and credit conditions", NBP, quarterly editions from 2010.
[14] More on the balance sheet (including loans)structure of the banking sector, see: NBP periodical reports: "Financial System Development in Poland".

the standards of granting housing loans. However, at the same time intensified competition in this market segment resulted in the lowering of loan spreads by the majority of the banks (net percentage in the third quarter of 2010 amounted to 74%). The banks surveyed by the NBP registered an increase in demand for housing loans in the second and third quarter of 2010. According to the banks, the increase in this demand mainly resulted from the outlook for the housing market.

Figure 3.10. Changes (m/m) in the value of housing loans to households

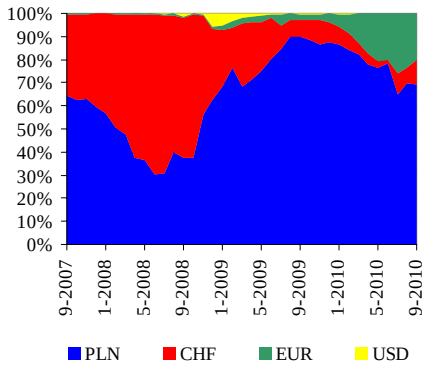


Note: data after excluding the impact of foreign exchange rate changes.
Source: NBP.

Similarly as in the period covered by the previous *Report*, in the second and third quarters of 2010, zloty denominated loans dominated in new housing loans, and at the same time, the share of loans denominated in euro was steadily rising (to around 20% in September 2010 – see Figure 3.11). However, the currency structure of the portfolio as a whole is dominated by Swiss franc-denominated loans (around 59% as of September 2010), with loans taken out in zlotys accounting for slightly above one third (see Figure 3.12).

In connection with the improved economic situation, a gradual increase in the growth rate of lending may be expected in some market segments over the next few quarters. The direction of changes in the lending policy expected by banks shows that this will not be a factor contributing to the acceleration of lending. The banks surveyed by the NBP have no plans to revise their lending policies towards large enterprises, but at the same time, indicate that a slight tightening of the standards of granting loans to small and medium-sized enterprises is possible. On the other hand, the banks expect the terms of granting housing loans to be tightened further, although a further decrease of loan spreads, related to increased competition for new customers cannot be ruled out. However, a large part of the surveyed banks (net percentage: -80%) plan to tighten the standards of granting consumer loans.

Figure 3.11. Currency structure of new housing loans to households



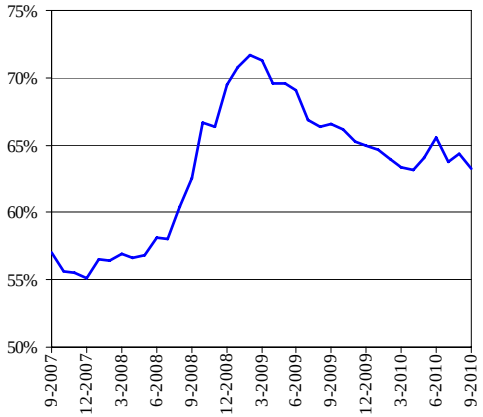
Notes: data based on a sample of 20 banks reporting information on interest rates and value of new loan agreements to the NBP. As at the end of September 2010, the share of these banks in the whole portfolio of zloty-denominated housing loans of the banking sector was around 82%, and of foreign currency-denominated housing loans – ca. 67%.
Since June 2010, loans in USD are not included in interest rate statistics.
Source: NBP.

The NBP surveys conducted among enterprises indicate that although the availability of loans

[15] See "Informacja o kondycji sektora przedsiębiorstw ze szczególnym uwzględnieniem stanu koniunktury w III kwartale 2010 r. oraz prognoz koniunktury na IV kwartał 2010 r.", NBP, 2010 r. ["Information on the condition of

has improved over 2010, enterprises report a low demand for loans and are planning to reduce their debt in banks[15]. On the other hand, the banks assess that corporate demand for loans may increase, especially for long-term loans from large enterprises (net percentage: 40-60%). The results of this survey show the largest enterprises (with employment of at least 2,000) plan to increase both investment activity and bank debt. Banks also expect a slight increase in demand for housing and consumer loans (net percentage: around 20%).

Figure 3.12. Share of loans denominated in foreign currencies in housing loans



Source: NBP.

Satisfactory liquidity position of enterprises and weaker tendency to start new investment projects in the value exceeding their own funds, might indicate that in the nearest quarters their demand for loans, especially investment loans will be low. Most of the enterprises (66%) which applied for a loan in the third quarter of 2010 had planned to finance inventories and working capital[16].

The NBP estimates based on qualitative data from bank lending surveys suggest that the growth of main loan categories may be more pronounced in 2011, and an annual change in corporate loans should be positive starting from in the middle of the year. In the longer horizon, both demand for loans and the growth rate of lending are expected to rise. The good outlook for growth of the Polish economy shows that corporate demand for investment loans should gradually grow. Higher demand for loans will also be triggered by the implementation of investment projects co-financed with EU funds.

Demand for housing loans will remain at a high level and the growth rate of lending in this market segment will rise. These developments will be supported by demographic factors, particularly by an increase in the number of households[17]. Demand for housing loans denominated in foreign currencies is expected to sustain as the interest rate differential resulting in part from the difference in the natural interest rates is likely to be maintained.

In order adjust to the supervisory regulations, the banks are tightening the standards of granting housing loans. At the same time, however, they are easing some terms on granting loans in this market segment. It may be expected that in the longer term, as the pace of economic growth accelerates, the banks will try to level the impact of supervisory regulations. The fact that foreign currency-denominated loans, temporarily withdrawn after the rise in uncertainty in the financial markets in autumn 2008 and difficulties in closing foreign exchange balance sheet position, are offered again by a number of banks, suggests that the share of foreign currency-denominated loans in housing loans will be growing. On account of the risk underlying foreign currency lending and the potentially negative impact on the economic situation, the National Bank of Poland supports measures taken to mitigate risk arising inform lending in foreign currencies (see Box 2). It seems that if a regulation limiting origination of foreign currency-denominated loans is introduced, it will

the enterprise sector, including the economic climate in 2010 Q3 and forecasts for 2010 Q4", NBP, 2010].

[16] "Informacja o kondycji [...]" *op. cit.*

[17] See more on long-term outlook for lending growth and factors influencing its growth in Box 2 in "Financial Stability Report – July2010".

have no impact on a considerable decrease in demand for housing loans, because there is a strong substitution between housing loans denominated in zlotys and in foreign currencies.

In the longer term, factors on the supply side should not curb the growth rate of housing loans. The banks' high liquidity, absorbed, among others, by NBP bills, may become an additional factor for banks to increase lending, as long as they assess that market developments will not require them to hold a high buffer of liquid assets. At the same time, the high profitability of banking activity in Poland will be an incentive for international banking groups to expand the activity of their Polish subsidiaries and to fund their lending.

It also seems that the impact of new supervisory regulations (the so-called Basel III) on loan supply will be limited. The new liquidity standards have been moderated in comparison to the original proposals and should not have an adverse impact on the funding situation of the majority of domestic banks (initial estimates of commercial banks' compliance with the NSFR standards are presented in Box 4). The capital position of banks in the context of the need to comply with the new capital adequacy regulations is also good (see Box 6).

Box 2. Risk associated with foreign currency lending

The currency structure of loans extended by banks may be an important factor influencing financial system stability. A large share of foreign currency-denominated loans concerns, in particular, developing open economies.

The main reasons for a considerable share of foreign currency-denominated loans in Central and Eastern European countries are as follows:

- financial markets liberalisation and the rising share of foreign investors in the banking sector. With the freedom to operate on international markets, banks have gained easier access to foreign funding, also via their parent banks. This has paved the way for the development of their lending offer,
- the spreads between domestic interest rates and those in economically developed countries. They mostly stem from the need to lower inflation in the early stage of an intense development of the economy and from higher natural interest rates in comparison with economically developed countries,
- limited domestic savings that push up the share of foreign funding,
- exchange rate policy (mechanism). In some countries of the region, the adopted mechanism (currency board, fixed exchange rate, participation in the ERM) has allowed respective authorities to purse an anti-inflationary policy; however, at the same time it offered *implicite* guarantees for borrowers, encouraging them to take out lower cost foreign currency-denominated loans.

The above factors shaped the currency structure of loans in individual countries of the region to a various degree. However, threats connected with unfavourable loan currency structure concern all countries that exhibit a high share of foreign currency-denominated loans. Risk factors related to origination of foreign currency-denominated loans are listed below:

- credit risk. In the case of taking out a foreign currency-denominated loan, the borrower, whose income is denominated in domestic currency, is exposed to a direct FX risk, because foreign exchange rate fluctuations change the value of the outstanding principal while the borrower's income remains unchanged. In the case of a permanent or substantial depreciation of domestic currency, the borrower may be not capable of servicing the loan, especially if it was extended in a period when domestic currency was relatively strong. It should be remembered that following the default of Lehman Brothers, the EUR/PLN exchange rate depreciated by over 40% in half a year. Subsequently, the materialisation of FX risk taken by the borrower translates into credit risk for the loan originating-bank,

- weakening of the monetary transmission mechanism. By pursuing the monetary policy, a central bank impacts the level of short-term market interest rates and thus, indirectly, influences interest rates of domestic currency-denominated loans and deposits in banks. On the other hand, interest rates on foreign currency-denominated loans hinge on the level of foreign interest rates. In extreme cases, changes in central bank's interest rates may have a counterproductive effect on how credit aggregates behave – an increase in domestic interest rates may be conducive to a growth in foreign currency-denominated loans as a result of the increase in interest rate disparity,

- banks' cost of hedging against FX risk arising from foreign currency loan origination. Banks that extend foreign currency-denominated loans and use domestic currency deposits for funding purposes hedge open foreign currency positions by FX swaps and CIRS. During the recent financial turmoil, access to this type of instruments was hampered and their costs increased[1] .

In Poland, housing loans to households account for the majority of foreign currency-denominated loans. The strong growth of housing loans was generated, on the one hand, by the rise in households' demand for homes, which was supported by increased availability of loans and their relatively low cost, and, on the other hand, by supply constraints in the housing market, which led to their price rise and further increase in demand (speculation demand).

Against other Central and Eastern European countries, the situation of Poland seems to be good. In the years 2003 to 2010, the share of foreign currency-denominated loans in total loans in Poland was at a roughly similar level and amounted to around one third (either increasing or decreasing by a single-digit percentage point depending on foreign exchange rate movements). For comparison, over the years 2005 to 2010 the share of foreign currency-denominated loans in the loan portfolio of the banking sector in Latvia rose from 70 to 93%, in Estonia - from 80 to 89%, in Lithuania - from 61 do 74%, in Hungary - from 40 to 64% and in the Czech Republic it fell from 10 do 8%[2].

The quality of the portfolio of foreign currency-denominated loans has to date been better than that of zloty-denominated loans. A substantial depreciation of the zloty after the default of Lehman Brothers was not followed by a marked deterioration in the quality of foreign currency-denominated loans due to the simultaneous interest rates cuts by the European Central Bank and the Swiss National Bank. However, the value of the outstanding principal (also in relation to collateral value) rose substantially for borrowers who took out loans when the zloty was strong.

Despite the low share of foreign currency-denominated loans in the loan portfolio in comparison with other Central and Eastern European Countries and the currently relatively good quality of

foreign currency-denominated loans in Poland, risks related to their origination described above pose a threat to financial system stability and monetary policy effectiveness, which may, in consequence, negatively impact the economic situation. On account of this, the NBP gives support to measures aimed at risk mitigation taken by the KNF and the government.

The KNF is planning to amend Recommendation S II, in force since 1 April 2009. The major scheduled amendments include:

- introducing a 50% limit for the share of exposures open to FX risk in the entire bank's portfolio of retail credit exposures financing real estate,
- recommending striving to limit the borrower's exposure to FX risk by ensuring conformity of the currency of exposure with the currency of income used for repayment,
- introducing the obligation to identify reliable sources of financing long-term credit exposures, that finance the real estate, adequately to the currency of the exposure,
- introducing the obligation for the bank to justify the adopted maximum level of LTV,
- introducing the obligation to adopt the maximum credit exposure repayment period of 25 years in the process of creditworthiness assessment, even if an expected repayment period is longer.

It should be emphasized that due to the risk underlying foreign currency-denominated loans, such loans should not be a product offered on a mass scale. Therefore, in the NBP's view, it would make sense to consider imposing a ban on extending foreign currency-denominated housing loans to borrowers who obtain income in domestic currency and who have no adequate collateral other than the assets funded by the loan.

[1] During the turmoil in the market of FX risk hedging instruments, on 13 October 2008, the NBP introduced FX swaps for banks to allow them to close balance sheet positions.
[2] Data of the NBP and central banks.

3.3. Credit risk

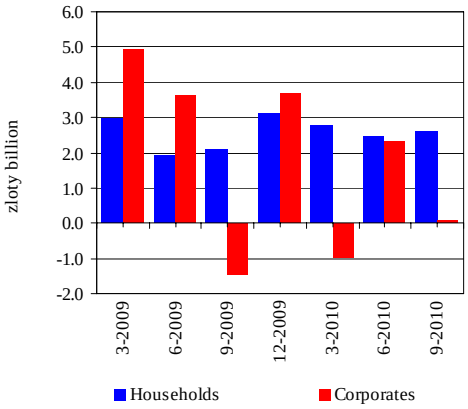
The quality of banks' loan portfolio was worsening albeit at a slower pace than in the period covered by the previous Report. This development contributed to an increase in the profitability of intermediation between savers and borrowers. In the coming quarters, the rate at which the quality of the loan portfolio is worsening may be expected to decrease, which will lead to a stabilisation or a decrease in the value of charges to provisions for impaired loans.

3.3.1. Banks' credit risk premium and cost

As compared with the state of affairs described in the previous *Report*, the quality of bank's loan portfolio has worsened. The value of impaired loans was increasing both in the portfolios of loans to corporates and to households (see Figure 3.13). However, the rise of impaired loan

ratio was slower than in 2009 (see Table 3.3)[18].

Figure 3.13. Changes (q/q) in the value of impaired loans



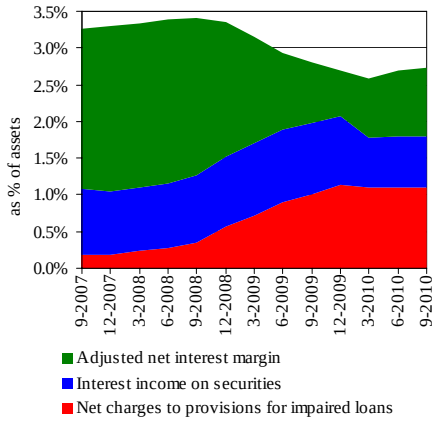
Note: data after excluding the impact of foreign exchange rate changes.
Source: NBP.

As a result of the deterioration in the loan quality, charges to provisions for impaired loans were high. In comparison with the previous *Report*, the growth rate of charges was, however, lower. Owing to this development, the ratio of charges to provisions for impaired loans to assets stabilised and the burden of these charges on net income from banking activity fell (see Table 3.2).

The coverage of impaired loans to households by impairment provisions remained at a similar level, but the coverage of corporate loans decreased (see Table 3.3). In the European Union, the coverage of impaired loans fell, which, in ECB's view, will imply the need to create further charges to impairment provisions[19].

Net interest margin rose in comparison with the first three quarters of 2009. This rise was due to the higher net interest income that resulted, in turn, from the lowering of interest expense. However, interest expense continued to remain at a higher level than before the end of 2008. The fall of interest expense was caused by less intense competition for household deposits and lower official interest rates in Poland and abroad (see Chapter 3.5).

Figure 3.14. Net interest margin



Notes: annualised data.
The upper edge of the area in the Figure corresponds to the net interest margin (NIM). This margin is partially created by interest income on debt securities (not classified in the "loans and receivables" portfolio), issued mostly by the government, therefore carrying low credit risk. Part of the remaining interest margin is used to cover the cost of credit risk materialisation. Adjusted net interest margin, as a residual value, measures the net profitability of intermediation between savers and borrowers.
Source: NBP.

The positive changes in the value of net interest margin and the stabilisation of the ratio of charges to provisions for impaired loans to assets were reflected in the growth of *adjusted* net

[18] The value of impaired loans in banks using IFRS and the value of irregular loans in banks using the Polish Accounting Standards will be described collectively by the terms "impaired loans".
[19] See "EU banking sector stability: September 2010", EBC, 2010, p. 5.
[20] The fall of the ratio of interest income on debt instruments to assets in the first quarter of 2010 is related to a change in the way interest income on debt instruments classified as "held for trading" and "designated at fair value through profit and loss account" is presented. In the past, the income was recognised as interest income, and currently it is recognised jointly with price changes of these instruments (see item "Gains/losses on valuation and trading activities" in Table 3.1). In 2009, this part of interest income accounted for 27.7% of total interest income on debt instruments.

interest margin that measures the profitability of intermediation between savers and borrowers (see Figure 3.14)[20]. The value of adjusted net interest margin was strongly dependent on the product and the borrower. On the average, consumer loans displayed the highest profitability (see Figure 3.15).

The value of impaired loan ratio in Poland was higher than in the developed countries of the European Union, as was the ratio of charges to provisions for impaired loans to assets[21]. In spite of this, due to high margins on intermediation between savers and borrowers, the activity of the Polish banking sector was more profitable.

In the coming quarters, the pace at which the quality of the loan portfolio will be deteriorating may be expected to decrease, which will contribute to a stabilisation or fall of values of charges to provisions for impaired loans. Net interest income may stabilise at the present level or slightly increase. This will result in sustaining the growth of the profitability of intermediation between savers and borrowers.

Such a scenario could be jeopardized by the slower-than-expected pace of economic growth that would trigger stronger deterioration in the quality of the loan portfolio as well as lead to a decrease of net interest income. In addition, a potential intensification of competition for deposits (long-term deposits in particular) and other stable funding sources, driven by regulatory changes (liquidity regulations, taxation of "unstable" liabilities) might lead to the increase in interest expense, particularly if real sector entities showed increased interest in other forms of investing savings (in particular, investment funds).

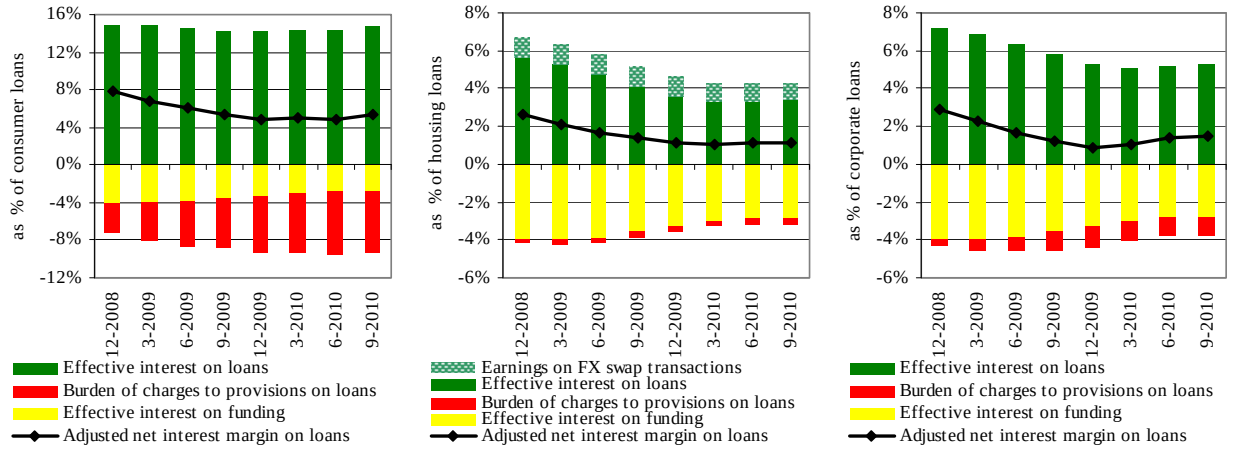
Table 3.3. Impaired loans and impairment provisions

	12-2008	12-2009	3-2010	6-2010	9-2010
Nonfinancial sector					
- impaired loans (zloty billion)	29.87	50.48	52.10	57.62	59.89
- impaired loan ratio (in %)	4.92	7.89	8.14	8.48	8.78
- impairment (zloty billion)	16.97	26.25	28.45	30.77	32.38
- impaired loans coverage ratio (in %)	56.80	52.01	54.59	53.40	54.07
Households					
- impaired loans (zloty billion)	14.82	24.88	27.57	30.37	32.84
- impaired loan ratio (in %)	3.99	5.99	6.57	6.69	7.18
- impairment (zloty billion)	9.91	16.61	18.75	20.76	22.28
- impaired loans coverage ratio (in %)	66.90	66.75	67.99	68.37	67.84
Corporates					
- impaired loans (zloty billion)	14.99	25.56	24.44	27.15	26.98
- impaired loan ratio (in %)	6.44	11.52	11.22	12.20	12.20
- impairment (zloty billion)	7.02	9.60	9.67	9.98	10.08
- impaired loans coverage ratio (in %)	46.86	37.57	39.57	36.76	37.35
Loans written off from balance sheet (from year start, zloty billion)	2.83	2.57	0.42	1.18	2.08

Source: NBP.

[21] It should be pointed out that comparing data on loan quality is difficult due to lack of harmonised definitions.

Figure 3.15. Estimated profitability of consumer loans (left-hand panel), housing loans (central panel) and corporate loans (right-hand panel)



Notes: annualised data
The values presented here should only be regarded as a proxy of the actual profitability of particular credit products. Identical funding costs (effective interest rate of liabilities) were assumed for each credit category. Estimated profitability takes no account of profit earned on foreign currency-denominated loans due to the difference between the bid and offer price of currencies.
"FX swap gains/losses" for housing loans are the estimated net gains/losses on closing of an open FX position by banks (related to origination of Swiss franc-denominated housing loans) by 3-month FX swaps CHF/USD and USD/PLN. NBP data show (see Chapter 3.4) that Polish banks' open FX position is very low, but the balance sheet value of Swiss franc-denominated loans in the majority of banks that provide such loans significantly exceeds the value of liabilities valued at amortized cost in this currency (for euro-denominated loans, this only applies to few banks and on a small scale). This means that banks close this position using off-balance sheet transactions. The result of this closing was estimated as the product of the sum of banks' long positions (positive differences between the value of Swiss franc-denominated loans and value of liabilities valued at amortized cost in this currency) and the average quarterly difference between WIBOR 3M rate and LIBOR CHF 3M rate adjusted for implied spread on FX swaps.
Source: NBP.

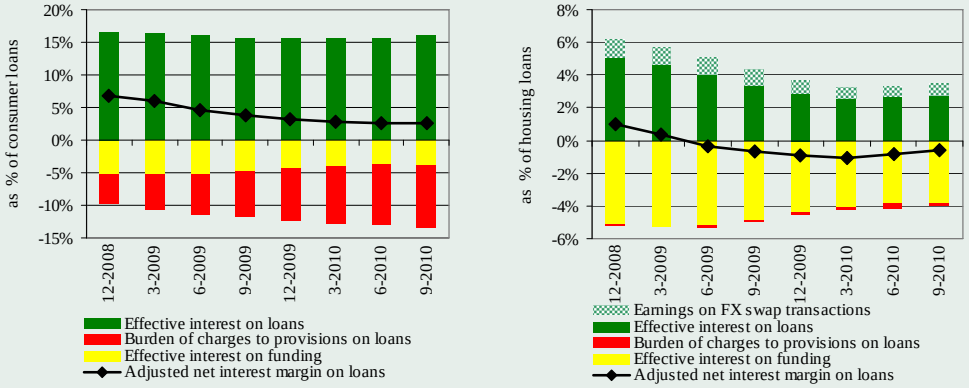
Box 3. Quality of credit portfolio and profitability of banks specialised in extending loans to households

The reasons for special interest in the situation of banks specialised in extending loans to households[1] were their poor earnings and low profitability of activity against other entities of the banking sector. The Box analyses twenty eight commercial banks and branches of credit institutions, controlling a total of 18.3% of assets of the banking sector (as at the end of September 2010). The loss of this group of banks at the end of 2009 amounted to 58 million zlotys, and after three quarters of 2010 – 340 million zlotys. At the same time, banks with negative profitability included in this group were the largest group, in terms of total assets, of banks with negative profitability (see Chapter 3.1).

Low net profits of banks that specialise in extending loans to households resulted primarily from

the lower profitability of lending activity (measured by adjusted interest margins on consumer and housing loans[2], see Figure 1 in this Box and 3.15 in the main text) than on average in the banking sector. These banks also incurred, on average, higher funding costs and higher costs of credit risk materialisation (in relation to loan portfolios) than other entities of the banking sector.

Figure 1. Estimated profitability of consumer loans (left-hand panel) and housing loans (right-hand panel) in banks that specialise in extending loans to households



Notes: as in Figure 3.15.
Source: NBP.

In times of benign economic conditions, the value of consumer and housing loans granted by banks that specialise in extending loans to households was rising faster than in other entities of the banking sector. This may suggest that these banks applied more lenient standards of extending loans in order to capture or increase their market share.

Low margins on loans were the primary reason of the negative profitability of housing loans[3] extended by banks specialised in loans to households. The effective interest rate of this portfolio (understood as the ratio of interest income plus the estimated net gains/losses on FX swaps to the average value of housing loans) was lower than the effective interest rate of liabilities. This points to a too strong lowering of margins on housing loans extended by these banks in the times of good economic conditions (the fact that such a risk exists was signalled in the previous editions of the *Report*).

The lower (than on average in the banking sector) profitability of consumer loans in banks that specialise in loans to households was primarily determined by the poor quality of such consumer loans. At the end of the third quarter of 2010, annualised charges to provisions for impaired consumer loans exceeded 60% of the value of interest income on these loans (see Figure 1). A higher than banking sector's average effective interest rate of these loans may prove that these banks used tighter terms on granting loans (interest, fees and commissions etc.), which may have resulted in adverse selection.

The worse quality of consumer loans as well as lower profitability of housing and consumer loans than in other banks may have contributed to stronger constraints in lending growth by banks specialised in extending loans to households in 2010[4]. In the period covered by the *Report*, the value of consumer loans in these banks diminished by 1.3% compared with a 4.3% rise in other

banks (in a 12-month period the changes amounted to -0.6% and 7.8%, respectively), and the value of housing loans adjusted for exchange rate changes rose by 5.4% vs. 8.4% in other banks (over a 12-month period, these changes were 11.8% and 15%, respectively).

It seems no improvement in the profitability of loan portfolios of banks specialising in loans to households should be expected in the near term. In the case of long-term housing loans with low spreads, improvement of portfolio profitability would require a decrease in funding costs. As for consumer loans, their effective interest rate was higher than in the banking sector, therefore raising it for new loans may be difficult due to competitive pressure, and, in case of some products, also due to the statutory limit imposed on the maximum interest rate of consumer credit, i.e. a quadruple of NBP Lombard rate[5].

[1] It has been assumed that these are banks and branches of credit institutions in which loans to households account for over 80% of loans to the non-financial sector. The average share of housing loans in portfolios of loans to the non-financial sector in these banks amounted to 54.2%, and the share of consumer loans – 35.9% (in the banking sector, the share was 40.8% and 21.1%, respectively).
[2] Estimates of loan profitability, described above, donot take account of banks' income on cross-selling products, e.g. loan insurance, as well as of income earned on foreign currency-denominated loans from foreign exchange spreads. However, negative net earnings of some banks that specialise in extending loans to households may also reflect the fact that credit and funding risks were underrated by these banks.
[3] Housing loan profitability estimates do not take into account income earned on foreign currency-denominated loans from foreign exchange spreads.
[4] Banks that specialise in loans to households, that participated in the NBP senior loan officer opinion surveys on bank lending practices and credit conditions, have – more explicitly than other banks – pointed out in recent quarters the poor quality of their consumer loan portfolios as the reason for cutting lending.
[5] At the end of September 2010, this rate was 5%.

3.3.2. Credit risk of corporate loans

In the period covered by the *Report*, the quality of corporate loans has slightly deteriorated (see Figure 3.16). After a fall in the first quarter of 2010, the value of impaired loans rebounded in the next two quarters (see Figure 3.17). After excluding the impact of foreign exchange rate changes, the value of impaired loans rose by 9.9% in the past six months and by 23.3% in the last 12 months.

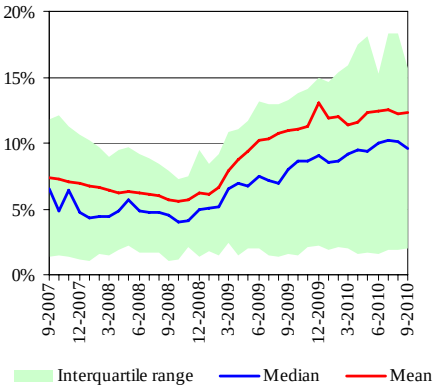
The average value of the impaired loan ratio stabilised above the 2010 Q1 value. In the group of large enterprises, the ratio remained slightly below 10%, whereas in the sector of small and medium-sized enterprises it grew to 14.5% (see Table 3.4). Statistical effect, i.e. the fall of the value of total claims on enterprises (see Chapter 3.2), was one of the reasons for the increase of this ratio as compared with the period covered by the previous *Report*.

Table 3.4. Impaired loan ratios for enterprises (%)

Enterprises	12-2009	3-2010	9-2010
Large, of which:	9,2	9,6	9,7
– zloty loans	10,5	10,9	10,8
– FX loans	6,0	6,6	6,8
SME, of which:	13,6	12,7	14,5
– zloty loans	15,7	14,4	16,2
– FX loans	5,3	5,1	6,3

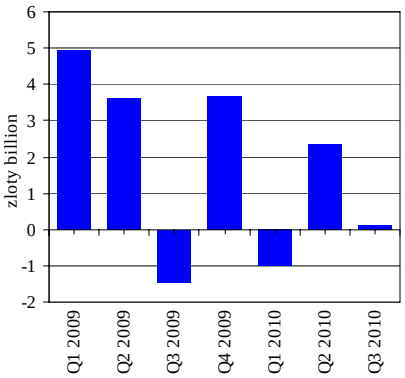
Note: large enterprises defined as employing at least 250 persons, SMEs – fewer than 250 persons.
Source: NBP.

Figure 3.16. Impaired loan ratios for enterprises



Source: NBP.

Figure 3.17. Quarterly changes in the value of impaired loans to enterprises



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

The deterioration in the quality of loan portfolio affected the majority of sections of the corporate sector, however its scale decreased. In comparison with the previous *Report*, impaired loan ratio was lower in the sections embracing over 30% of the portfolio of large exposures (in the first quarter of 2010, this share amounted to around 11%)[22]. In case of the largest section of the corporate sector – *manufacturing* – the quality of the loan portfolio improved.

The improvement in the economic climate led to the growth of corporate earnings and increased enterprises' capacity to settle bank liabilities. In the second quarter of 2010, the net profit of the corporate sector ran above the average for 2009 and in the first half of the year it rose by 6.1% y/y. The enterprises surveyed by the NBP reported an increase in production capacity utilisation and further growth of demand in all the quarters of 2010[23]. Gradual improvement in the conditions in which enterprises operate is also reflected by the considerable increase of industrial output growth and sales in industry[24].

In the first half of 2010, profitability ratios remained at the level close to the 2009 figures (see Figure 3.18). The fact that the ratios stabilised resulted from the comparable growth of revenues and costs of enterprises, which amounted to around 8% q/q in the second quarter of 2010. As the percentage of enterprises that declare the intention to cut costs continues to decrease, the profitability of the corporate sector in the near future will largely depend on revenues growth. Perspective of a rise in enterprises' earnings is supported by their expectations regarding future economic climate, however the NBP surveys

[22] Calculations of the structure of loans do not take account of the sections of *financial and insurance activities* and *public administration*.
[23] A detailed description of changes in the position of enterprises can be found in: "Informacja o kondycji sektora przedsiębiorstw ze szczególnym uwzględnieniem stanu koniunktury w III kwartale 2010 r. oraz prognoz koniunktury na IV kwartał 2010 r.", NBP, 2010 r. [Information on the condition of the enterprise sector, including the economic climate in 2010 Q3 and forecasts for 2010 Q4]
[24] See "Inflation Report October 2010", NBP.
[25] See "Informacja o kondycji [...]", *op. cit.*

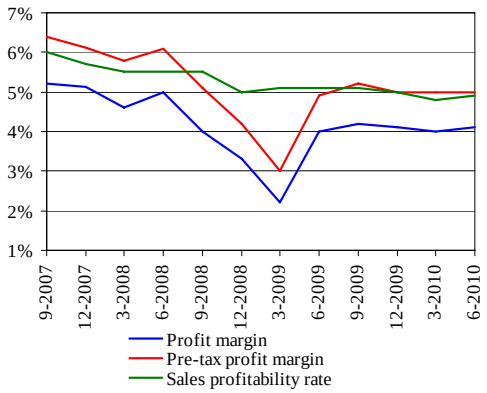
Table 3.5. Quality of large exposures by sections of the economy (%)

Section	Structure of total loans by section	Structure of impaired loans by section	Impaired loans ratio
A – Agriculture	1,6 (1,6)	1,6 (1,9)	9,0 (9,7)
B – Mining	0,9 (0,8)	2,1 (2,5)	22,1 (26,2)
C – Manufacturing	28,7 (29,0)	32,3 (38,1)	10,4 (10,8)
- Food processing	5,5 (5,4)	7,7 (9,4)	12,9 (14,3)
- Manufacture of coke and refined petroleum products	3,2 (3,2)	0,8 (0,9)	2,2 (2,3)
- Manufacture of rubber and plastic products	1,7 (1,7)	1,5 (1,1)	8,3 (5,4)
- Manufacture of metal products (excluding machinery and equipment)	2,5 (2,5)	2,7 (2,5)	9,9 (2,5)
D – Electricity, gas and steam supply	3,3 (3,9)	0,6 (0,7)	1,6 (1,5)
E – Water supply, sewerage, waste management	1,5 (1,3)	0,7 (0,5)	4,5 (3,2)
F – Construction	15,9 (15,3)	16,6 (15,6)	9,6 (8,4)
G – Retail trade and repairs	20,5 (20,4)	17,0 (16,7)	7,6 (6,8)
H – Transportation and storage	2,9 (2,9)	3,3 (3,5)	10,5 (9,8)
I – Hotels and restaurants	2,1 (2,1)	3,9 (3,9)	17,3 (15,7)
J – Information and communication	3,4 (3,7)	0,8 (0,7)	2,2 (1,4)
K – Financial and insurance activities	11,8 (10,7)	1,1 (1,1)	0,9 (0,8)
L – Real estate activities	11,4 (11,2)	15,3 (10,3)	12,4 (7,6)
M – Professional, scientific and technical activities	2,7 (3,2)	3,9 (4,1)	13,1 (10,6)
N – Administrative activities	3,1 (2,8)	0,4 (0,4)	1,3 (1,3)
O – Public administration	10,7 (9,1)	0,3 (0,1)	0,3 (0,1)
P – Education	0,4 (0,3)	0,3 (0,3)	7,7 (7,6)
Q – Health care	1,2 (1,0)	0,3 (0,3)	2,7 (2,2)
R – Arts, entertainment and recreation	0,3 (0,3)	0,6 (0,4)	19,0 (10,6)
S – Other services	0,3 (0,3)	0,2 (0,1)	4,7 (3,5)
Total (excluding sections K i O)	81,7 (83,5)	98,6 (98,8)	9,2 (8,1)
Total value (excluding sections K i O), (zloty billion)	338,2 (319,6)	–	31,2 (26,3)

Notes: data for September 2010, in brackets data for March 2010; by NACE-2007 sections of the economy; credit exposures include claims arising from 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 in the form of a joint stock company, state-run bank and a non-associated cooperative bank an exposure towards one enterprise in excess of 500,000 zloty, for an associated cooperative bank an exposure towards one client in excess of 50,000 zloty.
Source: NBP.

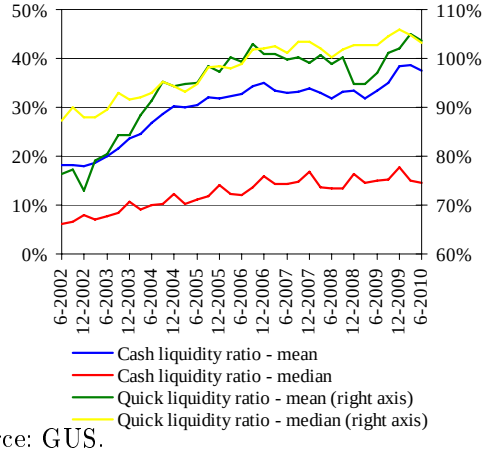
among enterprises indicate that their optimism has slightly fallen in the past two quarters[25].

Figure 3.18. Profitability of the corporate sector



Note: data presented cumulatively.
Indices presented in the figures 3.18 – 3.21 are calculated for non-financial enterprises employing over 49 persons.
Source: GUS.

Figure 3.19. Financial liquidity ratios of enterprises

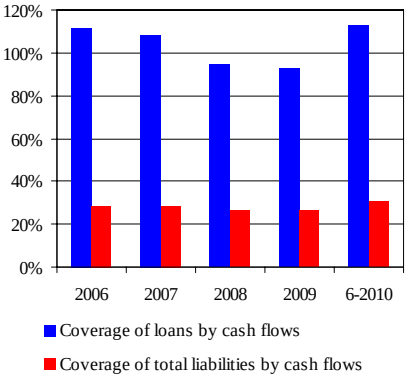


Source: GUS.

The values of key liquidity ratios decreased in the second quarter of 2010, however, they continue to run above their historical levels (see Figure 3.19). The decrease was supported by the growth of trade liabilities in the period covered by the *Report*. It has to be noted that in the second and third quarter of 2010, the annual growth of enterprises' deposits remained high, which combined with high annual lending growth reflected a low investment activity of enterprises.

In the first half of 2010, the percentage of enterprises generating negative values of cash flows from operating activities rose to around 21% (at the end of 2009, the corresponding percentage amounted to around 18%)[26]. However, in comparison with 2009, the ratios of coverage of loans and liabilities improved (see Figure 3.20), which stemmed from the growth in the value of cash flows from operating activities, the fall in the value of loans and lower dynamics of liabilities in 2010.

Figure 3.20. Ratio of the value of cash flows from operating activities (annualised) to total liabilities of enterprises



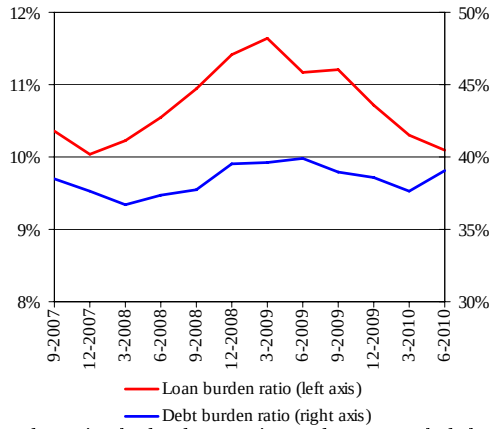
Source: NBP calculations based on GUS data.

The fall in the value of loans to enterprises in the second quarter of 2010 led to a further decrease of the loan burden ratio (see Figure 3.21). At the same time, a significant rise of short-term trade liabilities contributed to the growth of the debt burden ratio, which should, however, bear no significance for timely loan servicing. In the second quarter of 2010, interest burden on net operating income diminished to around 15% from around 17% in the previous quarter.

[26] Calculations based on GUS data for a group of enterprises employing at least 50 persons.

Should the trends in respect of the economic climate and the financial position of enterprises continue, a gradual improvement in the quality of corporate loans portfolio may be expected. The developments in the global economic climate in the near term remain the primary source of risk for such a scenario. The survey results show that enterprises still expect demand and output to grow, however expectation indicators have been worsening for two quarters[27]. Lower expectations regarding new orders (including export orders) and output may prompt enterprises to cut production plans. It should also be noted that value of impaired loan ratio will largely hinge on changes in the value of corporate loans portfolio (statistical effect).

Figure 3.21. Financial leverage



Note: data include domestic and external debt.
Source: NBP calculations based on GUS data.

Although enterprises' short-term expectations with respect to demand and production developments are less optimistic, the results of future economic climate survey support expectations of a sustained improvement in the condition of the corporate sector. After a stabilisation in the second quarter of 2010, in the third quarter PMI for the manufacturing sector was close to its record high four years ago. Leading Indicator published by the Bureau for Investment and Economic Cycles (BIEC) rose in the period analysed in the *Report* to the level close to its 2007 record high. The growth of average employment in the enterprise sector in the second quarter of 2010 and faster-than-expected economic recovery in Germany are additional factors increasing the likelihood of improvement in economic climate. Further growth in German export sales may stimulate demand and services of Polish contractors[28].

3.3.3. Credit risk of the portfolio of loans to households

In the second and third quarter of 2010, the quality of loans to households deteriorated. The increases in the value of impaired loans and in impaired loan ratios were relatively high, but slightly lower than in the period analysed in the previous *Report* (see Figure 3.13). The factors that contributed to this development included improvement in the labour market and lesser degree of credit risk materialisation for consumer loans. The value of impaired loans rose by 18.2% in the past 6 months and by 50.1% in the past 12 months[29]. At the end of September 2010, the impaired loan ratio rose to 7.2% (see Figure 3.22).

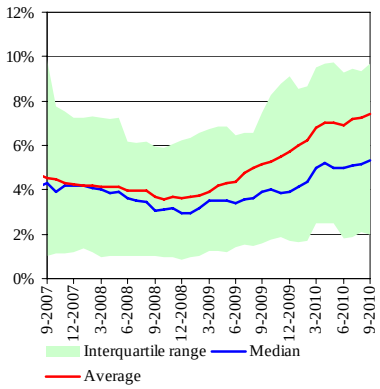
Table 3.6. Impaired household loan ratios (%)

Type of loans	12-2009	3-2010	9-2010
Housing loans,	1,5	1,5	1,8
of which:			
– zloty loans	2,3	2,4	2,8
– FX loans	1,1	1,0	1,2
Consumer loans,	13,0	14,8	17,0
of which:			
– zloty loans	13,6	15,5	17,7
– FX loans	4,3	4,4	5,6

Source: NBP.

[27] Despite their fall, expectation indicators still remain at the level close to historical average values; see "Informacja o kondycji [...]", *op. cit.*
[28] As Polish exports to Germany concern mainly supply goods, a rise in the value of German exports has a positive impact on the demand for Polish export goods, see: "Inflation Report – August 2005", NBP, p.21.
[29] Changes after excluding the impact of foreign exchange rate changes according to NBP-made estimates.

Figure 3.22. Impaired loan ratios for households



Source: NBP.

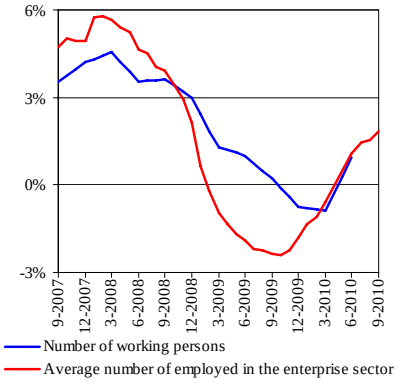
Condition of the household sector

The condition of the household sector slightly improved in the period covered by this *Report*. As the situation in the labour market improved, income from employment, the largest component of households' disposable income, rose in real terms (y/y) in the second quarter of 2010. On the other hand, the real growth rate of disposable income decreased in comparison to two previous quarters. However, this decrease largely represented the base effect resulting from the high increase of this item in the second quarter of 2009.

A rise in the number of working persons in the second quarter of 2010 reflected the improved situation in the labour market (see Figure 3.23). This increase was connected with a rise in the economic activity of population. In the second and third quarter of 2010, employment in the corporate sector also rose. Forecasts of employment developments for the fourth quarter of 2010 presented by enterprises in the NBP survey[30] show that it is stabilising. In the past four quarters, corporate expectations substantially improved – the percentage of enterprises planning to decrease employment fell, while the percentage of enterprises planning to increase employment rose.

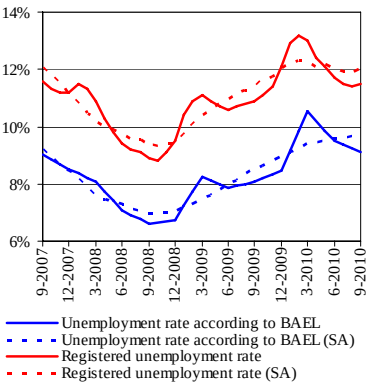
[30] "Informacja o kondycji [...]" op. cit.

Figure 3.23. Annual changes in the number of working persons according to BAEL and in average employment in the corporate sector



Note: number of working persons according to BAEL – quarterly data, employment in the corporate sector – monthly data.
Source: GUS.

Figure 3.24. Unemployment rate according to BAEL and registered unemployment rate



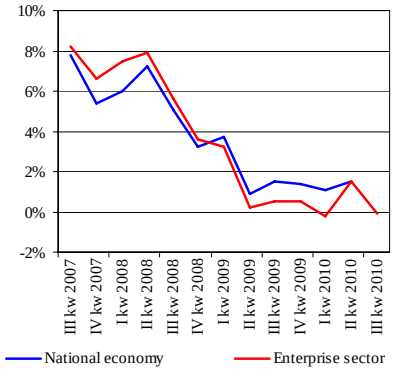
Note: unemployment rate according to BAEL – quarterly rate, registered unemployment rate – data as at the end of a month.
Source: GUS.

The rise in the number of economically active persons led to the stabilisation rather than fall of the seasonally adjusted BAEL unemployment rate in the second quarter of 2010 (see Fig-

ure 3.24). The seasonally adjusted rate of registered unemployment also stabilised (at the level of 12%).

A low real growth of average monthly wage in the economy continued in the second and third quarter of 2010 (see Figure 3.25). However, after an increase in the second quarter 2010, average monthly wage in the corporate sector slightly decreased, in real terms, in the third quarter of 2010. The results of the NBP surveys[31] show that the percentage of enterprises planning wage increases has markedly risen since the first quarter of 2010, although it runs below its long-term average. The average value of scheduled wage increases remains at a moderate level. Wage cuts that could have a negative impact on households' ability to repay loans were scheduled by an insignificant portion of enterprises (around 1.3–1.4%[32] in the second quarter of 2010).

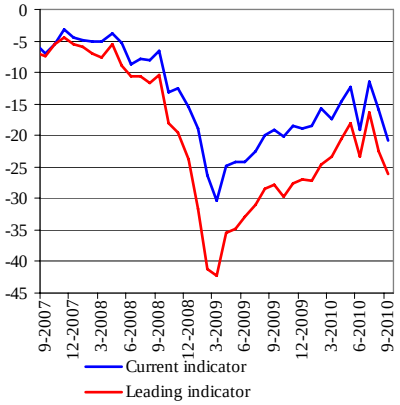
Figure 3.25. Annual change in real terms of average monthly wage in the economy and in the corporate sector



Source: GUS.

In the second and third quarter of 2010 the monthly changes in the value of consumer confidence indicators were relatively large (see Figure 3.26). In August and September 2010, consumer sentiment worsened. Forecasts of changes in the general economic situation of Poland worsened to the largest extent. Forecasts of the financial standing of surveyed households over a next year horizon worsened to a lesser extent. Deterioration of consumer sentiment indicators, if permanent, may reduce households' propensity to take out loans.

Figure 3.26. Consumer confidence indicators



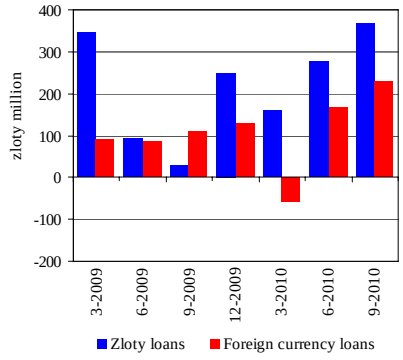
Source: GUS.

Housing loans

Despite the significantly higher economic growth rate than in the corresponding period of 2009 and a better situation in the labour market, the quality of housing loans in the second and third quarter of 2010 deteriorated to a larger extent than in previous periods (see Figure 3.27). The value of impaired loans in the past 6 and 12 months grew by 30.6% and 52.8%, respectively[33]. Growth of the impaired loan ratio was also larger than in previous periods (see Table 3.6). The ratio's growth would have been slightly higher if lending growth had not been relatively high. However, the quality of housing loans is still much higher than that of consumer loans (see Figure 3.28).

[31] "Informacja o kondycji [...]" op. cit.
[32] Data weighted by employment size.
[33] Data after excluding the impact of foreign exchange rate changes.

Figure 3.27. Quarterly changes in value of impaired housing loans

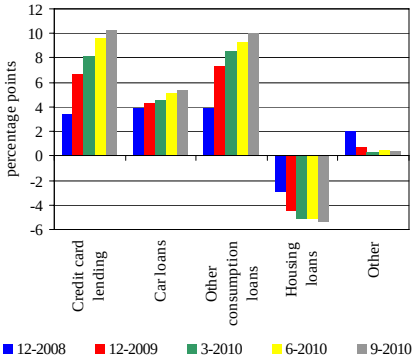


Note: data after excluding the impact of foreign exchange rate changes.
Source: NBP.

The lagged decrease in the quality of housing loans was influenced by the deterioration in the situation of a fraction of households in 2009 and in early 2010, inter alia, as a result of unemployment growth. The relatively long lag in response of housing loan quality ratios to changes in economic conditions results from:

- A lagged and distributed over a time period response of the labour market to the fall of economic growth rate,
- Borrowers' use of savings and other sources to finance loan servicing when facing either a decrease in income or its loss,
- Priority in settling payments arising out of housing loan servicing against other obligations[34].

Figure 3.28. Quality of main types of loans to households



Note: the Figure shows differences between the value of impaired loan ratio for particular loan types and the average impaired loan ratio for loans to households.
Source: NBP.

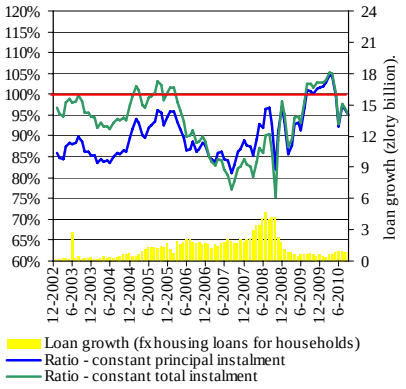
The fact that the quality of loans extended in the past few years, including during a credit boom in 2007–2008, continues to deteriorate is the other factor that negatively impacts the quality of housing loans. Even in relatively favourable conditions in the macroeconomic environment, growth of the average "age" of portfolio may be connected with a certain deterioration in housing loan quality[35]. Housing loan portfolios of Polish banks are largely composed of loans extended in the past few years (in the past 3 years, the value of housing loans rose by 90%, and in the past 4 years – by 210%[36]). On this account, the process

[34] This regularity was confirmed by survey results according to which households, in principle, lastly stop executing payments arising out of servicing housing loans (see "Raport KPF-IRG SGH: Sytuacja na rynku *consumer finance*. I kwartał 2010", Warszawa-Gdańsk, 2010 r.)
[35] In the first months after a housing loan has been extended, its quality tends to be high, which results from a positive review by a bank of borrower's creditworthiness upon loan origination. On account of a high value of a loan, borrower's creditworthiness is, in principle, reviewed in more detail than in the case of other loans. With the lapse of time since loan origination, the ability of some households to service the loan deteriorates due to fortuitous events, such as a reduction or total loss of income source, for instance, as a result of job loss. The intensity of these changes largely depends on macroeconomic developments. The gradual growth of the share of loans in arrears in the first three years since loan origination is confirmed by, inter alia, BIK data (dee "Financial Stability Report – December 2009", NBP, Warsaw 2009, p. 43).
[36] Data after excluding the impact of foreign exchange rate changes.

described above may be expected to continue to exert a negative impact on the quality of the entire housing loan portfolio.

In the case of foreign currency-denominated housing loans, the rate at which their quality is deteriorating is much lower than in the case of zloty-denominated loans. Hence, there remains a marked difference in the quality of housing loans denominated in zlotys and in foreign currencies (see Table 3.6). However, what draws attention is that in the period covered by the *Report* the rate, at which the quality of foreign currency-denominated housing loans deteriorated, has increased (see Figure 3.27).

Figure 3.29. The ratio of loan instalment calculated on the basis of current market data to the instalment at loan origination against monthly foreign currency-denominated housing loan growth



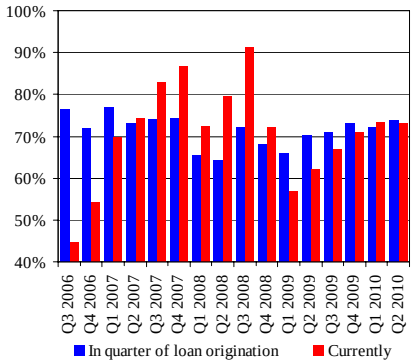
Assumptions: Swiss franc-denominated loan with maturity of 25 years, repaid in constant total instalments or in constant principal instalments (decreasing interest instalment), current instalment calculated on the basis of the Swiss franc exchange rate CHF and LIBOR 3M rate of 2 November 2010 and the average spread on Swiss franc loans at the time of loan origination; loan growth excluding the impact of foreign exchange rate changes. Points on horizontal axis denote the month of loan origination.
Source: NBP.

One of the reasons for a relatively high quality of foreign currency-denominated housing loans (apart from a better financial standing of households at the time of loan origination[37]) is a sustained, relatively low cost of servicing Swiss franc-denominated loans[38]. This is mainly due to a low level of interest rates in this currency. However, further growth of the CHF/PLN exchange rate in the period covered by the *Report* resulted in a slightly higher values (on average by around 2%) of servicing cost estimated at market data from early November 2010 than at the time of loan origination for some Swiss franc loans, mainly those extended in the second half of 2009 and in the first half of 2010 (see Figure 3.29)Total value of loan growth from these months accounted for 8–12%[39] of total growth of foreign currency-denominated loans taken out in the period of December 2002–September 2010.

The depreciation of the zloty also had an adverse impact on the extent to which collateral covered the value of some foreign-currency denominated loans. The weakening of the zloty, compared to the time of loan origination, resulted in significantly higher average values of LTV ratios for some housing loans, especially those extended in 2007–2008, than in the quarter of loan origination (see Figure 3.30). In the case of zloty-denominated loans, the situation was much more favourable – average LTV ratios are now lower than at the time of loan origination (see Figure 3.31).

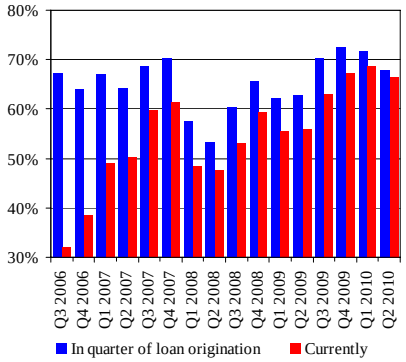
[37] See "Financial Stability Report – July 2010", NBP, Warsaw 2010, p. 44.
[38] Despite the growth of the share of euro-denominated housing loans in new housing loans in the years 2009–2010, Swiss franc loans continue to dominate in the portfolio of foreign currency-denominated loans (89% at the end of September 2010.).
[39] This depended on assumptions in respect of the manner of loan repayment (constant principal loan instalments or constant total loan instalments).

Figure 3.30. Average values of LTV of Swiss franc-denominated loans by quarter of loan origination



Assumptions: estimates of the current average value of LTV were made on the basis of average CHF exchange rates, average LTV at loan origination, average maturity of loans by quarter period and changes in average transaction prices of flats in the surveyed period. Value of loan converted into zloty at the exchange rate of CHF as of 2 November 2010.
Source: NBP estimates based on data from an additional question to the senior loan officer opinion survey.

Figure 3.31. Average values of LTV for zloty-denominated housing loans by quarter of loan origination



Assumptions: estimates of the current average value of LTV were made on the basis of average LTV at loan origination, average maturity of loans taken out by quarter period and changes in average transaction prices of flats in the surveyed period
Source: see Figure 3.30.

Consumer loans

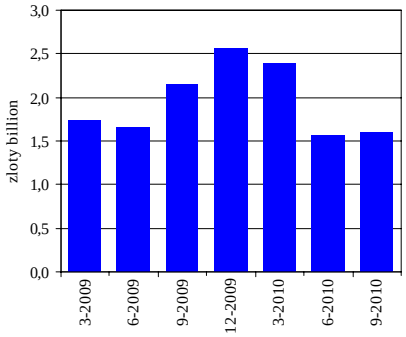
In the second and third quarter of 2010, the rate at which the quality of consumer loans deteriorated was relatively high, however markedly lower than in the period covered by the July edition of the *Report* (see Figure 3.32). The rise in the value of impaired loans in the past six months was 16.2%, and in the past 12 months - 55.4%[40]. The identification – in earlier periods – on banks' balance sheets of a significant portion of impaired consumer loans, extended in 2007–2008 and in early 2009 when a lenient lending policy was pursued, might have been the reason for a weakening trend of the deterioration in loan quality. This development is confirmed by data derived from the Credit Information Bureau; according to the data, the quality of loans extended in this period was deteriorating at a gradually slower pace. At the same time, the quality of consumer loans extended in the second half of 2009 and later on was better than that of loans extended in previous months (see 3.33). This was primarily influenced by a tighter lending policy pursued by banks and, to a lesser extent, a stable situation in the labour market.

The quality of consumer loans is much lower in the group of banks that specialise in providing loans to households[41] than in banks with a more balanced loan structure. In this group, the impaired loan ratio in consumer loans amounted to 23.4% at the end of September 2010 and was over two times higher than in other banks (11.4%). In the second and third quarter of 2010, the pace at which the quality of consumer loans was worsening in the group of banks that specialise in

[40] Data after excluding the impact of foreign exchange rate changes.
[41] It was assumed that banks specialising in the provision of loans to households are commercial banks and branches of credit institutions in which loans to households account for over 80% of loans to the non-financial sector.

extending loans to household was much higher than in other banks (see Table 3.7). Loan quality in banks that specialise in providing loans to households has been deteriorating at a significantly higher pace than in other banks since the second quarter of 2009. It should be noted, however, that in the second and third quarter of 2010, the quality of consumer loans was worsening at a slower pace in all groups of banks.

Figure 3.32. Quarterly changes in value of impaired consumer loans



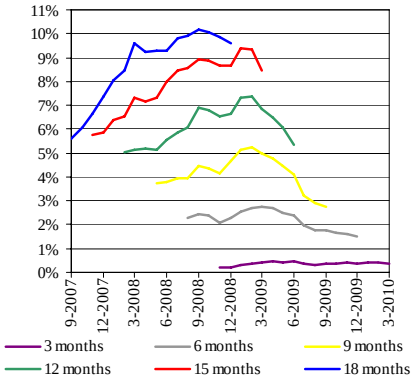
Note: data after excluding the impact of foreign exchange rate changes.
Source: NBP.

Table 3.7. Change in value of impaired loan ratio and change in increases in the amount impaired loans in 2010 Q2 and Q3 by bank groups

Group of banks	Change in impaired loan ratio	Change in the value of increases of impaired loans[1]
Banks special. in household loans	+ 4.3 pp	- 20%
Other banks	+ 0.5 pp	- 62%

[1] Change in % against increase in previous 6-month period.
Source: NBP.

Figure 3.33. Share of loans in arrears of more than 90 days after 3, 6, 9, 12, 15 and 18 months from loan origination for loans extended in successive months of the period of September 2007–March 2010



Note: points on horizontal axis denote a month of loan origination. The smaller the distance between particular lines for a given month, the quality of loans extended in a given month is worsening at a slower pace in the course of time.
Source: BIK.

Loan quality outlook

In line with the results of the inflation and GDP projections of October 2010[42] a gradual improvement of the situation in the labour market is forecasted within the projection horizon (till the end of 2012). In this period, the projection foresees a small increase in the number of working persons and a gradual fall of the unemployment rate. The rate of wage growth will be gradually increasing; however it will remain at a moderate level within the projection horizon.

In the coming quarters, the deterioration in the quality of loans to households may be expected to continue. The materialisation of credit risk accumulated on banks' balance sheets in past periods will continue to exert influence on this development. However, the pace at which the quality of loans to households will deteriorate should decrease in the quarters to come. This process will be supported by better outlook for labour market developments. Additionally, risk arising from

[42] See "Inflation Report – October 2010", NBP, Monetary Policy Council, Warsaw 2010.

consumer loans extended at a time of a lenient lending policy is likely to have already materialised in large part. The quality of consumer loans extended after the first part of 2009 should be much better as lending policy in this market segment was significantly tightened. The implementation by banks of all the provisions of Recommendation T should also have a positive impact on the quality of newly extended loans.

In the case of housing loans, further growth of the value and ratios of impaired loans may be expected to continue. This development will be influenced by the gradual deterioration in loan portfolio quality due to its aging and the fact that in their balance sheets banks will disclose the impairment of loans extended to households whose ability to service loans has worsened during the recent economic slowdown. In the case of housing loans, a prior deterioration of the situation in the labour market may have a more lagged impact on loan quality than in the case of consumer loans due to higher priority given by households to housing loan servicing.

One of the risk factors for the quality of loans to households is the materialisation of worse-than-currently-expected scenario of economic developments that would lead to deterioration in labour market situation. In this case, loan quality would be negatively impacted by a reduction of households' income resulting, inter alia, from a rise in unemployment. The impact of an isolated shock of unemployment rise on the quality of loans to households was analysed on the basis of two shock macroeconomic scenarios[43]. The analysis was performed on data derived from the GUS-conducted Households Budget Surveys (BGD).

The unemployment rate in Scenario 1 and Scenario 2 rose by 0.9 and 1.2 percentage points, respectively. The simulations show that the rise in unemployment as assumed in both scenarios would have a relatively small influence on the quality of loans to households. In the first scenario, the percentage of household-borrowers with negative income buffers[44] would grow by 0.8 p.p., while the estimated increase of the share of loans extended to these households would be 1.0 p.p. In the second scenario, the figures would be 0.6 p.p. and 0.8 p.p., respectively.

Occurrence of a longer period of strong zloty depreciation or of an increase of interest rates is the other risk factor for loan portfolio quality. These factors would be of greatest importance for housing loans due to a high share of foreign currency-denominated loans and a relatively bigger influence of changes in interest rates on housing loan servicing costs [45]. Estimates performed by the NBP on the basis of BGD data indicate that the impact of an isolated shock of 30% zloty depreciation[46] on the quality of mortgage loans for households would be, however, relatively insignificant. Under this scenario, the percentage of household-borrowers with negative income buffers would grow by 1.2 p.p., and their estimated share in mortgage loans for the household sector – by 1.5 p.p. In comparison to depreciation of the zloty, increase of interest rates would have a slightly bigger influence on mortgage loan quality. If the interest rate of loans is assumed to grow by 400 basis points, the increase of the percentage of households with negative in-

[43] The scenarios are presented in Chapter 3.6.

[44] For definition of "income buffer", see *Glossary*. A negative income buffer means that the household is not capable of simultaneously repaying loans and covering basic living costs from current income. It was assumed that basic living costs were equal to the product of the GUS-estimated relative poverty line (it amounted to 633 zlotys per person in 2009 Q4) and the number of household members, taking account of equivalence scales (describing the growth of living costs related to a rise in the number of persons in the household with additional members), and job-losing persons are not provided with unemployment benefits.

[45] Relatively bigger (than for other loan types) influence of changes in interest rates on housing loan servicing costs stems from average maturity of these loans, which leads to a relatively high share of interest instalment in the total loan instalment. Almost all housing loans have interest rate based on a variable interest rate.

[46] The parameters of the shocks of zloty depreciation and interest rate increase were assumed, such as the minimum parameters of stress tests specified in Recommendation S (II) and Recommendation T.

come buffers and their share in mortgage loans for households would be 3.2 p.p. and 3.7 p.p. respectively.

In the longer term, any excessive easing of lending policy might be a risk factor for the quality of newly extended loans, especially for housing loans, if regulatory measures – taken and scheduled in the future (Recommendation T and Recommendation S (III)) – would not turn out to be sufficiently effective in mitigating this risk.

3.4. Market risk

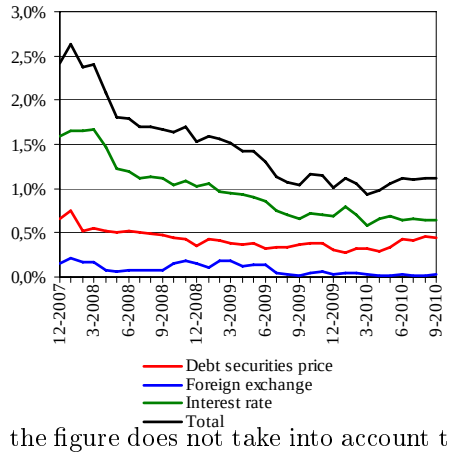
Banks' exposure to market risk remains low. Potential losses on foreign exchange and interest rate risks were insignificant in relation to the capital held by banks. Potential considerable fluctuations of spread between the interest rates of hedging instruments and underlying bond yields seem to be the main risk factor.

Market risk in the Polish banking sector mainly relates to foreign exchange and interest rate risks. Banks' exposures to these risks are hedged with derivatives. As a result, market risk taken by domestic banks is low, and the capital requirement for FX and interest rate risk does not exceed 1.5% of banks' regulatory capital (see Figure 3.34).

Direct FX risk taken by banks is low. Banks do not keep significant open FX positions although FX assets account for a substantial share in their balance sheets (chiefly due to the portfolio of foreign currency housing loans).

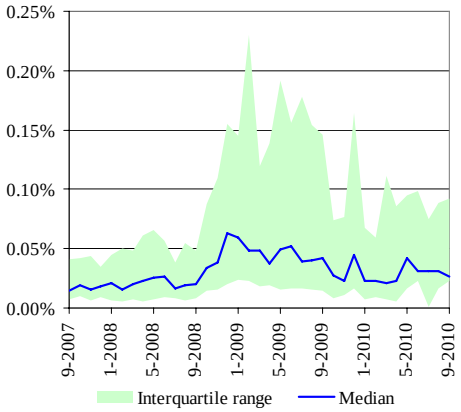
The analysis of VaR for FX risk shows that the risk that substantial losses would arise as a result of a change in the valuation of the open FX position was not large (see Figure 3.35). Due to the increase in exchange rate volatility in the second quarter of 2010, VaR rose slightly, however potential losses on direct FX risk for almost all banks still amounted to less than 0.1% of their regulatory capital.

Figure 3.34. Capital requirement for individual market risk categories



Notes: the figure does not take into account the commodity and equity risk. The capital requirement for these risk categories does not exceed 0.002% of banks' regulatory capital.
Source: NBP.

Figure 3.35. *Value at Risk* for FX risk



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

FX balance sheet position may also pose a hypothetical risk related to potential incapability of rolling over maturing hedges. Materialisation of this risk – which would indicate opening of net FX position – could lead to an increase of capital requirements and a decrease of banks' cap-

ital adequacy ratios. However, simulations conducted to assess the impact of this kind of risk show that approximately 95% banks (in terms of assets) should meet the required capital requirement even if it was impossible to roll over all FX hedges.

The lack of the possibility to roll over maturing hedges could also constitute a so-called *credit event* for a bank that would not settle a maturing transaction. However, this risk is limited due to the availability of operations with the NBP, which – if needed – can provide banks with FX liquidity-providing instruments. Low demand for FX swaps, offered on a regular basis by the NBP under the "Confidence Package", proves that the probability of incapability to roll over maturing hedges is low.

The rollover risk of FX hedges also depends on the maturity of hedging instruments. It is impossible to accurately estimate it on the basis of available data. Data on the turnover structure on the derivatives market[47] show, however, that the share of CIRS instruments in hedging the open balance sheet FX position has grown. It may be assumed that in order to limit the risk of rolling over short-term FX swaps, banks used, on a larger scale, long-term CIRS despite higher costs related to this instrument.

The liquidity of the market for FX hedging instruments also impacts banks through the cost of hedging against FX risk. The rise of this cost may pose a threat to the profitability of the portfolio of FX assets when the cost of concluding a hedging transaction exceeds a bank's credit spread on foreign currency loans (after adjusting for credit risk costs). It may be assumed that presently this risk is particularly significant in some banks which – when the competition was at its height – granted housing loans at very low spreads (of approximately 100-150 basis points). The sustaining increased premium on the market of FX swaps (see Chapter 2.2) and the aforementioned growth in the share of relatively costlier CIRS generates pressure on the profitability of the portfolio of housing loans in these banks.

Interest rate risk in Poland's banking system is limited mainly to the portfolio of fixed-rate securities[48], including chiefly government bonds. Treasury securities and bills account for around 93% of the entire portfolio of debt securities in the Polish banking sector (see Table 3.8). In addition, domestic government bills and bonds account for over 99.8% of Treasury securities in banks' portfolios. In this context, the Polish banking sector is not directly exposed to risk related to the fiscal position of some highly-indebted euro area countries. Interest rate risk related to the bond portfolio held by banks is mostly hedged with derivatives.

Table 3.8. Balance sheet value of debt instruments in banks' portfolios by issuer (zloty billion)

Issuer	Resident	Non-resident
Central banks (money bills)	83.2	0.0
Central governments	156.4	0.4
-treasury bills	22.7	0.0
-treasury bonds	133.7	0.4
Local governments	7.4	0.0
Financial institutions	5.9	1.5
Non-financial institutions	5.9	0.1
Total	258.8	2.0

Note: as at the end of September 2010
Source: NBP.

Since the publication of the previous edition of the *Report*, the capital requirement for debt instrument price risk has increased (see Figure 3.34). Also, VaR for interest rate risk in banks'

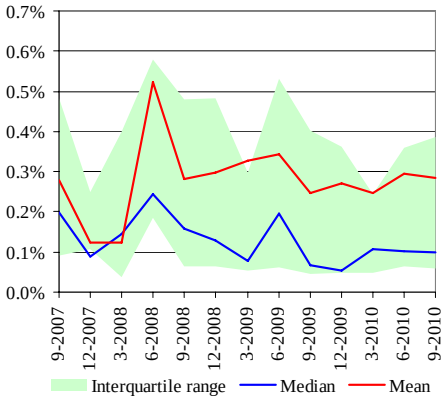
[47] "Turnover in the Polish Foreign Exchange and OTC Derivatives Markets in April 2010", http://www.nbp.pl/en/systemfinansowy/poland2010.pdf. The survey is conducted globally every three years by the Bank for International Settlements in association with national central banks.
[48] Most instruments in banks' banking portfolio (mostly loans) are characterised by a variable interest rate.
[49] The trading book includes operations conducted at own account for commercial purposes, i.e. to obtain a short-

trading books rose slightly[49] (see Figure 3.36). Potential average loss on interest rate risk in this portfolio was, however, low and did not exceed 0.3% of commercial banks' regulatory capital.

To estimate the change in the theoretical value of a bank's entire portfolio, an additional VaR analysis was conducted jointly for the banking and trading books of banks. Taking into account the banking portfolio (for which changes in market interest rates do not generate changes in the current balance sheet value of financial instruments) in the analysis is designed to present the hypothetical impact of changes in interest rates on the economic value of a bank. Average VaR calculated jointly for FX and interest rate risk slightly increased in comparison with the period analysed in the previous *Report* and amounted to 1.75% of banks' regulatory capital (see Figure 3.37).

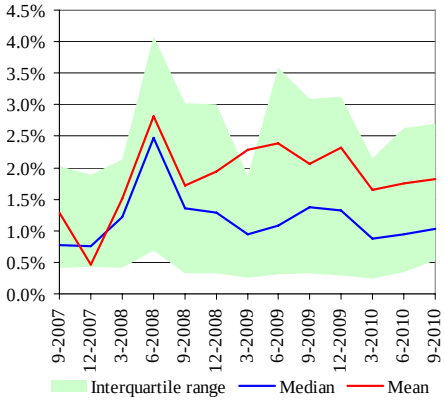
In the case of the portfolio of government bonds hedged with derivatives, banks may also be exposed to the so-called specific interest rate risk This risk is related to volatility of the spread between government bond yields and interest rate on swaps that hedge bond portfolios. In this situation the bond portfolio is not fully effectively hedged. This risk is included in afore-mentioned VaR calculations, however, it was accounted for in the stress scenario of macro stress tests (see Chapter 3.5). The results of these simulations indicate that this risk is not high, which results from the short duration of the portfolios of Treasury debt securities of Polish banks.

Figure 3.36. *Value at Risk* for interest rate risk – banks' trading books.



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

Figure 3.37. *Value at Risk* for total FX and interest rate risk



Notes: VaR at confidence level of 99% over a 10-day horizon, calculated for commercial banks and expressed as % of regulatory capital, determined jointly for the banking and trading books
Source: NBP.

term profit, and operations hedging other items of the trading books. The balance sheet value of instruments kept in this portfolio is sensitive to changes in market interest rates.

3.5. Liquidity risk

In the period discussed in the Report, the average funding gap slightly increased. The funding structure of Polish banks has not changed substantially – the funding gap is primarily "closed" with funds obtained from foreign parent entities.

The banking sector's short-term liquidity position was favourable, however, very diversified between individual banks.

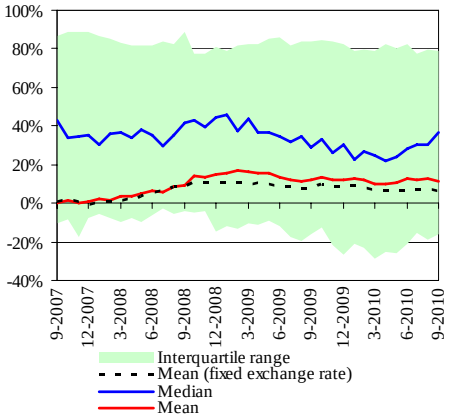
In the coming period, consolidation of the management of public finance sector entities' funds may pose a challenge for individual banks. In the longer term, despite considerable refinancing needs of foreign parent entities, the risk that they would stop providing funding to domestic banks may be assessed as insignificant.

3.5.1. Funding liquidity

In the past six months, the average funding gap[50] in the sector of commercial banks slightly increased. This resulted primarily from the increased monthly growth of loans accompanied by a relatively stable deposit base. The increase of the funding gap chiefly concerned smaller and medium-sized banks (see Figure 3.38).

Banks' competition for household deposits, which has intensified since the end of 2008, has gradually diminished. Average interest rates offered by banks for all types of new term households' deposits has permanently fallen below the average WIBOR 3M rate (see Figure 3.39). On the other hand, for new deposits with longer contractual terms, interest rate still exceeds the interbank market rates of corresponding maturities. The fall of interest offered by banks contributed to the reduction in monthly amounts of accepted household deposits. The increase of inflow of funds to investment funds also had an influence on lower amounts of new deposits (see Chapter 4.3).

Figure 3.38. Funding gap



Note: for variable *mean (fixed exchange rate)* values of foreign currency claims and liabilities were converted into zloty according to a fixed exchange rate as at the end of September 2007 in order to eliminate the impact of exchange rate movements on the value of the funding gap.
Source: NBP.

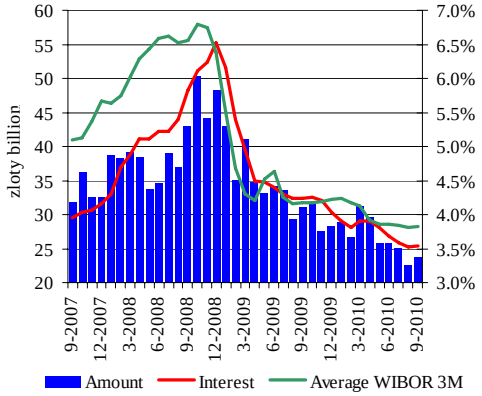
It is worth noting that some long-term deposits accepted in the period of greater price competition are still present on banks' balance sheets. This is reflected in the average interest rate of the balance of deposits, which is higher not only than the interest rate of new deposits but is also than interbank market rates. The share of long-term deposits in banks' deposit portfolios is, however, steadily diminishing, mainly in favour of current and savings accounts.

In the case of enterprises' deposits, the interest rate on new deposits remains stable, and monthly amounts accepted by banks are high. This is confirmed by balance sheet statistics – since the third quarter of 2009, the annual growth rate of deposits of enterprises has grown, and at the end of September 2010 amounted to 13% (after excluding the impact of foreign exchange rate

[50] For definition of funding gap, see *Glossary*.
[51] There may be some discrepancy between interest rate statistics (that includes data on flows in a given period) and

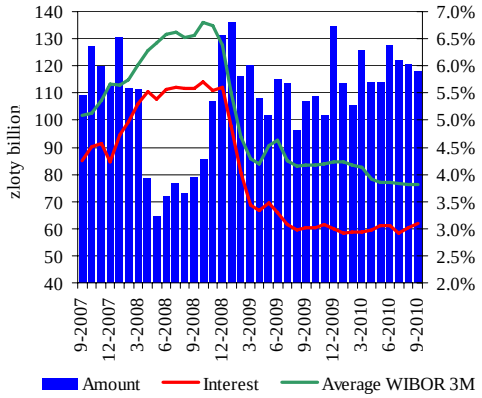
changes)[51].

Figure 3.39. Households' zloty deposits – amount of new business in a given month



Note: data based on a sample of 20 banks reporting information on interest rates to the NBP. Methodolgy of interest rate statistics is available on the NBP website.
Source: NBP.

Figure 3.40. Enterprises' zloty deposits – amount of new business in a given month

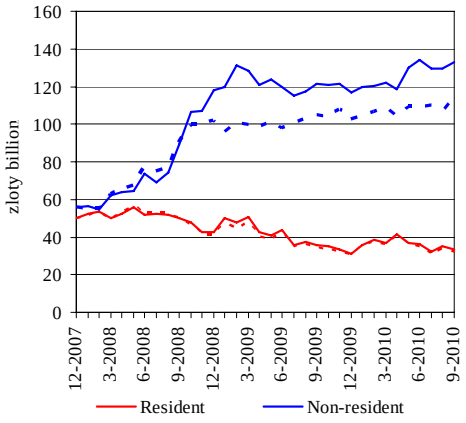


Note: see notes to the Figure 3.39
Source: NBP.

The funding gap arising from a surplus of customer loans over deposits is primarily "closed" with funds obtained from foreign banks. These are mainly parent banks or affiliated entities. The value of these liabilities remains unchanged (see Figure 3.41), which shows that foreign banks are renewing deposits and loans originated on a large scale towards the end of 2008. The average maturity of these funds is also being extended, which reduces the rollover risk and consequently increases the stability of the funding sources of Polish banks.

There are still no clear signs of a firm recovery on the interbank market. After a short-lived upswing in the first quarter of 2010, the value of liabilities towards domestic banks fell again in the subsequent months. This development was accompanied by a stabilisation of turnover on the market of unsecured interbank deposits (see Chapter 2.2.2).

Figure 3.41. Liabilities on domestic and foreign banks and branches of credit institutions



Notes: dotted lines denote values of liabilities after conversion according to a fixed foreign exchange rate as of the end of 2007. The data do not include subordinated debt and other forms of liabilities (other than loans and deposits). At the end of September 2010, other forms of liabilities accounted for around 16% of all funds obtained from foreign banks.
Source: NBP.

The funding strategy of Polish banks, irrespec-

balance sheet data. In interest rate statistics, short term deposits (including O/N deposits) can be included many times in the amount of new deposits obtained in a given month, whereas under balance sheet statistics banks only report balances of these deposits at the end of a period.

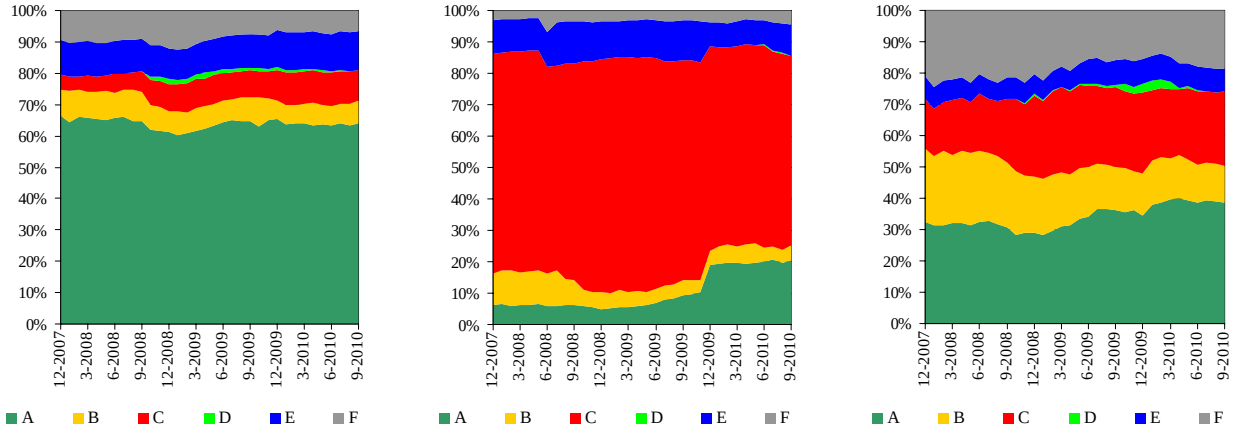
[52] More on funding strategies of Polish banks in: "Financial Stability Report – June 2009", Chapter 3.4.1.

tive of their funding strategies, has not changed recently [52] (see Figure 3.42). The increase of the "other liabilities" category in banks applying a mixed funding strategy primarily related to the issue of infrastructure bonds for the National Road Fund by Bank Gospodarstwa Krajowego. In October 2010, PKO BP successfully issued first tranche of 5-year Eurobonds worth 800 million euro.

The refinancing operations carried out by the National Bank of Poland accounted for an insignificant share in banks' funding structure (see Figure 3.42). Banks' low demand for the central bank refinancing operations was one of the reasons for the NBP decision to stop conducting them on a regular basis from October 2010[53].

The importance of banks where funds obtained from foreign parent banks are a dominant funding source is gradually rising. At the end of September 2010, the share of banks applying foreign funding strategy in the commercial banks' assets was around 14% (against ca. 8% a year earlier). At the same time the concentration of foreign funding in commercial banks increased. This was largely the result of a relatively expansive lending policy of some of these banks, particularly in the segment of housing loans (including foreign currency loans)[54]. It should be emphasized that such a model – consisting in dynamic lending funded by an inflow of foreign funds – may pose a risk to financial system stability.

Figure 3.42. Structure of funding in banks applying deposit strategy (left-hand panel), foreign funding strategy (centre panel) and mixed strategy (right-hand panel)



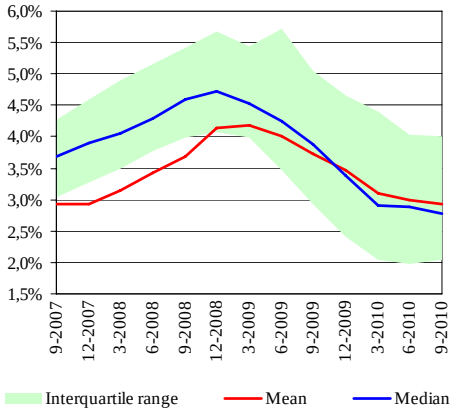
Legend: A - deposits of non-financial and general government sector, B - liabilities towards financial entities-residents, C - liabilities towards financial entities-nonresidents, D - liabilities on repo operations with the NBP, E - capital, F - other liabilities.
Notes: banks were classified into particular groups on the basis of their funding structure at the end of August 2008 – prior to the failure of Lehman Brothers. The share of banks with individual strategies in the assets of the sector of commercial banks amounts to: deposit strategy – 59%, foreign funding – 14%, mixed strategy – 27%.
Source: NBP.

[53] The NBP press release on the issue is available on http://www.nbp.pl/aktualnosci/wiadomosci_2010/swap_2010_09_24.pdf

[54] A moderate increase of the number of banks following foreign funding strategy, as well as consolidation processes also had an impact on the increase of the share of banks applying this strategy.

Effective funding costs[55] decreased in the analysed period. This decrease concerned liabilities towards all sectors (financial, non-financial and the general government sector) and was mainly driven by the persistently low interest rates in Poland and abroad, and the aforementioned decline in competition for customer deposits. In should also be pointed out that until the fourth quarter of 2009 larger banks reported much lower funding costs than other banks. Presently, this relation has been overcome and banks' diversification in respect of the cost of liabilities has increased. These trends in the total funding cost mainly emerged in the segment of liabilities towards the non-financial sector as a result of intense competition for customer deposits. With increased costs of liabilities towards the non-financial sector, some smaller and medium-sized banks with a big share of wholesale funding (including from parent banks) in the funding structure sustain lower funding costs than larger banks with a large deposit base.

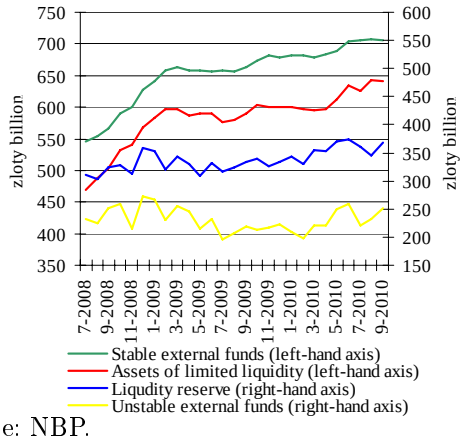
Figure 3.43. Effective interest on liabilities



Note: effective interest rate means the ratio of annualised interest expense to annual average balance sheet value of liabilities.
Source: NBP.

In comparison with the previous edition of the *Report*, the average supervisory long-term liquidity ratio – M4[56] and the ratio of coverage of assets of limited liquidity with stable external funds decreased slightly[57] (from 1.24 at the end of March to 1.21 at the end of September 2010 and from 1.14 to 1.10 respectively) . This mainly resulted from the first marked increase of assets of limited liquidity (i.e. mostly loans) in a long time. At the same time, stable external funds increased slightly (see Figure 3.44).

Figure 3.44. Selected categories of assets and liabilities of commercial banks



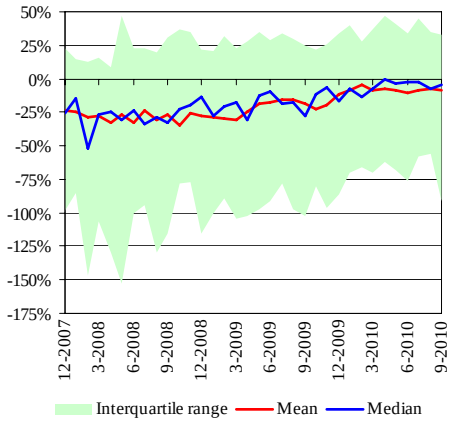
Source: NBP.

3.5.2. Short-term liquidity

In the past six months, the short-term liquidity gap in commercial banks decreased, which indicates a further reduction of the mismatch between short-term assets and liabilities on banks' balance sheets. In consequence, the average adjusted liquidity gap in the sector of commercial banks also decreased[58] (see Figure 3.45).

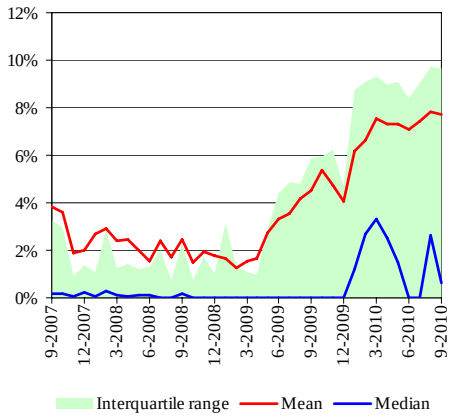
[55] For definition of effective funding cost, see *Glossary*.
[56] More on the supervisory liquidity standards of the Polish Financial Supervisory Authority, see Box 2 in "Financial Stability Report – December 2009".
[57] This ratio is a component of the M4 ratio.
[58] For definitions of short-term liquidity gap and adjusted liquidity gap, see *Glossary*.

Figure 3.45. Ratio of adjusted liquidity gap to assets with maturity of up to 1 month



Source: NBP.

Figure 3.46. NBP bills to banks' assets

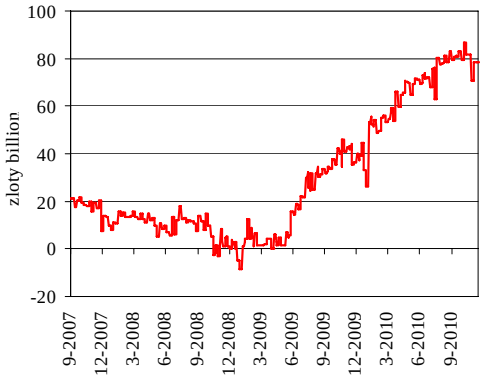


Source: NBP.

Banks holding short-term liquidity surplus invest it, to a large extent, in NBP bills. As liquidity surpluses are mainly accumulated in large banks, this leads to a high concentration of NBP bills (see Figure 3.46), and the liquidity position of individual banks is very diversified.

In structural terms, the dynamic increase of the balance of open market operations largely stems from the growth of NBP's official reserve assets. This is supported by the inflow of EU funds that are converted into zloty at the NBP (see Figure 3.47). In the coming period, a further inflow of EU funds will stimulate the growth in the value of liquidity absorbing operations.

Figure 3.47. Balance of NBP's open market operations



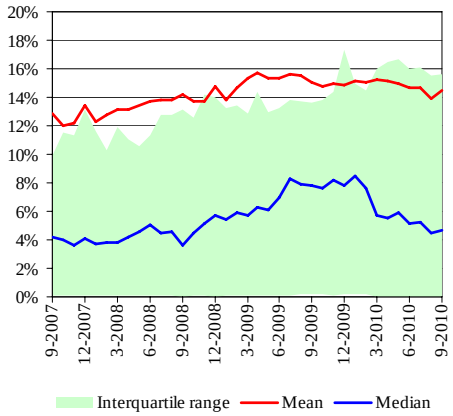
Note: balance of positions means a sum of NBP bills and FX swaps less repo operations.
Source: NBP.

In the past six months, the share of Treasury securities on banks' balance sheets fell slightly (see Figure 3.48). In nominal terms, the value of government bonds rose but the rise was accompanied by a considerable fall in the value of government bills[59]. Treasury securities can be used as collateral for loans and reverse repo operations or sold outright in the market; therefore they form a liquidity buffer for banks.

Although the value of Treasury securities has fallen slightly, the coverage of the adjusted liquidity gap with these securities in the sector of commercial banks as a whole remains at over 100%. In the past six months, the share of banks with a full coverage of the liquidity gap did not change (see Figure 3.49). Branches of credit institutions and some small commercial banks continue to exhibit the lowest coverage of the gap with these securities.

[59] To a large extent, this is connected with the decrease of the share of government bills in the composition of State Treasury debt. This share was 8.8%, 7.5% and 5.5% at the end of 2008, of 2009 and of August 2010, respectively.

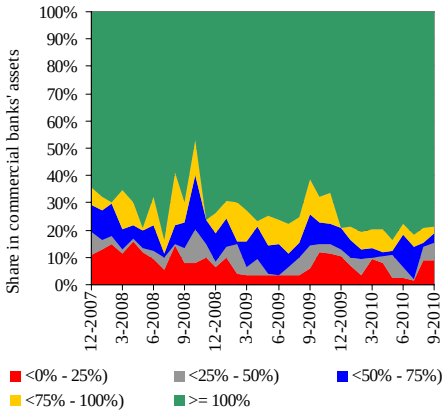
Figure 3.48. Government bonds and bills to banks' assets



Source: NBP.

At present, all commercial banks meet the short-term supervisory liquidity standard M2. Its average value for commercial banks has fallen slightly over the past six months. However, the average value of the M2 ratio remains high and amounts to around 1.46, with the required minimum value of 1.00.

Figure 3.49. Structure of assets of domestic commercial banks by ratio of coverage of adjusted liquidity gap with Treasury securities



Source: NBP.

Box 4. International liquidity risk regulations

In a consultation document[1] issued on 26 February 2010, the European Commission (EC) presented proposals of changes to directives 2006/48/EC and 2006/49/EC ("Capital Requirements Directives") aimed at strengthening banks' resilience to financial shocks and reducing the risk of spillover from the financial sector to the real economy. The consultation document of the European Commission is based on proposals of the Basel Committee for Banking Supervision (BCBS) published in December 2009. Since then, the Basel Committee has issued another two documents - in July 2010 and September 2010[2] - presenting the original proposals in a more detailed way and a timetable for their implementation.

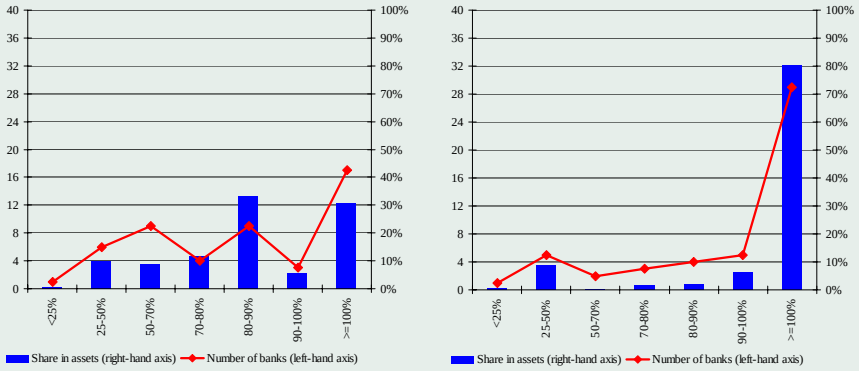
Among new regulations there are new ones concerning liquidity risk: *Liqudity Coverage Ratio* (LCR) and *Net Stable Funding Ratio* (NSFR). An overview of the two measures was presented in the previous edition of the *Report*. However, their detailed specification has been changed in comparison to original proposals of Basel Committee and European Commission.[3]

With regard to the NSFR standard[4] the changes concerned:

- increasing the share of sticky deposits in total retail deposits and deposits of small and medium- sized enterprises,
- reducing the ratio of the required coverage of mortgage-secured housing loan with stable funding sources,
- reducing the ratio of the required coverage of off-balance sheet liabilities with stable funding sources.

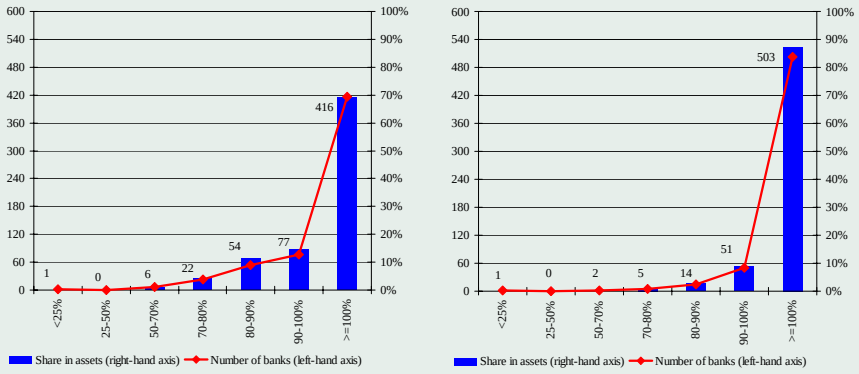
According to the above mentioned documents of the Basel Committee, the LCR standard is to be effective from 2015 and the NSFR standard - from 2018. At the same time, institutions subject to these regulations will be required to report the analysed standards in so-called observation period from 2011 and 2012, respectively.

Figure 1. Distribution of assets and the number of commercial banks by the Net Stable Funding Ratio according to original specification (left-hand panel) and to specification after changes introduced in July 2010 (right-hand panel)



Note: as at the end of September 2010.
Source: NBP.

Figure 2. Distribution of assets and the number of cooperative banks by the Net Stable Funding Ratio according to original specification (left-hand panel) and to specification after changes introduced in July 2010 (right-hand panel)



Note: as at the end of September 2010.
Source: NBP.

The implemented changes have significantly improved the situation of Polish banks, in terms of meeting the NSFR standard (see Figure 1). As at the end of September 2010, around 80% of commercial banks would meet the NSFR standard (in terms of assets) while in the original

version, the percentage of banks meeting the standard would be 31%.

In the group of cooperative banks, around 87% of banks would meet the NSFR standard (in terms of assets) (see Figure 2). In the original version, the percentage of banks meeting the standard would be around 69%.

The total share of commercial and cooperative banks that do not currently meet the NSFR liquidity standard in the balance sheet total of the domestic banking sector would amount to around 19%.

Changes in the specification of the NSFR standard and a relatively long time until the standard becomes effective allow to expect that the need to adjust to new regulatory requirements by certain banks will not significantly impact the stability of the domestic banking sector.

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[1] "Possible further changes to Capital Requirements Directive", http://ec.europa.eu/internal_market/consultations/docs/2010/crd4/consultation_paper_en.pdf
[2] BIS Press Releases: "The Group of Governors and Heads of Supervision reach broad agreement on Basel Committee capital and liquidity reform package" of 26 July 2010, http://www.bis.org/press/p100726.htm and „Group of Governors and Heads of Supervision announces higher global minimum capital standards" of 12 September 2010, http://www.bis.org/press/p100912.htm [3] These proposals formed the basis for the description of liquidity standards in the previous edition of the *Report*. [4] As indicated in the previous edition of the *Report* (Box 4), the introduction of the NSFR standard in the version proposed at that time would have a particularly significant impact on the situation of Polish banks.

***

In the near term, the liquidity position of some banks will be affected by the planned consolidation of the management of public finance sector entities' funds. Under the draft law *on amending the public finance law and some other laws*, selected public finance sector entities will be obliged to deposit uncommitted funds on a deposit account maintained by the Ministry of Finance in Bank Gospodarstwa Krajowego. Presently, a considerable portion of these funds is invested in various commercial and cooperative banks.

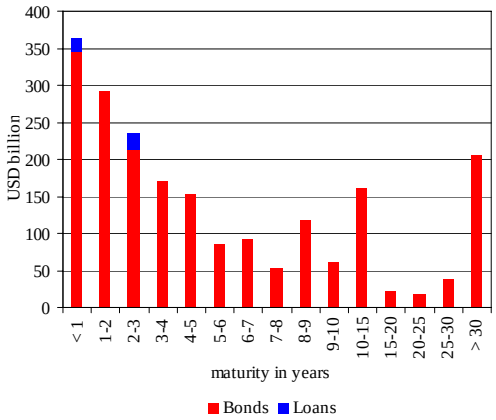
Should the respective law enter into force, banks mostly engaged in operations with public finance sector entities will have to repay large portion of liabilites. Available banks' reporting data do not allow to accurately determine the value of the funds that can be withdrawn from particular banks by the public finance sector entities that are specified in the draft law. In order to make estimates, it was conservatively assumed that all deposits of central government institutions and social insurance funds will be withdrawn from each bank[60]. The results of the estimates show that the consolidation of the management of public finance sector entities' funds will not have a material impact on the stability of the entire banking sector. Deposits of the government sector institutions account for over 5% of all liabilities in banks with around 1.5% share in the assets of the whole banking sector.

In the medium and longer term, the liquidity position of Polish banks may be impacted by the situation of foreign parent entities. In the coming years, a considerable portion of debt issued by foreign parent–banks will mature (see

[60] At the end of August 2010, deposits of these institutions in the domestic banking sector amounted to 44 billion zloty. In the justification to the draft law under consideration, the Ministry of Finance estimates the value of the uncommitted funds of public finance sector entities that are specified in the law to be around 20 billion zlotys.

Figure 3.50). Rolling over this debt may be difficult due to the large borrowing needs of the public sector Parent–banks have to roll over debt amounting to around 3% of its present balance sheet total over two years. The risk of an abrupt withdrawal of funding for Polish subsidiaries seems to be limited due to their significant position in the structure of the whole groups and high growth potential of the Polish banking sector. In consequence, the need to roll over debt by parent entities should not create a significant risk of halting funding to Polish subsidiaries. However, it cannot be ruled out that intra-group funding cost will rise, if funding cost for parent banks grows considerably.

Figure 3.50. Maturity of debt issued by selected parent–banks of Polish banks



Notes: data for 18 parent–banks of Polish banks as at 19 November 2010. Data concern loans and bonds issued directly by the parent–bank
Source: Thomson Reuters.

Box 5. Risk in the payment system

Operational risk in payment systems is defined as a human error risk, interruptions in the system's functioning caused by failure of equipment, software, IT systems that are of material importance for the payment system or a terrorist attack. The materialisation of this risk may lead, in particular, to the failure of system participants to meet their obligations, which may eventually generate unexpected losses for them. As nowadays almost every commercial transaction is settled through a payment system, disruptions in their settlement may even lead to serious disruptions in the functioning of the financial system as a whole. Therefore, it is essential for the system operator to minimise the risk by using proper solutions and safeguards.

In the opinion of the National Bank of Poland, the probability of operational risk materialisation in the Polish payment system is low. Although it is not possible to fully protect the payment system technical infrastructure against technical risk, effects of its potential materialisation are reduced by the business continuity plan, developed and operating in the NBP in case of incidents leading to disruptions in the proper functioning of NBP infrastructure. The NBP business continuity plan also protects the banking sector as a whole against negative effects of the materialisation of above mentioned risk and the related liquidity risk. In addition, the to date very low failure rate and the accessibility ratios of systems operated both by the NBP (SORBNET and SORBNET-EURO) and KIR SA (ELIXIR and EuroELIXIR) in 2010 reflect the high level of technical reliability of individual payment systems functioning in the Polish payment system. (see table 1).

In its effort to minimise technical risk in payment systems it operates, the NBP has decided to gradually stop using the technology based on Ingres' Database Management System and develop new systems that settle payments in new technological environment. The new systems are developed on the basis of state-of-the-art tools and information technology, in particular, on the

basis of a new database management system, which will substantially enhance their security and reliability.

Table 1. Accessibility of payment systems in the first three quarters of 2010 (%)

	1Q 2010	2Q 2010	3Q 2010
SORBNET	99.2	100.0	100.0
SORBNET-EURO	99.9	100.0	100.0
ELIXIR	99.9	100.0	99.9
EuroELIXIR	100.0	100.0	100.0

Źródło: KIR SA, NBP.

Throughout 2010, the NBP continued work, commenced in 2009, towards the development of, a new internal application – NBP-PHA system. The NBP-PHA system, which is not a payment system itself, has been developed to enable the cooperation of the NBP with TARGET2-NBP system following banks' full migration to TARGET2 system. The NBP-PHA system will replace the SORBNET-EURO system, operated since 2005, in November 2011.

In January 2010, the decision was made to commence development of the SORBNET2 system, which in the first quarter of 2013 will replace the existing SORBNET system, operated since 1996. In addition to replacing the technological platform, the manner in which participants' communicate with the system will be changed. It is assumed that in the SORBNET2 system the use of the domestic net and messages in the EDIFACT structure will be abandoned in favour of a safer and more reliable SWIFTNet, FIN services and certain SWIFT messages (MT messages). The functionality of the new system will correspond to that of the existing SORBNET system and will, in particular, give participants access to liquidity management mechanisms.

3.6. Banks' capital position and loss absorption capacity

In the period from March 2010 to September 2010, banks strengthened their capital base, thus increasing their average capacity to absorb potential losses.

The regulatory capital of the domestic banking sector increased moderately in the period from March 2010 to September 2010. The structure of regulatory capital was favourable in terms of the capacity to absorb potential losses, as it was largely composed of core capital (see Table 3.9). It should also be pointed out that during the financial turmoil, Polish banks were not financially supported by the Government, maintaining their capital adequacy ratios at a high level.

From March 2010 to September 2010, the regulatory capital of the Polish banking sector grew by 4 billion zlotys, which represented a 4.2% rise. In the period from March 2010 to September 2010, 10 commercial banks issued new shares of a total value of 3.1 bn zlotys (BRE Bank SA accounted for 64% of raised equity capital; the bank carried out a public share issue in the second quarter of 2010). The importance of subordinated debt as a source of raising capital was stable. In September 2010, subordinated debt of the domestic banking sector amounted to 9.1% of their regulatory capital.

Table 3.9. Regulatory capital and the capital adequacy ratio of domestic banks

	2008	2009	3-2010	6-2010	9-2010
Regulatory capital (zloty billion)	77.6	90.1	95.8	95.7	99.8
- of which: core capital	70.2	81.2	86.9	86.4	90.4
Sum of capital requirements	55.5	54.1	54.2	57.3	57.3
- of which: against credit risk	48.5	47.2	47.1	49.9	49.9
- of which: against market risk	1.1	0.8	0.8	1.0	1.1
- of which: against operational risk	5.7	6.0	6.2	6.2	6.2
Capital adequacy ratio (in %)	11.2	13.3	14.2	13.4	13.9
Capital adequacy ratio taking core capital into account (in %)	10.1	12.0	12.8	12.1	12.6

Note: regulatory capital – core capital and supplementary capital less any shortfall of specific provisions and other so-called regulatory deductions, plus trading book ancillary capital.
Source: NBP.

Table 3.10. Changes in the value of selected positions of assets, the capital requirements and changes in regulatory capital of domestic banks

			2010		
(w mld zł)	2008	2009	Q1	Q2	Q3
Assets, of which:	221.9	22.7	20.8	45.3	11.3
- non-financial sector	151.7	21.2	-0.1	35.3	2.5
- financial sector	-20.1	-17.7	8.0	0.7	-3.6
- securities	43.4	16.5	45.9	-2.7	4.1
Capital requirement for credit risk	9.6	-1.3	-0.2	2.9	0.0
Regulatory capital	16.5	12.6	5.5	-0.2	4.1

			2010		
(w %)	2008	2009	Q1	Q2	Q3
Assets, of which:	29.2	2.3	2.1	4.4	1.1
- non-financial sector	37.4	3.8	0.0	6.1	0.4
- financial sector	-17.3	-18.4	10.3	0.8	-4.2
- securities	33.1	9.4	24.0	-1.1	1.8
Capital requirement for credit risk	24.6	-2.6	-0.4	6.1	0.0
Regulatory capital	27.1	16.2	6.1	-0.2	4.3

Note: in domestic banks – around 95% of the securities portfolio are debt securities of the State Treasury and the NBP.
Source: NBP.

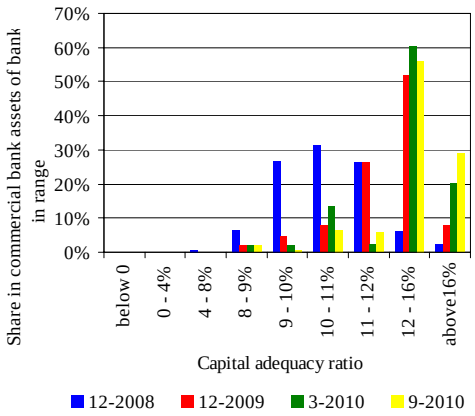
The increase of the capital requirement for credit risk contributed to an insignificant fall of the capital adequacy ratio to 13.9% in September 2010. The value of assets of banks with high capital adequacy ratios rose. In September 2010, around 85% of the assets of domestic commercial banks were held by banks with the capital adequacy ratios above 12% (see Figure 3.51).

A decrease of the capital adequacy ratio was driven by changes in the structure of growth of the banking sector's assets (see Table 3.10). A higher growth rate of lending to the non-financial

sector in 2010 was accompanied by a lower increase in value of Treasury securities which do not generate the capital requirement for credit risk.

New proposals in respect of banks' capital adequacy (the so-called Basel III) will have a limited influence on the capital position of the Polish banking sector. The proposed regulations and their impact on Poland's banking sector are discussed in detail in Box 6.

Figure 3.51. Assets of domestic commercial banks by the capital adequacy ratio



Source: NBP.

Box 6. International regulations on the definition of regulatory capital

Among the most important changes proposed to the CRD (see Box 4) are the new definition of regulatory capital, setting a minimum required leverage ratio and introducing the principles promoting the creation of additional capital buffers: the conservation buffer and the counter-cyclical buffer[1]. These proposals, as well as the results of the analysis of their impact on the Polish banking sector, have been described in detail below. For the purpose of the analysis it is assumed that the target minimum levels of capital adequacy ratios are those proposed by the Basel Committee for Banking Supervision in September 2010. However, it should be emphasized that BCBS recommendations are not binding regulations and the requirements for European banks will be defined by the provisions of the directive which may differ from the proposals submitted by the Committee.

According to the proposals of the European Commission, regulatory capital will consist of two main categories:

- Tier 1 (going concern capital - ensuring entity's ability to continue as a going concern through its ability to absorb losses), composed of Core Tier 1[2] (equity capital) and non-Core Tier 1 (hybrid instruments excluding so-called innovative instruments and instruments with a pre-set maturity date).
- Tier 2 (gone concern capital - reducing losses of the creditors of an institution if it is wound up).

The existing category Tier 3, i.e. funds of third category that were to serve to cover risk in the trading book, would be abolished as the crisis experience proved this category to be entirely useless.

According to the European Commission, the capital requirements based on risk weights are insufficient and do not prevent banks from excessive use of leverage. The leverage ratio therefore

is to play a complementary role for the capital adequacy ratio and to limit excessive increase of balance and off-balance sheet positions. In a document published in July 2010, BCBS presented the proposal of calculating this ratio as the ratio of Tier 1 capital to balance sheet total (including netting of derivative instruments[3]) increased by the value of off-balance sheet exposures (accounting for conversion ratios[4]). Final calibration[5] of this ratio is scheduled for the first half of 2017 and the introduction of the minimum level requirement -– for 1 January 2018. The minimum level assumed for testing during the run period, i.e. 2013-2017, is 3%. The level of this ratio for the Polish banking sector has not been estimated in the Box due to the absence of sufficiently detailed financial data.

The European Commission has proposed the introduction of a requirement to maintain a constant conservation buffer, i.e. capital surplus above the minimum requirement which banks would be obliged to build through profit accumulation. If capital surplus declined below the required buffer threshold, the bank would be required to earmark a portion of its profits for capital increase. In addition, the EC has proposed that the capital buffer be increased through the counter-cyclical buffer. The level of this buffer would change depending on the development of a set macroeconomic variable or a group of variables testifing to excessive lending growth in the economy while taking into account the level of financial system development in individual countries. In the calculations described below, account is taken only of the introduction of the conservation buffer.

The timetable proposed by BCBS for reaching transitory and minimum target capital adequacy ratios by banks stipulates the phasing in of new requirements in 2013-2018 (see Table 1). It can be expected that banks will have enough time to adjust to the new regulatory requirements.

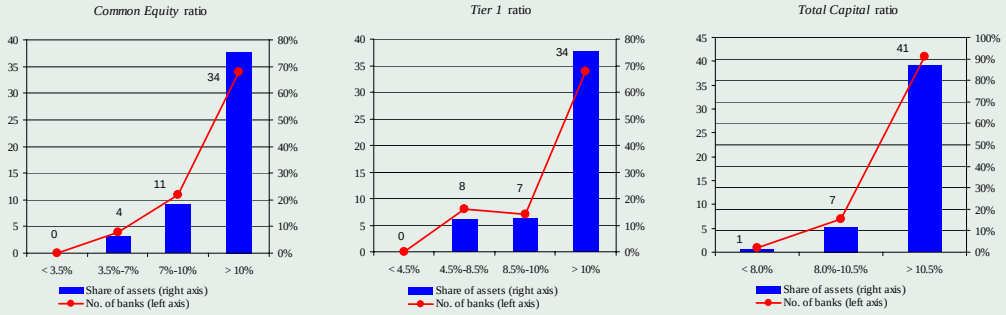
Table 1. The timetable for introducing proposals of the Basel Committee on banks' capital adequacy

	2013	2014	2015	2016	2017	2018	2019
Minimum level of Common Equity ratio	3.5%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%
Minimum level of Common Equity ratio including capital conservation buffer	3.5%	4.0%	4.5%	5.125%	5.75%	6.375%	7.0%
Minimum level of Tier 1 ratio	4.5%	5.5%	6.0%	6.0%	6.0%	6.0%	6.0%
Minimum level of Total Capital ratio (capital adequacy ratio)	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Minimum level of Total Capital ratio (capital adequacy ratio) including capital conservation buffer	8.0%	8.0%	8.0%	8.625%	9.25%	9.875%	10.5%

Source: Basel Committee.

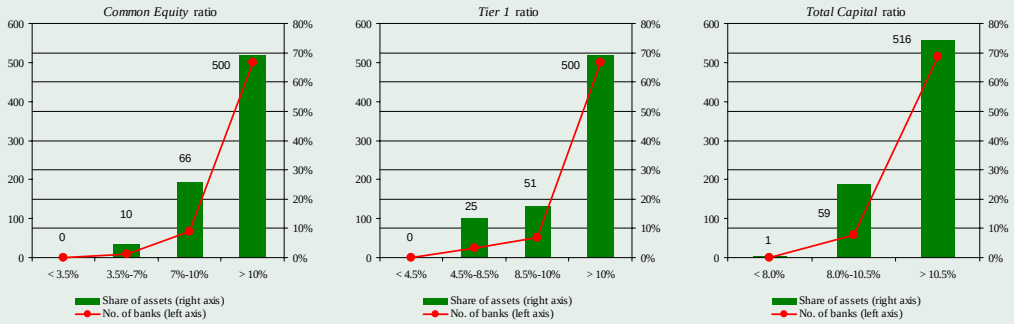
Preliminary results of the analysis of the impact of new capital requirements on the Polish banking sector indicate that only a few banks would have to take measures to reach the minimum levels, as stipulated for 2013. According to data as at the end of September 2010, all commercial and cooperative banks exceeded the minimum Common Equity and Tier 1 ratios. As far as of the Total Capital ratio is concerned, only one commercial bank and one cooperative bank (with the total share in banking sector assets of around 1%) did not reach the minimum level. In the case of the commercial bank, non-compliance with the minimum level of theTotal Capital ratio was caused to a large extent by the deduction of the deferred tax assets (adjusted for deferred tax liabilities) from regulatory funds.

Figure 1. Distribution of assets and the number of commercial banks by capital ratios: Common Equity (left-hand panel), Tier 1 (central panel) and Total Capital (right-hand panel) as at the end of September 2010



Source: NBP.

Figure 2. Distribution of assets and the number of cooperative banks by capital ratios: Common Equity (left-hand panel), Tier 1 (central panel) and Total Capital (right-hand panel) as at the end of September 2010



Source: NBP.

The Polish banking sector also meets, to a large extent, the minimum target levels of capital ratios, to take effect from the start of 2019. In the case of the Common Equity ratio, only four commercial banks did not reach the minimum level of 7%. After including profit posted after three quarters of 2010 in the equity capital, only two banks did not reach this level. The aggregate value of capital deficit for these banks was 45 million zlotys.

Table 2. Number of banks non-complying with the minimum target levels of capital ratios, taking into account that profits posted in the first three quarters of 2010 are retained.

Ratio	No. of commercial banks	Value of capital increase needed (zloty billion)	No. of cooperative banks	Value of capital increase needed (zloty billion)
Common Equity	2	45.3	4	11.3
Tier 1	7	702.8	11	40.0
Total Capital	6	724.5	20	37.5

Source: NBP.

[1] The proposals of the Commission also concern, inter alia, using prudential filters and capital decreases in respect of Core Tier 1, the requirement to convert the capital part of non-Core Tier 1 instrument into Core Tier 1 in certain situations, using contingent capital and increasing the counterparty risk weights for exposures arising from securitisation, derivatives and repo transactions.
[2] In its documents, the Basel Committee refers to Common Equity component of Tier 1.
[3] Netting in the context of derivatives means the use of the acceptable types of offsetting product lines under agreements signed between a bank and a counterparty, in accordance with regulations currently in force – in Poland: Resolution No. 76/2010 the Polish Financial Supervision Authority of 10 March 2010, part IV of Attachment No. 16.
[4] Credit conversion factors (CCFs) are used to determine the balance sheet equivalent of off-balance sheet transactions.
[5] Setting the minimum ratio level and corrections to the manner for calculating the denominator.

The average level of the capital adequacy ratio in the banking sector is high and substantially exceeds the regulatory minimum. However, simulations show that there is a group of banks with a low capacity to absorb potential losses arising from possible further deterioration in the quality of loan portfolio.

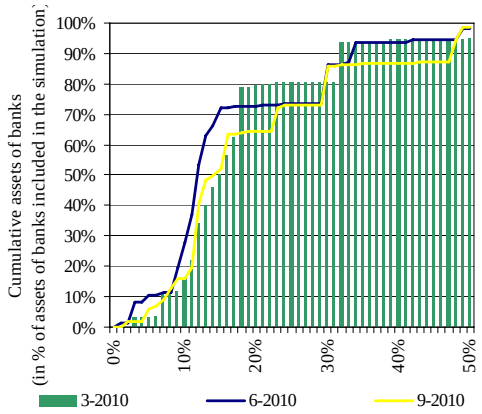
Simulations of loan loss absorption capacity

Four simulations were performed[61] to determine whether banks' capital is sufficient to absorb potential losses arising from credit risk materialisation. The results of the first simulation (see Figure 3.52) indicate the scale of the deterioration in the quality of performing loans that individual banks may absorb without their capital adequacy ratios falling below 8%. These results allow to rank the banks by their resilience to the deterioration in the quality of their loan portfolios.

The simulation performed on September 2010 shows a rise of the significance of a group of banks that were able to absorb only a relatively minor deterioration in the quality of loan portfolio. According to end-of-September 2010 data, the deterioration in the quality of 5% of loans would result in a fall of the capital adequacy ratio below 8% at banks with a 6% share in the banking sector assets. In March 2010, an identical shock would have caused the capital adequacy ratio to fall below 8% at banks with a 3% share in the sector's assets.

[61] The simulations were conducted only on data for commercial and affiliating banks with an 89% share in the assets of the banking sector. Branches of credit institutions and cooperative banks were not included in these simulations.

Figure 3.52. Assets of commercial banks by percentage of performing loans whose deterioration of quality would lower the capital adequacy ratio to 8%

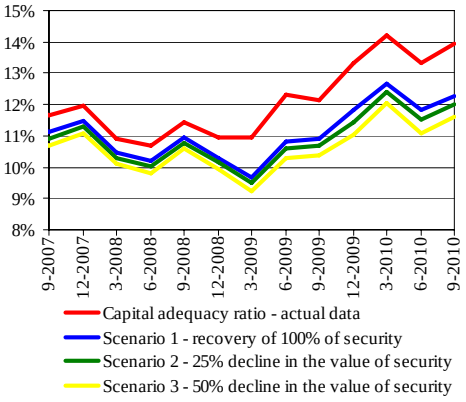


Assumptions of the simulation:
1. Deterioration in loan quality means that 50% impairment is recorded for these loans.
2. Hypothetical charges to impairment provisions fully decrease a bank's regulatory capital.
3. Impaired loans carry a 100% risk weight.
4. No release of impairment provisions.
Source: NBP.

The purpose of the second simulation 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 decrease 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 show that throughout 2010 the significance of the portfolio of impaired loans for banks' capital adequacy stabilised – the scale of a fall of the capital adequacy ratio in particular scenarios at the end of the third quarter of 2010 was comparable to that from March 2010 (see Figure 3.53). Banks that register a fall of the capital adequacy ratio below 8% in the simulation may be regarded as exhibiting a relatively high – as compared to capital – value of impaired loans. The share of this group of banks in the assets of commercial banks is around 18%. However, almost all members of the group posted a positive net profit in the first three quarters of 2010, which allows them to increase their regulatory capital in the future[62].

Figure 3.53. Average capital adequacy ratio of commercial banks in scenarios assuming deterioration in the quality of impaired loans

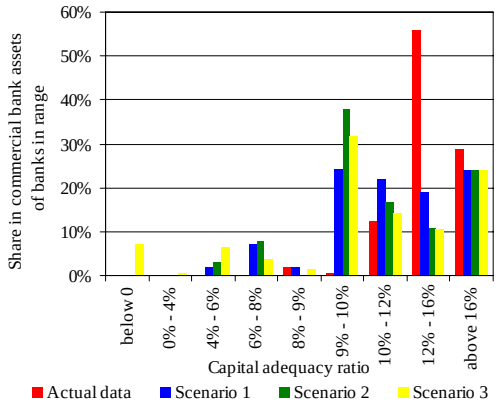


Assumptions of the simulation:
1. In all scenarios, banks post losses (decreasing a bank's regulatory capital) equal to the value of unsecured portion of impaired loans.
2. Portfolio of loans without identified impairment remains unchanged.
3. In Scenario 2 and 3, charges to impairment provisions are increased by the value of a decrease of collateral value (25% of collateral value under Scenario 2. and 50% under Scenario 3.).
Source: NBP.

Comparing the results of the first two simulations allows to isolate a small group of banks that concentrate on providing loans to households (with a total share in the assets of commercial banks close to 7%), whose capital buffers are low. The situation of these banks deserves attention due to their relatively high sensitivity to the deterioration in their asset quality and the rapidly deteriorating quality of their loan portfolio in 2010. Some of the banks have already issued new shares[63], which will have a positive impact on their safe functioning.

[62] These banks included only part of the current period's profit to regulatory capital (there is such a possibility in the case of the current period's profit, audited by chartered auditor).
[63] Data available at the time of preparing the *Report* did not take account of new capital raised by the share issues.

Figure 3.54. Distribution of assets of commercial banks in scenarios of the deterioration in the quality of impaired loans according to data as at September 2010



Note: the scenarios defined in explanatory notes below the Figure 3.53
Source: NBP.

The third simulation was designed to examine the significance of the concentration risk of loan exposures in the banking sector. The simulation assessed the impact of a simultaneous bankruptcy of three largest non-financial borrowers (*for the whole banking sector*) on the banking sector. These are enterprises from the chemical and raw materials sectors. Claims on these enterprises are held in the portfolio of 16 banks. The simulation assumed impairment at 100% in the case of all loans extended to these enterprises[64] and the fact that the costs of provisions would reduce banks' regulatory capital, which results in a fall of the capital adequacy ratio. The effects of the hypothetical bankruptcy of three largest financial (non-bank) borrowers were examined in a similar way. The simulation did not take into account exposures towards subsidiaries and affiliates. The results of the two variants are shown in Table 3.11. These results indicate that due to banks' capital growth, the influence of the financial standing of the group of largest borrowers on the safe operation of the banking sector has diminished.

The fourth simulation examined the concentration of loan exposures in individual commercial banks by assessing the impact of the hypothetical bankruptcy of three largest non-financial borrowers *of each bank*. The results of the simulations are presented in Table 3.12. In the majority of banks, exposures towards the largest borrowers are not high enough for the bankruptcy of these entities to threaten bank's solvency.

The results of the simulations discussed above point to a persistent diversity of capital buffers among banks. Due to the increase of capital adequacy ratios in the past two years, the majority of banks hold sufficient capital to absorb potential further deterioration in the quality of loan portfolio. However, there is a small group of banks with lower resilience that should pursue a prudent dividend policy..

Table 3.11. Impact of the hypothetical bankruptcy of three largest borrowers on the banking sector

	Sector of the borrowers	
	nonfinancial	financial
Number of banks lending to investigated companies	16	12
Share of these banks in assets of commercial and cooperative banks	70.8%	55.2%
Credit risk cost (zloty billion)	6.4	3.3
Number of banks where capital adequacy ratio falls below 8%	0	0

Source: NBP.

[64] The calculations take into account data available on loan collateral accepted by banks.

Table 3.12. Impact of the hypothetical bankruptcy of three largest borrowers of each bank on the solvency of commercial banks

	Simulation results
Credit risk cost (zloty billion)	13.6
Number of banks where capital adequacy ratio falls below 8%	7
Share of these banks in assets of commercial and cooperative banks	3.5%

Source: NBP.

Macro stress tests

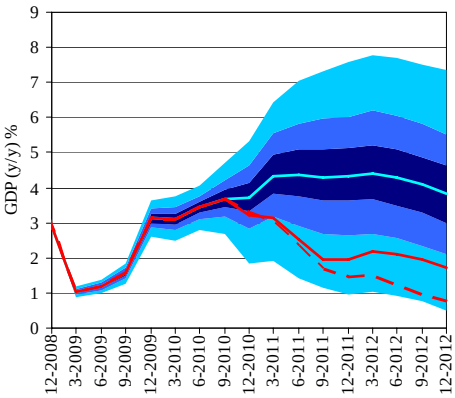
Besides the simulations presented above, macro stress tests were used to assess banks' capacity to absorb potential loan losses that might arise from the deterioration in economic conditions. The purpose of these tests is to analyse the effects of hypothetical negative shocks rather than present the most likely developments in the banking sector.

Macro stress tests performed by the NBP consist of four stages. In the first one, macroeconomic scenarios were generated to form the basis of the simulation to be performed. Three scenarios were analysed – a baseline scenario consistent with the central path of the NBP macroeconomic projection from "Inflation Report – October 2010" and two shock scenarios developed by NBP economists. The two shock scenarios assumed that world economic growth would slow again in 2011 as a result of the waning effects of the stimulus measures in the world's most developed economies, and tightening of fiscal policies to limit the growing debt of the public sector.

In the first shock scenario, a longer period of low economic growth in highly developed countries could lead to a fall in Poland's real GDP, further increased by a hypothetical pro-cyclical response of fiscal policy. Fiscal policy tightening could stem from the risk of exceeding the prudential thresholds of the public debt to GDP ratio. In such a scenario, a further tightening of lending policy would also contribute to a decline in GDP growth. The deterioration in asset quality and a fall in the value of financial instruments on banks' balance sheets could trigger such a tightening of lending policy. In turn, tightening of lending policy together with absence of prospects for the economy to return to economic growth swiftly and for the financial standing of the non-financial sector to improve would lead to a collapse of credit growth. This would translate into a further weakening of demand and emergence of a self-reinforcing negative feedback loop between declines in credit and GDP growth, inter alia, through a decline in the growth of productivity factors.

In the second shock scenario, apart from factors mentioned above, a fall in foreign investor confidence would be an additional shock for the Polish economy resulting in outflows of capital from Polish market of government bonds. This would lead to an increase of bonds yields (the simulation assumed a 300 basis points yield increase, sustaining one year), and also would force further fiscal adjustments aimed at regaining the creditworthiness of the Polish government.

Figure 3.55. Shock macroeconomic scenarios against the fanchart of GDP from "Inflation Report – October 2010"



Note: red lines denote shock scenarios - continuous line denotes Scenario 1, dotted line - Scenario 2.
Source: NBP.

The NECMOD model was used to assess the impact of analysed developments on Poland's economic condition[65]. The comparison of the path of GDP growth in the shock scenario with the fanchart of the GDP growth rate, presented in "Inflation Report – October 2010" (see Figure 3.55) shows that the likelihood[66] of a stronger slowdown of the GDP growth rate than that arising out of the first shock scenario amounts to around 15% in 2011 and 2012. For the second shock scenario, this likelihood is around 10% and 5% in 2011 and 2012, respectively.

Table 3.13. Major economic indicators in macro stress test scenarios

	2010	2011	2012
GDP growth y/y			
Baseline scenario	3.5%	4.3%	4.2%
First shock scenario	3.4%	2.4%	2.0%
Second shock scenario	3.4%	2.1%	1.1%
LFS unemployment rate, yearly average			
Baseline scenario	9.6%	9.4%	8.9%
First shock scenario	9.6%	10.0%	10.4%
Second shock scenario	9.6%	10.0%	10.6%
CPI inflation y/y			
Baseline scenario	2.5%	3.0%	3.0%
First shock scenario	2.5%	2.5%	1.8%
Second shock scenario	2.5%	3.4%	2.4%
WIBOR3M			
Baseline scenario	3.83%	3.73%	3.73%
First shock scenario	3.91%	3.96%	3.05%
Second shock scenario	3.95%	4.64%	3.97%

Source: NBP.

The paths of macroeconomic variables in the baseline and shock scenarios formed the basis for the preparation of conditional forecasts of the impact of macroeconomic conditions on banks' credit risk costs. For this purpose, panel models explaining the development of net charges to provisions for impaired loans at the level of individual loans were used. In these models, provisions are explained by macroeconomic variables (changes in the real WIBOR 3M rate, GDP growth rate, changes in households' real disposable income) and by autoregressive component. Provisions relating to the portfolios of corporate loans, housing loans and other loans extended to households are modelled with separate equations.

In the next stage of the simulation, banks' hypothetical earnings were calculated in both scenarios. The forecast of banks' net interest income was performed by means of panel models that separately describe the development of interest income and interest expense in commercial banks. These models explain the development of net interest income on the basis of paths of macroeconomic variables in individual scenarios and of bank-specific variables, including loan portfolio quality. The forecast of net interest income in both analysed scenarios takes account of changes in the quality of loan portfolio forecasted for a given scenario in the previous stage of the simulation. For the shock scenario, this means a decline of net interest income by around 28% compared to data for a 12-month period ending in September 2010. It was assumed that gains/losses on valuation and trading activities decrease by 20%, and other components of net operating income before provisions for impaired loans[67] do not change in relation to the value attained in the 12-month period ending in September 2010.

In assessing the impact of the second shock scenario on banks, the fall in value of Polish Treasury debt securities held by banks was additionally taken into account. Banks' exposure to interest rate risk arising from the portfolio of theses securities is hedged by derivatives, such as IRS. This implies that the rise of government bond yields, at a simultaneous parallel change of the

[65] NECMOD, the multi-equation macroeconomic model of the Polish economy, has been developed for monetary policy purposes in Poland. The current specification of the model is available on the NBP website. The NECMOD model is used in the preparation of the NBP macroeconomic projections presented in "Inflation Reports".
[66] Probability estimation on the basis of uncertainty factors presented in the fanchart, i.e. relating to the assumptions and specification of the model, errors in estimation of variables and the residual error.
[67] Net income from banking activity less general expense and depreciation.

IRS curve has no impact on banks' earnings. The second shock scenario assumed that although the yields of government bonds rose, the IRS curve did not change, therefore a change in yields fully reflects a change in credit risk premium and has a direct impact on banks' earnings[68]. The structure of Treasury securities held by banks is presented in Table 3.14.

Table 3.14. Treasury debt securities in commercial banks' balance sheets as at September 2010 – structure and presentation in shock simulations

Classification (IFRS portfolio)	Balance sheet value (zloty bn)	Share in total	Treatment in stress tests – influence on banks' financial position
Held for trading	18,7	12,5%	Through the profit and loss account – lower pre-tax profit
Valued at fair value through profit and loss account	9,0	6,0%	Through the profit and loss account – lower pre-tax profit
Available for sale	92,5	62,0%	Through capital – lower revaluation reserve, when the reserve is exhausted through the profit and loss account
Loans and receivables	3,5	2,3%	Not included – a fall in market value is not reflected in the books of banks if a credit event did not take place
Held to maturity	25,5	17,1%	Not included – a fall in market value is not reflected in the books of banks if a credit event did not take place
Total	149,1		

Note: data for 45 analysed commercial banks.
Source: NBP.

The simulation covers the period till the end of 2012 and was performed for 45 commercial banks. Three banks operating for a short period (Alior Bank, Allianz Bank and FM Bank) were excluded from the simulation because the models applied in the simulation did not fit the data well for these banks. Detailed results of the simulation are presented in Tables 3.15 and 3.16.

The simulations show that should the baseline scenario – which points to a relatively strong acceleration of economic growth in 2011-2012 – materialise, a stabilisation of loan portfolio quality and a low value of credit risk cost should be expected. In the shock scenarios, credit risk cost is higher than in the baseline scenario albeit lower than in 2008–2009. The rate of economic growth in both shock scenarios is comparable with that registered in the first half of 2009, which suggests that credit risk cost in the shock scenarios could be similar to figures observed in that period. However, a significant portion of risk accumulated on banks' balance sheets in times of good economic conditions has most likely already materialised, which may justify the forecasted lower value of credit risk cost. However, the model applied in these simulations may not take full account of the lagged effects of a lenient lending policy pursued in the years prior to the

[68] In the case of instruments included in the portfolio "available for sale" – on banks' capital.

economic slowdown and, on this account, the actual credit risk cost may prove to be higher[69].

In the baseline scenario, two small banks (with a total share of 0.7% in the assets of 45 analysed commercial banks) would need to increase their capital to keep capital adequacy ratio above 8% (by a total of around 100 million zlotys). In the first shock scenario, the value of hypothetical capital increase would be slightly higher (around 250 million zlotys), and capital would have to be increased in three small banks, with a share in the assets of the analysed banks totalling 1.2%. In the second shock scenario, 7 small and medium-sized banks, with a 5.9% share in the assets of the analysed group, would need to increase capital (by a total of 500 million zlotys). In the first three quarters of 2010, the majority of these banks posted a positive net profit; however, earmarking these profits for capital increase would not ensure they would have a sufficient buffer to absorb the effects of the shock scenario.

Table 3.15. Results of macro stress tests – baseline scenario and historical data

	Actual data for the period 10-2009 – 9-2010	Simulation results for the period 10-2010 – 12-2012	
		baseline scenario	
		sum	per year
Impairment charges[1] for loans (zloty billion)	11.0	5.0	2.2
- of which for loans to enterprises	1.2	2.6	1.2
- of which for loans to households	8.8	2.4	1.0
Impairment charges[1] for loans (as % of loans)	1.9%	n/d	0.4 %
Impairment charges[1] for loans (as % of assets)	1.2%	n/d	0.2 %
Net interest income[2] (zloty billion)	22.0	45.0	19.9
Other income and expense[3] (zloty billion)	0.8	-0.7	-0.3
Pre-tax profit (zloty billion)	12.1	39.3	17.5
After-tax profit (zloty billion)	9.9	32.2	14.2
Capital needs[4] (zloty billion)	n/a	0.1	

1. In Tables 3.15 and 3.16 the term "impairment charges" is understood as the difference in the stock of provisions between the start and the end of a given period.
2. In Tables 3.15 and 3.16 "net interest income" includes fees and commissions income on extended loans, but does not include interest income on securities.
3. In Tables 3.15 and 3.16 "other income and expense" includes, inter alia, net income on fees and commissions excluding income fees and commissions income on extended loans, gains/losses on valuation and trading activities, dividends received, general expense and depreciation.
4. Value of capital injection necessary to ensure that capital adequacy ratios of all banks exceed 8% at the end of period.
Note:
A fixed value of loan portfolio and bank assets in the simulation horizon and earmarking all generated albeit undistributed profit for increasing banks' capital.
Data for 45 analysed commercial banks.
Source: NBP.

[69] The NBP pointed to the risk taken by banks as a result of easing lending policies, inter alia, in "Financial Stability Review – First half of 2007".

The results of the simulations show, however, that a firm majority of the sector of commercial banks holds sufficient capital to safely operate even in the event of a – currently highly unlikely – strong slowdown in economic growth. Due to persistent uncertainty over the future quality of banks' loan portfolio, it is essential for banks to maintain high levels of capital. The economic slowdown followed the period of rapid lending growth in 2006-2008 accompanied by loosening of the lending policy. This makes the quality of loans highly uncertain. The uncertainty is further enhanced by the absence of data on the repayment performance for some loan categories across a full business cycle, including housing loans, in particular.

Under the most probable scenario, the outlook for economic growth will improve and credit risk cost will be reduced. However, heightened uncertainty remains over the macroeconomic prospects and banks' earnings. On this account, it is desirable that banks pursue a dividend policy with caution at least until macroeconomic prospects stabilise to ensure their stable operation in the longer term.

Table 3.16. Results of macro stress tests – shock scenarios

	Simulation results for the period 10-2010 – 12-2012			
	First shock scenario		Second shock scenario including bond yield shock	
	sum	per year	sum	per year
Impairment charges[1] for loans (zloty billion)	11.4	5.1	14.6	6.5
- of which for loans to enterprises	5.5	2.5	6.6	2.9
- of which for loans to households	5.9	2.6	8.0	3.6
Impairment charges[1] for loans (as % of loans)	n/a	0.8 %	n/a	1.1%
Impairment charges[1] for loans (as % of assets)	n/a	0.5 %	n/a	0.6 %
Net interest income[2] (zloty billion)	35.8	15.9	33.3	14.8
Other income and expense[3] (zloty billion)	-0.7	-0.3	-0.7	-0.3
Fall in bond value recognized in the profit and loss account (zloty billion)	n/a		0.9	
Pre-tax profit (zloty billion)	23.7	10.5	17.0	7.6
After-tax profit (zloty billion)	18.9	8.4	13.3	5.9
Fall in bond value recognized in capital (zloty billion)	n/d		3.6	
Capital needs[4] (zloty billion)	0.25		0.5	

Explanations and notes as in Table 3.15.
Source: NBP.

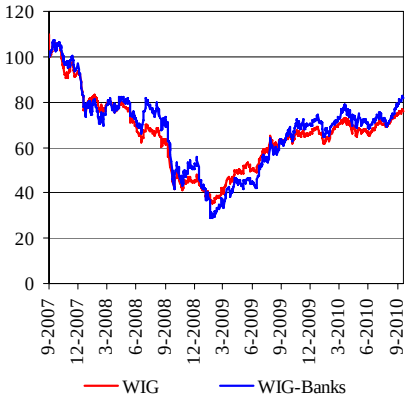
3.7. Market assessment of Polish banks and their parent entities

Investors asses positively the future results of Polish banks. Polish banks are better viewed than their parent entities. The ratings of Polish banks are stable with the difference between these ratings and ratings of their parent entities being smaller than in the pre-crisis period. Both ratings and market indicators point to a large discrepancy of the ratings of parent-entities. However, all of them have successfully passed the stress testing exercise conducted by the Committee of European Banking Supervisors.

Domestic banking sector

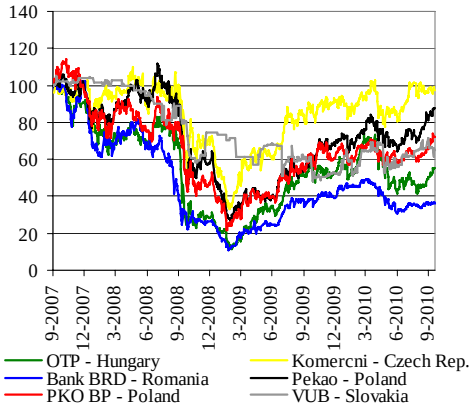
The market valuation of banks listed on the Warsaw Stock Exchange[70] was changing similarly to the valuation of companies from other sectors of the economy[71]. The share prices of Polish banks stabilised in July and August, then rose from September 2010 (see Figure 3.56). Share prices of the region's largest banks displayed similar trends. In the analysed period, the Hungarian OTP and Romania's BRD recorded their lowest share price and the Czech Komercni Banka – the highest comparing with September 2007 (see Figure 3.57). The macroeconomic situation in respective countries had an impact on these developments.

Figure 3.56. Sectoral index WIG-Banki against WIG index



Note: indices were rescaled to 100 at the end of September 2007.
Source: NBP calculations based on Bloomberg.

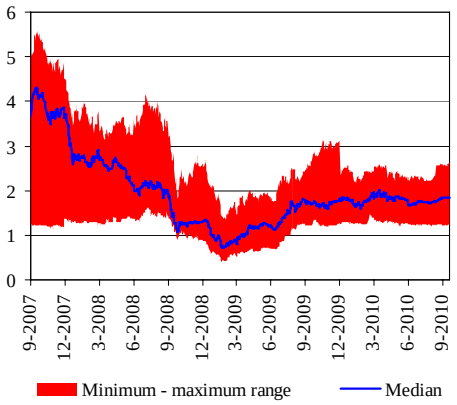
Figure 3.57. Stock prices of selected banks in Central and Eastern Europe



Note: stock prices were rescaled to 100 at the end of September 2007.
Source: Bloomberg.

[70] Banks listed on the WSE had a 59% share in the banking sector assets at the end of September 2010.
[71] The analysis presented here concerns changes in the market assessment of banks from June 2010 to 20 November 2010.

Figure 3.58. Price to book value ratio of Polish banks



Note: the ratio based on data of banks comprising the WIG-Banki index, excluding BPH (due to the spin-off), Getin Noble Bank (as a subsidiary of Getin Holding included in the WIG-Banki index).
Source: NBP calculations based on Bloomberg.

Figure 3.59. P/E ratio of Polish banks

Notes: see Figure 3.58.
The index is based on average earnings of the past four years.
Source: NBP calculations based on Bloomberg.

Fundamental ratios indicates that investors' assessment of Polish banks has stabilised. The price to book value ratio for all Polish banks remains higher than 1 (the median of the ratio amounts to 1.84). Similarly, the P/E ratio points to the stabilisation of the market assessment of Polish banks [72]. The level of both ratios is still lower than their long-term average levels[73].

In the analysed period, PKO BP conducted a successful 800 million euro bond issue. The high demand indicates a positive investors' assessment of the bank's creditworthiness.

The ratings of the majority of Polish banks remained unchanged. Polish banks are rated by rating agencies between C and D on the scale of individual ratings and of financial strength rating[74]. The ratings indicate that the agencies assess the situation of Polish banks as *adequate*. In recent report "Banking System Outlook Poland" the Moody's rating agency has changed the outlook for the Polish banking sector from negative to stable.

The ratings of one bank were changed twice in the analysed period. The long-term and short-term deposit ratings of Bank Millennium (from A to A- and from F1 na F2 in July 2010, and from A- to BBB and F2 to F3 in November 2010, respectively) was downgraded by Fitch following the downgrade of the ratings of the bank's parent entity, Banco Comercial Portugues (Millennium bcp). Moreover, Fitch and Moody's welcomed the potential [75] change of the parent entity of the BZWBK bank, upgrading the rating outlook from "negative" to "rating under review for a possible upgrade" (see Table 3.17).

The difference between the ratings of Polish banks and those of their parent entities has decreased considerably in comparison with the pre-

[72] This ratio is based on average earnings of the past four years. Such a design of the ratio allows to make a de-seasoned and long term valuation of Polish banks. The period since the IPO of PKO BP has been adopted.
[73] The average P/E ratio from January 2005 to October 2010 amounted to around 21, the average price to book value ratio amounted to around 2.4 in the corresponding period.
[74] For definitions of ratings, see *Glossary*.
[75] According to the press release of Bank Santander and AIB Group, completion of the transactions requires approval of the financial supervisory authorities and AIB Group's shareholders; the release available on websites www.santander.com and www.aib.ie

crisis period (see Figure 3.60). This indicates that the impact of the crisis on banks operating in Poland has been markedly weaker than on other entities of banking groups of which Polish banks are members[76].

Table 3.17. Ratings of Polish banks by Moody's and Fitch

Moody's	Financial strenght rating	Long-term deposit rating	Short-term deposit rating	Outlook
PKO BP	C- (C-)	A2 (A2)	P-1 (P-1)	STA (STA)
Pekao	C- (C-)	A2 (A2)	P-1 (P-1)	STA (STA)
ING Bank Śląski	D+ (D+)	A2 (A2)	P-1 (P-1)	NEG (NEG)
BRE Bank	D (D)	Baa1 (Baa1)	P-2 (P-2)	STA (STA)
BZ WBK	D+ (D+)	Baa2 (Baa2)	P-2 (P-2)	RUR (NEG)
Bank Millennium	D (D)	Baa2 (Baa2)	P-3 (P-3)	NEG (NEG)
Bank Handlowy	D+ (D+)	Baa1 (Baa1)	P-2 (P-2)	NEG (NEG)
BGŻ	D (D)	A3 (A3)	P-2 (P-2)	STA (STA)
BPH	D (D)	Baa2 (Baa2)	P-2 (P-2)	STA (STA)
Lukas Bank	D+ (D+)	A3 (A3)	P-2 (P-2)	NEG (NEG)
BRE Bank Hipoteczny	E+ (E+)	Baa3 (Baa3)	P-3 (P-3)	STA (STA)
Fitch	Individual rating	Long-term rating	Short-term rating	Outlook
Pekao	C (C)	A- (A-)	F2 (F2)	NEG (NEG)
ING Bank Śląski	C (C)	A (A)	F1 (F1)	STA (STA)
BRE Bank	C/D (C/D)	A (A)	F1 (F1)	STA (STA)
BZ WBK	C (C)	BBB+ (BBB+)	F2 (F2)	RUR (NEG)
Bank Millennium	C/D (C/D)	BBB (A)	F3 (F1)	NEG (NEG)
Getin Noble Bank	D (-)	BB- ()	B (-)	STA (-)
BOŚ	D (D)	BBB (BBB)	F3 (F3)	STA (STA)

Notes: in brackets - as of end of June 2010.
For definitions of ratings, see *Glossary*.
The banks are listed according to total assets.
The ratings by Standard and Poors have not been included, as the agency assigns ratings to only two Polish banks.
Source: www.moodys.com, www.fitchpolska.com.

[76] The financial strength ratings of parent entities are assigned on the basis of consolidated data for the whole group, i.e. they also take account of the standing of their Polish subsidiaries. The higher rating of a parent bank may result from, for example, the geographical diversification of its operations.

Table 3.18. Ratings of the parent entities of Polish banks by Moody's

Parent entity	Financial strenght rating	Long-term deposit rating	Short-term deposit rating	Outlook	Polish subsidary
Unicredit	C (C)	Aa3 (Aa3)	P-1 (P-1)	STA (STA)	Pekao
ING Bank	C+ (C+)	Aa3 (Aa3)	P-1 (P-1)	STA (STA)	ING Bank Śląski
Commerzbank	C- (C-)	Aa3 (Aa3)	P-1 (P-1)	NEG (NEG)	BRE Bank
AIB	D (D)	A1 (A1)	P-1 (P-1)	STA (STA)	BZ WBK
BCP	D+ (D+)	A3 (A1)	P-2 (P-1)	NEG (NEG)	Bank Millennium
Citigroup	C- (C-)	A3 (A3)	P-1 (P-1)	NEG (STA)	Bank Handlowy
KBC	C+ (C+)	Aa3 (Aa3)	P-1 (P-1)	NEG (NEG)	Kredyt Bank
Raiffeisen Bank	D+ (D+)	A1 (A1)	P-1 (P-1)	STA (STA)	Raiffeisen Bank Polska
Rabobank	B+ (B+)	Aaa (Aaa)	P-1 (P-1)	NEG (NEG)	BGŻ, Rabobank Polska
GE	brak (brak)	Aa2 (Aa2)	P-1 (P-1)	STA (STA)	BPH
EFG Eurobank Ergasias	D (D)	Ba1 (Baa3)	NP (P-3)	NEG (RUR)	EFG Eurobank Ergasias Oddział w Polsce (operating under Polbank brand)
BNP Paribas	B- (B)	Aa2 (Aa1)	P-1 (P-1)	STA (STA)	Fortis Bank Polska (operating under BNP Paribas Fortis brand)
Nordea	C+ (C+)	Aa2 (Aa2)	P-1 (P-1)	STA (STA)	Nordea Bank
Deutsche Bank	C+ (C+)	Aa3 (Aa1)	P-1 (P-1)	STA (STA)	Deutsche Bank PBC, Deutsche Bank Polska
Credit Agricole	B- (B-)	Aa1 (Aa1)	P-1 (P-1)	NEG (NEG)	Lukas Bank, Calyon Bank
Santander	B- (B-)	Aa2 (Aa2)	P-1 (P-1)	NEG (NEG)	Santander Consumer Bank, AIG Bank Polska

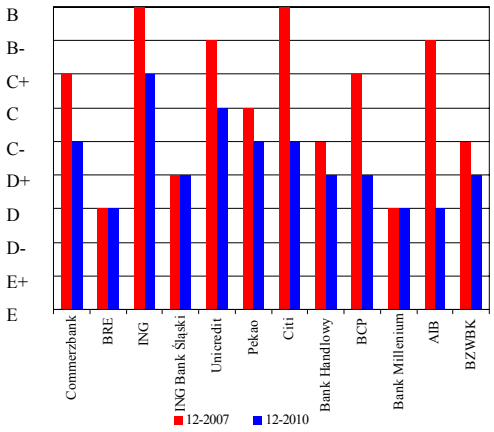
Notes: in brackets - as of end of June 2010. For definitions of ratings, see *Glossary*.
Source: www.moodys.com.

Foreign parent entities of domestic banks

The ratings of parent entities remain low. The rating of EFG Eurobank Ergasias (operating in Poland as a branch under the brand name Polbank, with an around 2% share in the banking sector assets) was downgraded by Moody's as a result of the fiscal crisis in Greece. Also the rating of BCP (whose Polish subsidiary Bank Millennium SA has around 4% share in the banking sector's assets) was downgraded as the result of the downgrade of sovereign rating for Portugal (see Table 3.18). Any possible downgrades of the deposit ratings of the parent entities may result in the rating downgrades of their Polish

subsidiaries.

Figure 3.60. Diversification of the financial strength ratings of parent entities and their Polish subsidiaries



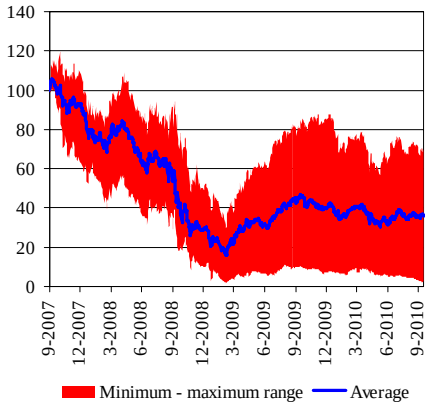
Source: www.moodys.com

In July 2010, the Committee of European Banking Supervisors[77] (CEBS) conducted a stress test of the largest banking groups operating in EU Member States[78]. The parent entities of Polish banks successfully passed the CEBS stress test (see Table 3.19) (PKO BP was the only Polish bank directly participating in this exercise[79]; the results pointed to the bank's resilience to likely shocks).

The stock prices of the parent entities of Polish banks remained stable. However, there is a noticeable discrepancy of the stock prices and values of the ratios among individual parent entities. What deserves attention is the fact that Polish banks were still better assessed by investors that their parent banks.

The median of the price-to-book value ratio of the parent entities of Polish banks remains below 1 (see Figure 3.62). The P/E ratio stabilised at the level recorded at the time of the publication of the previous *Report* (around 12). Valuation of the parent entities is higher than in March 2009, but is still lower than in the period prior to the start of the financial crisis and their long-term average levels[80] (see Figure 3.63).

Figure 3.61. Stock prices of the parent entities of Polish banks



Note: stock prices rescaled to 100 at the end of September 2007.
In the Figures 3.61, 3.62, 3.63 the following parent entities were included: AIB, BCP, BNP Paribas, Citigroup, Commerzbank, Credit Agricole, Deutsche Bank, EFG, GE, ING, KBC, Nordea, Raiffeisen, Santander, Societe General.
Source: NBP calculations based on Bloomberg.

CDS premia of the parent entities of Polish banks decreased after the publication of the results of the CEBS stress tests. In mid-August, as a result of concerns over the released results and growth in risk aversion, CDS premia for some banks increased. The level of CDS premia of banks headquartered in countries facing a debt crisis re-

[77] In cooperation with the European Central Bank, the European Commission and the supervisory authorities of EU Member States.
[78] More information on the CEBS press release of 23 July 2010 available on www.c-ebs.org.
[79] European banking groups were assessed on the basis of consolidated data (which means that all foreign subsidiaries and branches of the banking groups analysed in the exercise were taken into account) ensuring that – at national level – banks participating in the exercise represented at least 50% of each Member State's banking sector, as expressed in terms of total assets. The situation of Polish banks that are part of the European banking groups had an impact on the stress test results of their parent entities.
[80] Average P/E ratio in the period from 2003 for the group of analysed banks was 15, and average price-to-book value ratio in the same period amounted to 1.5.

mained high. CDS premia for EFG and BCP bonds decreased in September 2010. In the case of AIB, they rose on concerns over the solvency of the Irish banking sector (see Figure 3.64).

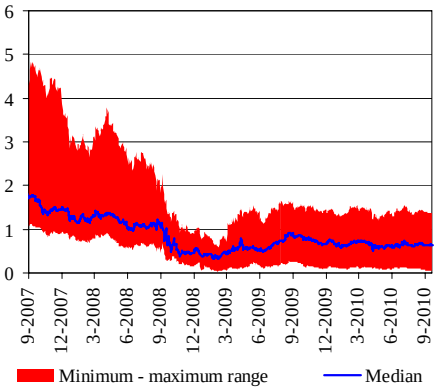
A possible renewed rise of concerns over the solvency of euro area countries may result in lowering the market assessment of financial sector companies, which would deteriorate the conditions in which both parent entities and their subsidiaries operate.

Table 3.19. The results of stress tests conducted by CEBS

Banking group	Tier 1 as of 12-2009	Tier 1 CEBS baseline scenario	Tier 1 CEBS shock scenario with country risk	Polish subsidary
Unicredit	8.6	10.0	7.8	Pekao
ING Bank	10.2	11.2	8.8	ING Bank Śląski
Commerzbank	10.5	10.5	9.1	BRE Bank
AIB	7.0	7.2	6.5	BZ WBK
BCP	9.3	9.4	8.4	Bank Millennium
KBC	10.9	12.2	9.4	Kredyt Bank
Raiffeisen Bank	9.3	10.6	7.8	Raiffeisen Bank Polska
Rabobank	14.1	12.7	12.5	BGŻ, Raboboank
EFG Eurobank Ergasias	11.2	11.7	8.2	EFG Eurobank Ergasias Oddział w Polsce (operating under Polbank brand)
BNP Paribas	10.1	11.4	9.6	Fortis Bank Polska (operating under BNP Paribas Fortis brand)
Nordea	10.2	11.3	10.1	Nordea Bank
Deutsche Bank	12.6	13.2	9.7	Deutsche Bank PBC, Deutsche Bank Polska
Credit Agricole	9.7	10.6	9.0	Lukas Bank, Calyon Bank
Santander	10.0	11.0	10.0	Santander Consumer Bank, AIG Bank Polska
PKO BP	13.3	16.5	15.4	-

Note: The individual results for Polish subsidiaries were not published.
Source: CEBS and web sites of parent entities.

Figure 3.62. Price-to-book-value ratio of parent entities of Polish banks

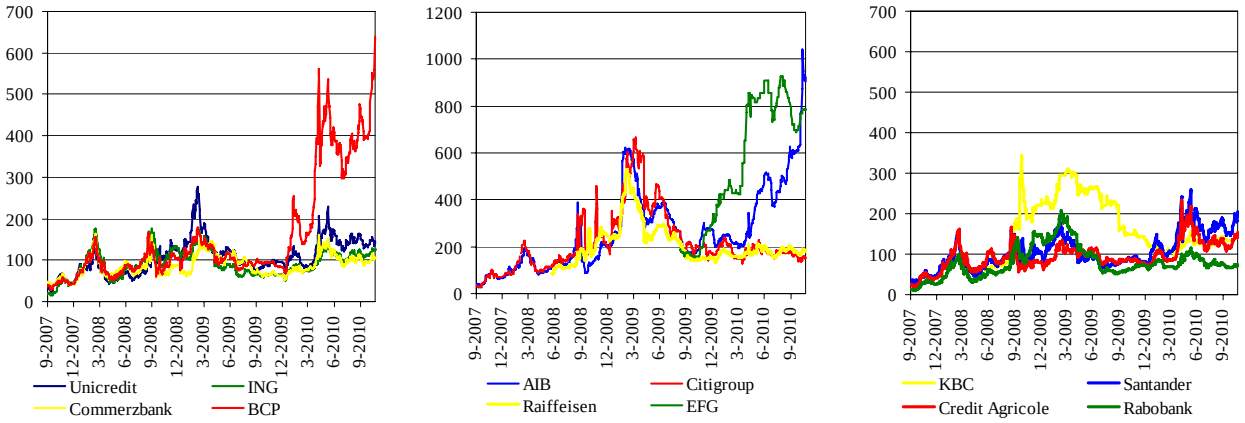


Source: NBP calculations based on Bloomberg.

Figure 3.63. P/E ratio of parent entities of Polish banks

Note: see Figure 3.59
Source: NBP calculations based on Bloomberg.

Figure 3.64. CDS premia for bonds of parent entities of selected Polish banks



Source: Bloomberg, Thomson Reuters.

Chapter 4.

Non-bank financial institutions

The impact of non-bank financial institutions (NBFI) on the situation of the banking sector in Poland is limited due to the specific character of financial services, including insurance services, provided by NBFI and a relatively small scale of relationships with banks. Therefore, the sector of non-bank financial institutions poses no major threats to financial system stability.

In the first half of 2010, the insurance sector, with the exception of two insurance companies with an insignificant market share, had sufficient capital to run business. In the analysed period, no phenomena were reported that may have jeopardized the stability of the insurance sector in Poland. However, the claims paid and other benefits arising from damages, caused by low temperatures and heavy snowfalls in the first quarter of 2010, and floods and inundations in the second quarter of 2010 had an influence on the deterioration of technical results of the non-life insurance sector. The effects of the unfavourable weather conditions should not, however, considerably decrease the sector's solvency.

The improvement in the situation on financial markets, particularly the rise in stock prices, contributed to the increase of assets of open pension funds and investment funds in the first half of 2010. In this period, pension fund management companies posted a decline of technical results and net profit due to a reduction of the amount of the maximum commission on premium effective from 1 January 2010. The growth of revenues of investment fund management companies (TFI) in the first half of 2010 was primarily connected with investment funds' rising average value of net financial assets forming the basis for calculating the management fee which is the main source of their revenues. In the nearest quarters, trends in financial markets, in particular price movements in equity markets, will strongly influence investment results and development of the sector of non-bank financial institutions.

The relatively small scale of relationships between NBFI and banks implies that the impact of non-bank financial institutions on the situation of Poland's banking sector is insignificant, both through the credit and funding channel. The impact of NBFI's financial position on the banking

sector through the capital (ownership) channel is also small. It is the result of a small value of shares of TFI, pension fund management companies (PTE) and insurance companies (ZU) held by banks.

Table 4.1. Assets of open pension funds (OFE), insurance companies (ZU), investment funds (FI) and banks (in zloty billion)

	NBIF			Banks	NBIF
	OFE	ZU	FI		/ Banks
2007	140.0	126.9	133.8	792.8	50.5%
2008	138.3	137.9	73.9	1039.1	33.7%
2009	178.6	139.0	93.4	1059.6	38.8%
9-2010	209.5	135.2	109.4	1141.3	-

Note: for OFE and FI net assets, for ZU data as at the end of the first half of 2010
Source: Analizy Online, UKNF, NBP.

At the end of the first half of 2010, banks' share in the core subscribed capital of insurance companies amounted to 3.6%. In the case of insurance investmentunit-linked funds (UFK), the risk underlying investment of proceeds from insurance premiums is borne by insurance companies' clients.

In the Polish pension system that operates on the basis of defined contribution schemepre-defined premium, nearly all the risk is transferred to system participants. Around 41% of PTE's core subscribed capital is owned by shareholders headquartered outside Poland. Five banks have a direct share in the shareholding of PTE. Only in one PTE, the sole owner is a domestic bank (PKO BP Bankowy PTE). In Pekao Pioneer PTE, the share of the bank represents 65% of capital, in other three PTE the shareholding is in the range of 10-20%.

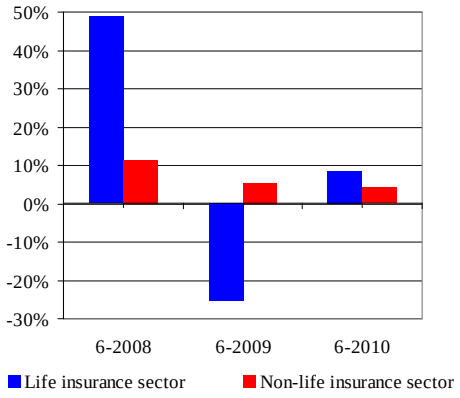
Capital ties between investment fund management companies and the domestic banking sector are fairly limited. Banks are direct shareholders only in two TFI. The presence of a TFI and a bank in one group has, however, an impact on the banking sector through revenues from the distribution of participation units of the funds managed by a TFI from the group. On the other hand, the possibility of selling participation funds' units through a network of banks increases the TFI's distribution scale and differentiates the group of potential buyers.

4.1. Insurance companies

Insurance premium

In the first half of 2010, the gross written premium (hereinafter called "premium") grew in both insurance sectors (see Figure 4.1).

Figure 4.1. Growth rate of gross written premium in the insurance sector



Source: UKNF.

In the life insurance sector, group life insurance had a decisive impact on the growth of the premium (around a 30% share in the premium) as well as insurance connected with insurance investment fundsunit-linked insurance (23.5% share in the premium).

The largest impact on the premium in the non-life insurance sector was that of automobile third party liability insurance OC and auto casco insurance AC (total share of this sector in gross written premium amounted to 56%). As a result of strong price competition, the growth rate

of automobile insurance premium declined further, which had an unfavourable influence on the earnings of the non-life insurance sector (see Table 4.2). Automobile insurance-related losses incurred by insurance companies prompted them to raise automobile insurance rates in the middle of 2010. The impact of these decisions on the size of premiums will be noticeable in the next reporting periods.

Earnings

In the first half of 2010, the earnings of life insurance companies amounted to 1.9 billion zlotys and of non-life insurance companies – to 3.1 billion zlotys (see. Table4.2).

On 15 April 2010, PZU Życie paid out a dividend to PZU totalling 3.1 billion zlotys, including 2.7 billion zlotys of net profit for 2009 and 0.4 billion zlotys from supplementary capital created from previous years' earnings[81]. If the dividend had not been taken into account, the non-life insurance sector would have posted a net loss of 11.4 million zlotys in the first half of 2010[82]. Net profit of the life insurance sector would have amounted to 0.8 billion zlotys, if the earnings of PZU Życie had not been accounted for.

The technical result (as well as net profit) declined in the life insurance sector on the back of lower income on investments by around 1 billion zlotys compared to the corresponding half of 2009.

The non-life insurance sector again posted a negative technical result, which was driven by the increase of the value of claims paid in the first half of 2010 as a result of unfavourable weather conditions, including damages caused by floods.

A factor that exercised decisive influence on the earnings of the non-life insurance sector was high income on net investments (after accounting for the cost of investment activities) that amounted to 4.2 billion zlotys in the first half of 2010 (primarily on equities in subordinate entities, which amounted to 3.2 billion zlotys).

In the first half of 2010, the gross loss ratio worsened. The following key reasons for the increase of this ratio the following should be mentioned:

- accumulation of unfavourable weather conditions in the commercial line business insurance and insurance of dwellings against natural disaster risks (including damages caused by flood),
- increase in the value of claims arising from personal injury in automobile insurance as a result of raising the legal awareness of the harmed and an increase of costs arising from payment of compensation for the death of next of kin,
- increase in costs of automobile repairs and payments arising from damages caused by Polish citizens in foreign countries,
- strong price competition between insurance companies, in particular in automobile insurance.

Gross loss ratio in non-life insurance was higher by several percentage points compared to 2006-2008 (see Figure 4.2). A particularly high level of gross loss ratio was recorded in automobile insurance. In automobile third party liability insurance OC and auto casco insurance AC, this ratio increased to over 80%. As a result, automobile insurance generated a technical loss (0.5 billion zlotys).

[81] "Śródroczne jednostkowe sprawozdanie finansowe za okres 6 miesięcy zakończony 30 czerwca 2010 roku" ("Intermediary solo financial statement for 6 months ending on 30 June 2010"), PZU, 2010, p. 6, available on http://gielda.onet.pl.

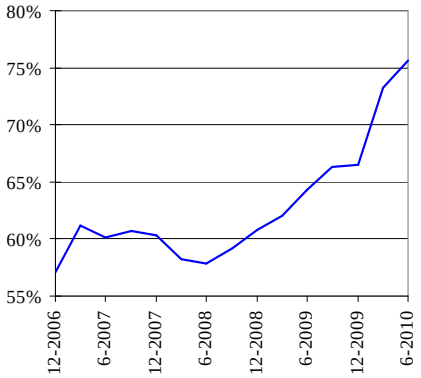
[82] "Internetowy Tygodnik Ubezpieczeniowy" ("Online Insurance Weekly"), edition no. 33/2010, available on www.piu.org.pl.

Table 4.2. Earnings of the insurance sector

	12-2008 (million zloty)	6-2009 (million zloty)	12-2009 (million zloty)	6-2010 (million zloty)	Change/ 6-2010/ 6-2009 (in %)
Life insurance sector					
Gross Witten Premium	38 986	13 939	30 283	15 115	8.4%
Technical result	3 438	2 488	4 291	1 806	-21.4%
Financial result	2 506	2 300	4 000	1 891	-17.8%
Non-life insurance sector					
Gross Witten Premium	20 306	10 876	21 060	11 318	4.1%
Technical result	716	207	-287	-788	-480.7%
Financial result	3 277	2 239	2 631	3 106	38.7%

Source: UKNF.

Figure 4.2. Gross loss ratio in the non-life insurance sector



Source: UKNF.

In the group of natural disaster insurance (including flood damages), the loss ratio increased to 115.1% (more than a twofold increase compared with the first half of 2009) and the technical loss in this insurance group amounted to 0.5 billion zlotys.

Technical loss in the largest non-life insurance groups will have an impact on the earnings of insurance companies of sector II in the current year and also in the years to come. In addition, the worsening loss ratios in individual insurance companies may trigger a rise in insurance rates.

Investments of insurance companies

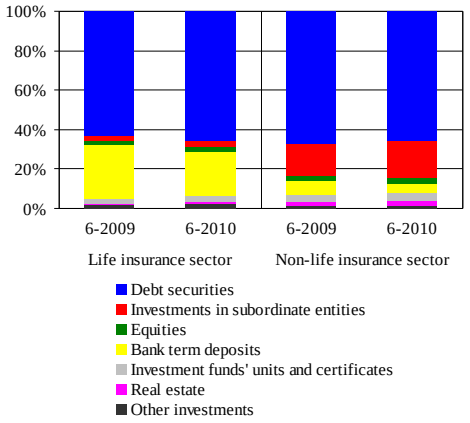
In the first half of 2010, the structure of investments of insurance companies did not change significantly (see Figure 4.3). Insurance companies are required to maintain the asset structure matching the maturity and currency structure of liabilities arising from insurance contracts [83].

At the end of the first half of 2010, investments where investment risk is borne by life insurance companies amounted to 48.1 billion zlotys. Debt securities, that accounted for 65.8% (including debt securities issued or guaranteed by the State Treasury – 61.6% of investments), had the largest share in these investments. Due to the restructuring of product composition of life insurance companies and expiration of bank deposit-linked insurance contracts, the share of term deposits in the investment portfolio of this sector fell by 22.4% in comparison to the first half of 2009. Shares quoted on the regulated market as well as investment funds' units and certificates participation units and certificates of investment funds accounted for 2.6% and 3.4%, respectively. The

[83] Chapter 7 of the Law on insurance activity of 22 May 2003 (Journal of Laws of 2010, no. 11, item 66).

share of other than government bonds issued or guaranteed by the State Treasury, including corporate bonds, in the investment portfolio of insurance companies amounted to 2.7%. Credit risk borne by insurance companies on investments in non-Treasury debt securities can therefore be assessed as very low.

Figure 4.3. Structure of investments of insurance companies



Note: the share is calculated without taking into account investment in UFK.
Source: UKNF.

At the end of the first half of 2010, the value of unit-linked insurance investments linked with UFK, where the risk is borne by the insured and which have no direct impact on the stability of the sector amounted to 33.9 billion zlotys. Investment funds' units and certificates-Participation units and certificates of investment funds had the largest share in these investments (around 69%).

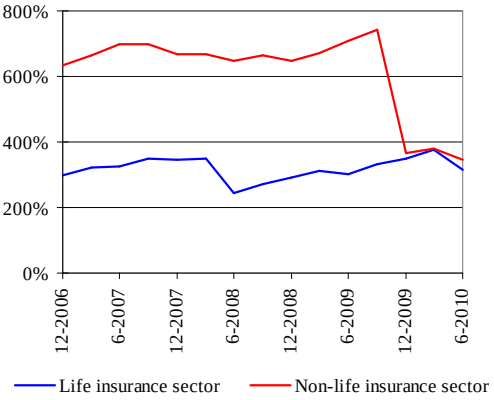
In the non-life insurance sector, equities in subordinated entities (18.6%) – in addition to debt securities (65.8%) – had a significant share in the investment portfolios. Term deposits earmarked for payment of claims on a current basis accounted for an insignificant portion of the portfolio (2.4%).

Solvency and capital position of insurance companies

Insurance companies are required to have own capital exceeding the level of the required statutory solvency margin[84]. The ratio of own capital of insurance companies to solvency margin is reflected by the activity monitoring ratio (capital adequacy). In the life and non-life insurance sectors, these ratios were 3.5 times higher than the required statutory solvency ratio (see Figure 4.4). A marked decrease of the activity monitoring ratio in the non-life insurance sector at the end of 2009 resulted from the pay out by PZU of an advance payment in the amount of 12.8 billion zloty on account of dividend for 2009.

The effects of unfavourable weather conditions should not pose a threat to the solvency of Poland's insurance sector. However, the pay out of damages and other claims arising from damages caused by low temperatures and heavy snowfalls in the first quarter of 2010, as well as floods and inundations in the second quarter of 2010, had an influence on the deterioration of technical results of the non-life insurance sector.

Figure 4.4. Activity monitoring ratio in the insurance sector



Source: UKNF.

The value of bad weather claims in the first half of 2010 amounted to 1.3 billion zlotys, of which only 0.5 billion zlotys pertained to claims paid

[84] Art. 146, Section 1 of the Law on insurance activity (Journal of Laws of 2010, no. 11, item 66).

net of reinsurance by individual insurance companies. As at 29 October 2010, damages caused by floods amounted to 1.6 bn zlotys, including 0.6 billion zlotys paid net of reinsurance, while the remaining part was paid with the participation of reinsurers[85].

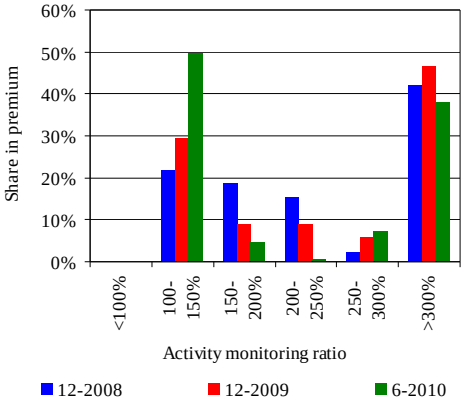
One can conclude from aggregate financial statements[86] that insurance companies have created adequate provisions for damages arising from insurance contracts, and had sufficient assets to cover the provisions.

In the first half of 2010, there was an increase in the share – measured by the gross written premium – of insurance companies, whose activity monitoring ratio was in the range of 100-150%, approaching the threshold level required by law, i.e. 100%. In the sector of non-life insurance, there was a decline in the share of insurance companies with activity monitoring ratio in the range of 150-200% while there was an increase in the share of companies where the ratio was in the range of 100-150% (see Figure 4.5 and 4.6).

Changes in the distribution of activity monitoring ratio imply that the financial situation of some insurance companies has worsened. This situation should not, however, pose a threat to the solvency of the sector as a whole as shortfall of own capital concerned small companies with an insignificant market share. These entities are carrying out activities aimed at complementing the shortfall by the end of the first quarter of 2011[87]

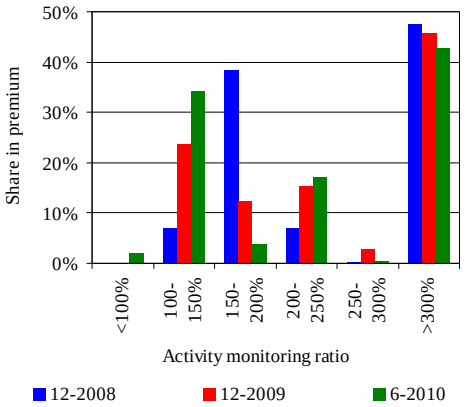
In the first half of 2010, the insurance sector, except for two companies with an insignificant market share, had sufficient own capital to run business[88]. In the first quarter, two non-life insurance companies (with 1.8% share in premium) that did not meet the statutory capital adequacy requirement took appropriate measures that should ensure that proper financial management is restored.

Figure 4.5. Distribution of activity monitoring ratio in life insurance sector



Source: UKNF.

Figure 4.6. Distribution of activity monitoring ratio in non-life insurance sector



Source: UKNF.

The analysis of aggregate balance sheet data for the insurance sector formed the basis for drawing

[85] "Release on damages caused by floods, storms and heavy rainfalls in May, June, August and September", KNF, 3 November 2010, available on www.knf.gov.pl.
[86] Biuletyn kwartalny. Rynek ubezpieczeń 2/2010, część B – Zagregowane raporty finansowe (Quarterly Bulletin. Insurance market 2/2010, Part B – Aggregate financial statements) available on www.knf.gov.pl.
[87] "Raport o stanie sektora ubezpieczeń w I półroczu 2010 r." ("Report of the condition of the insurance sector in the first half of 2010"), UKNF, 2010, p. 3, available on www.knf.gov.pl.
[88] "Raport o stanie sektora ubezpieczeń w I półroczu 2010 r.", ("Report of the condition of the insurance sector in the first half of 2010"), UKNF, 2010, p. 3, available on www.knf.gov.pl.

the conclusion that the capital levels of insurance companies ensure their resilience to the effects of adverse disturbances in their economic environment. Insurance companies of both sectors are most exposed to interest rate risk. The equity price risk is much lower due to the small portfolio of equity instruments. Even abrupt changes of prices in equity and Treasury securities markets should the own capital of in insurance companies to fall on a scale leading to non-compliance with statutory capital adequacy requirements of the sector.

It may also be concluded from aggregate balance sheet data of non-life insurance companies that cat risk (e.g. damages caused by floods) is limited due to safeguards of the reinsurance programs. In addition, claims paid out and reserved for the payment of flood damages have already been taken into account in balance sheet data and earnings. Assuming that insurance companies have accurately estimated their liabilities arising from the above, the potential adjustment thereof should not significantly influence the amount of this sector's financial loss in subsequent reporting periods. The effects of the flood may, however, influence the financial standing of smaller insurance companies, where the share of disaster-caused damages is high in relation to own capital.

Reinsurance of insurance companies

The reinsurance program is aimed at matching the risk profile of individual insurance companies with their financial capacity of paying claims, adjusting for seasonal fluctuations of financial results and securing against financial effects of cat losses.

The share of reinsurers in the life insurance sector was relatively small. This was mainly the consequence of risk dispersion and relatively small sum insured in individual contracts. Only individual contracts with a large sum insured were covered by reinsurance programs.

The share of reinsurers in risk ceded by non-life insurance companies, as measured by the premiums retention ratio, amounted to 88.1%, and the share measured by claims retention ratio was 89.8%. Claims retention ratio for damages caused by floods was much lower and amounted to around 39%. This shows that reinsurance programs were structured properly and reinsurers' share in payments of claims arising from cat losses[89] accounted for around 61%.

Insurance contracts for cat losses (including flood losses) are mainly secured by programs of non-proportional reinsurance for which the premium ceded to reinsurance companies is determined by the risk level measured by the likelihood of the occurrence of a cat event and depends on reinsurers' share, in terms of value, in ceded risk. The share of insurance companies and reinsurers in claims paid out is not proportional (in most cases) to the ceded premium. If no cat losses are incurred in the reporting period, reinsurers' share in premium is higher. In periods of natural disasters, the share of reinsurers in claims paid out increases in relation to the ceding party's share. However, a higher share reinsurers have in claims paid out may push up prices for reinsurance protection in the following years.

Companies operating in Poland were primarily reinsured by foreign entities and, to a lesser degree, by entities operating on the domestic insurance market. This resulted from the need to adjust the range of reinsurance to long-term reinsurance contracts negotiated by insurance companies and from the need to disperse risk.

***

The reduction in sales of bank deposit-linked policies, which has been observed for several months, should contribute to the stabilisation of earnings of life insurance companies and improvement of the sector's capital adequacy ratios.

[89] "Release on damages caused by floods, storms and heavy rainfalls in May, June, August and September" of 27 August 2010, available on www.knf.gov.pl.

In the non-life insurance sector, financial results will be primarily influenced by strong price competition between companies, related to the attempts of individual companies to strengthen their market position.

The portfolio of financial insurance (credit insurance and suretyships) has an insignificant share in the premium of non-life insurance sector (3.4%) but financial insurance is characterized by unbalanced risk measured with "Rate on Line" ratio[90]. This ratio is very low for a large number of financial insurance policies and therefore it is difficult to place them on the reinsurance market. Without an appropriate reinsurance program, revenues from insurance premiums may be insufficient to cover liabilities arising from financial insurance contracts. If the quality of the portfolio of loans insured deteriorates significantly, the financial position of companies for which financial insurance is key to their activities may worsen.

The analysis carried out by the Insurance Guarantee Fund (UFG) of mutual relations of the amount of claims (paid out by UFG) to the amount of premiums paid in to UFG has shown that starting from 2005, there has been a sustainable growth trend of claims paid out and, at the same time, a stagnation in premium revenues. Therefore, the Minister of Finance has increased[91] payments in favour of UFG[92].

Currently, the contribution to UFG is 1% of the gross written premium due for compulsory third person liability for motor vehicles and farmers. Pursuant to the ordinance of the Minister of Finance, 0.2% of the gross written premium for the third and fourth quarter of 2010 paid by insurance companies will be earmarked for a special aid fund. It may serve to extend loans to assist insurance companies that take over the portfolios of insurance companies facing insolvency or actually insolvent.

4.2. Pension fund management companies and open pension funds

Financial results of pension fund management companies

In January 2010, regulations laying down the maximum level of commission fees that may be charged by pension fund management companies (PTE)[93]. Pursuant to the Act, the fee on the contribution transferred by ZUS may not be higher than 3.5% (until 1 January 2010, the majority of funds charged contribution fees amounting to 7% of the contribution transferred). In their by-laws, nearly all funds have set the contribution fee at 3.5%, and only two funds (Allianz Polska OFE and OFE Polsat) have reduced it to 3.45% and 3.4%, respectively. The fund management fee depends on the fund's value of net assets (a degressive fee is charged) and may not exceed 15.5 millionn zlotys per month.

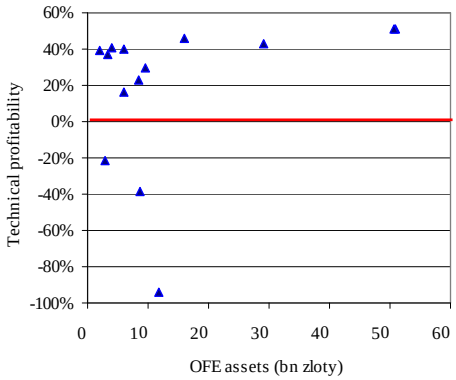
On account of the above-mentioned amendments in the first half of 2010, the PTE structure of revenues from contribution fees changed considerably. In 2009, PTE revenues from contribution fees exceeded PTE management fee for OFE management more than twice while in the first half of 2010, the management fee was higher

[90] "Rate on Line" ratio is the quotient of the premium and the limit of liability. The reverse of the ratio shows the time (in years) for which (annual) premium should be collected to cover financial expense related to a given damage. If the insured event occurs before the lapse of this time, the insurance company becomes liable for covering the expense from its own funds.
[91] The Minister of Finance issued an ordinance at the request of the Meeting of Fund Participants, i.e. the body composed of insurance companies' representatives in the UFG.
[92] Ordinance of the Minister of Finance of 8 September 2010 amending the ordinance on the percentage contribution fee paid by insurance companies to UFG and dates of payment thereof (Journal of Laws of 2010, no. 172, item 1171).
[93] Act Law of 26 June 2009 amending the actlaw on the organisation and operation of pension funds and the act amending the act on the organisation and operation of pension funds (Journal of Laws of 2009, no. 127, item 1048).

than revenues from contribution fees (see Table 4.3). The significant growth of PTE revenues from management fees was primarily driven by the price rise of securities held in the funds' investment portfolios which contributed to an increase in OFE net assets on which the management fee is charged.

In the first half of 2010, there was a decline in PTE technical profit, defined as the difference between revenues and costs of managing OFE. PTE technical profit declined by 37.2% in comparison to the first half of 2009. This significant decline was influenced not only by the above-mentioned fall in revenues but also by an increase in costs. At the end of June 2010, three pension fund management companies posted a negative financial result and a negative technical profitability on OFE management, which was mainly influenced by high acquisition costs (see Figure 4.7).

Figure 4.7. Technical profitability of pension fund management companies versus the value of open pension funds' assets



Note: own capital as at the end of June 2010, funds' assets as at the end of September 2010.
Source: NBP calculations based on UKNF data.

Table 4.3. Financial results and technical profitability of pension fund management companies

	6-2009 million zloty	12-2009 million zloty	6-2010 million zloty	Change 6-2010/6-2009 (in %)
Revenues from OFE management	995	2 032	868	-12.8
- contribution fee	652	1 302	376	-42.4
- management fee	303	640	432	42.7
OFE management costs	579	1 210	588	1.5
- obligatory costs	239	494	253	6.0
- other costs, of which:	340	716	334	-1.6
costs of acquisition	207	446	214	3.7
Technical profit on OFE management	416	822	280	-32.7
PTE net profit	386	766	292	-24.2
Technical profitability on OFE management (in %)	42	40	32	-10 pp.

Note: technical profit margin – ratio of technical profit to revenues from OFE management.
Source: UKNF.

In the first half of 2010, pension fund management companies incurred very high acquisition-related costs. In the analysed period, they earmarked 3.5% more for this purpose than in the first half of 2009. Acquisition costs represented a significant portion of costs related to OFE man-

agement incurred in the first half of 2010 (36.4%). Should a total ban on acquisition be introduced, this would pave the way for further declines of contribution fees. The costs that were subject to largest changes in comparison with the first half of 2009 were the costs of fees paid to the Guarantee Fund (increase by 28.3%) as well as marketing and advertising costs (decrease by 32.7%).

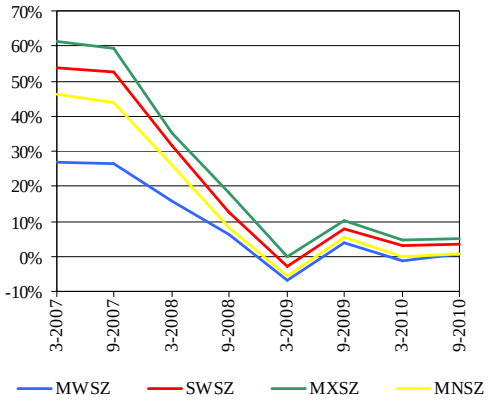
Pension fund management companies paid out dividends totalling 488 million zlotys (604.1 million zlotys in 2009), of which more than 40% was the dividend paid out by the largest entity. Out of 14 pension fund management companies operating in Poland, seven decided to pay out a dividend and transferred 98% of 2009 profit to shareholders. Five PTE were unable to decide on dividend payment because by 30 June 2010 they had not covered loss from previous years[94].

Minimum required rate of return of open pension funds

At the end of March 2010 and the end of September 2010, all pension funds generated positive 36-month returns which were higher than the minimum required rate of return (MWSZ). The spread between the lowest and highest rate of return posted by the funds has continued to diminish (in September 2010, it amounted to 4.7 percentage points). The lowest rate of return approaching the MWSZ results from the fact that the value of units used to calculate 36-month returns was derived from periods when it was very high, i.e. at the end of March 2007 and the end of September 2007, respectively. By the end of March 2010 and the end of September 2010, not all funds had managed to recoup the losses caused by large falls in prices on the domestic equity markets in 2008 (see Figure 4.8).

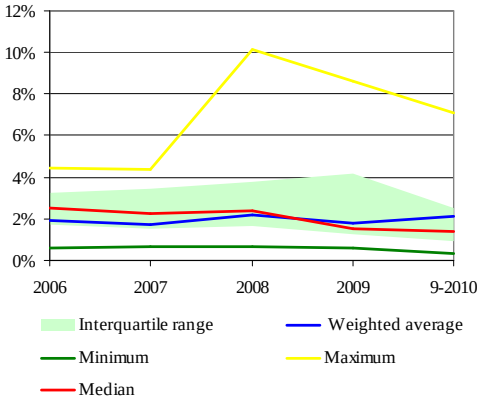
Improvement of the situation on the domestic equity market, resulting in an increase of the value of units, should be conductive to a gradual increase in spreads between the highest rate of return posted by pension funds and the minimum required rate of return.

Figure 4.8. Rates of return of open pension funds



Note: MWSZ/SWSZ/MXSZ/MNSZ – minimum required/ weighted average/ maximum/ minimum rate of return of open pension funds.
Source: NBP calculations based on UKNF data

Figure 4.9. Ratio of pension fund management companies' capital to the value of open pension funds' assets they manage



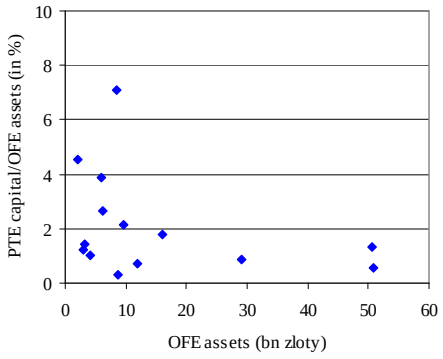
Note: value of capital as at the end of June 2010, value of assets as at the end of September 2010.
Source: NBP calculations based on UKNF data.

The capital requirements for pension fund management companies have an impact on the stable operation of the funded part of Poland's pension

[94] "Sytuacja finansowa powszechnych towarzystw emerytalnych w I połowie 2010 r." ("Financial situation of pension fund management companies"), UKNF, 2010, p. 16, available on www.knf.gov.pl.

system. If a shortfall occurs due to attaining a lower rate of return than MWSZ, it is covered from the reserve account, funds accumulated in the additional section of the Guarantee Fund, and finally, from PTE equity capital. The larger the assets managed by a fund, the bigger the significance of the size of fund's equity capital. The value of funds that need to be paid additionally to the fund is expressed in relation to net assets of a given OFE, which implies that the larger the OFE assets, the bigger the nominal value of additional payment to the fund with the same difference in rates of return expressed in percentage points.

Figure 4.10. Ratio of pension fund management companies' capital to the value of open pension funds' assets they manage versus OFE assets



Note: value of capital as at the end of June 2010, value of assets as at the end of September 2010
Source: NBP calculations based on UKNF data.

At the end of June 2010, the ratio of average PTE capital to OFE asset value increased by 0.3 percentage points to 2.1% compared to the end of 2009 The value of this ratio was different in individual entities. At the end of September 2010, two pension fund management companies that manage the largest assets had capital sufficient to cover 0.5% and 1.3% of OFE net assets, respectively. It should be noted that these funds have a large impact on the developments in the weighted average return rate of return (and MWSZ, accordingly) which reduces the materialisation of shortfall risk considerably. Two funds managing the smallest assets had capital sufficient to cover 4.6% and 1.2% of OFE net assets they manage, respectively.

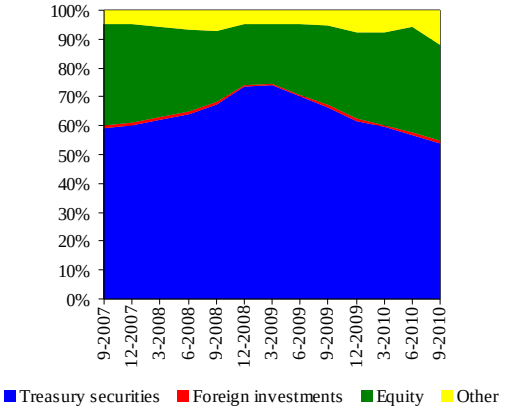
Structure of OFE investments

At the end of September 2010, equities of companies listed on the GPW accounted for around 33.5% of the funds' portfolios (increase by 1.5 p.p. compared with March 2010).

The share of domestic Treasury debt securities in OFE portfolio amounted to 54.1% (decline by 5.3 percentage points). These changes resulted primarily from the rise in price of equities held by OFE on the GPW. BGK bonds issued for the National Road Fund account for a significant share in the portfolio of Treasury debt instruments. At the end of September 2010, this category accounted for 4.6% of OFE investment portfolio. On the other hand, foreign investments were of minor interest to OFE. The share of this investment category amounted to 0.8% of the funds' aggregate portfolio at the end of September 2010.

The future structure of funds' investment portfolios may change due to the implementation of regulations, currently being discussed. These regulations shape the funds' investment policy which assumes the presence of varied investment strategies within each fund.

Figure 4.11. Structure of investment portfolios of open pension funds



Source: UKNF.

Box 7. Draft amendments in the operation of open pension funds

In 2010, discussion has continued on the need to reduce the cost of the pension system operation and to increase the profitability of investments made by OFE, which would contribute to an increase in future pensions. The Ministry of Labour and Social Policy has twice presented draft assumptions to the draft law amending the principles for operation of pension funds[1]. The assumptions of 6 January were presented in the previous *Report*[2]. Similarly as the assumptions of 6 January, the draft assumptions presented by the Ministry on 20 July 2010 assumed the following:

- reducing contribution transferred to OFE from 7.3% to 3% of pension insurance contribution basis,
- creating the possibility for persons who are over 65 of receiving lump sum payment of funds collected in OFE (provided that the amount of the contributions registered on the account of the insured held in ZUS allows it to pay out a monthly pension in the amount of at least twice the amount of a minimum pension),
- making it possible for OFE members who are over 55 (women) and 60 (men) to transfer the funds collected in OFE or their portion to a separate pension fund within the Social Insurance Fund (these funds would be registered as a social insurance contribution and would not be inherited),
- increasing the limit for OFE investments in equities,
- introducing the ban on acquisition, and reducing the contribution fee related to the length of participation in the pension fund,
- introducing voluntary participation in the funded part of the pension system (abolishing mandatory participation in OFE).

Different proposals of changes were presented in the draft assumptions prepared by the Chancellery of the Prime Minister[3]. The proposals include, among others, introducing "multifunds" system (carving out three sub-funds in each OFE), applying external benchmarks for investment performance assessment of individual sub-funds, and changes related to capital adequacy of funds.

Irrespective of assessment of the proposed solutions, making the value of PTE own capitals dependent on the value of assets and maintaining the mechanism for 100% coverage of shortfall seem to be the key issues for Poland's financial system stability.

In addition, a thorough analysis of the effects of new regulations should be performed before the introduction of funds differing in terms of investment policy and adjusted to the age of the participant, and changes in these funds' investment policy.

[1] Assumptions to the draft law amending the act on funded pensions amending the act on funded pensions and other acts of 6 January 2010 and assumptions to the draft law amending the act on funded pensions and other acts of 20 July 2010.

[2] "Financial Stability Report – July 2010", NBP, Warsaw, p. 88.

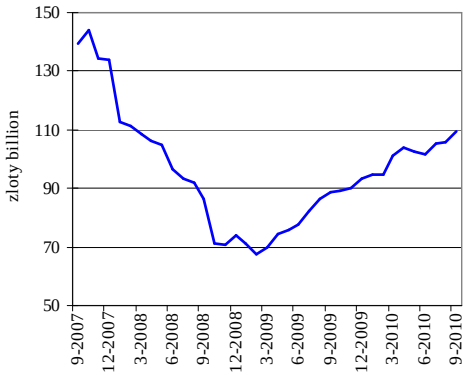
[3] The draft prepared by the Chancellery of the Prime Minister, available on http://bip.kprm.gov.pl/kprm/dokumenty, is in line with the proposals presented by PKPP Lewiatan. The latter draft is available on www.pkpplewiatan.pl/newline

4.3. Investment fund management companies and investment funds

Changes in asset value and net inflow to investment funds

In 2010, net assets of investment funds have increased (see Figure 4.12). This increase was driven both by net cash inflow to investment funds and more favourable price developments on financial markets.

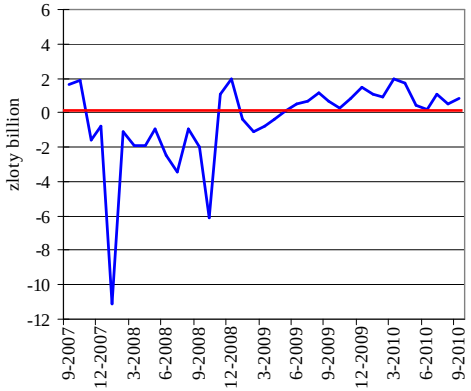
Figure 4.12. Net assets of investment funds



Source: Analizy Online.

Since January 2010, there has been a net inflow of around 9 billion zlotys to investment funds, which is much more than in the entire 2009 (see Figure 4.13). The inflow was primarily directed to money market funds[95] (more than half of the balance net inflow recorded from January to September 2010), debt securities funds and non-public asset funds. In 2010, risk aversion among investment fund participants increased again, strengthened by high volatility of stock exchange indices. While in 2009 cash inflows were mainly directed to equity funds and money market funds, in the first three quarters of 2010 fund participants clearly preferred security safety to of potential profits, and primarily acquired participation units of money market funds.

Figure 4.13. Monthly net inflows to investment funds



Source: Analizy Online.

Financial results of investment fund management companies

Despite a positive balance of inflow and outflow of cash to and from investment funds, in 2009 investment fund management companies (TFI) posted net profit that was lower by 37% than in 2008 (see Table 4.4). The change resulted from lower average value of assets of the managed funds in 2009 which led to a lower management fee calculated on the basis of this amount. The

[95] Money market funds are all the funds that mainly invest in money market instruments rather than only the funds defined in Article 178 of the Act on investment funds of 27 May 2004 (Journal of Laws no. 146, item 1546, as amended).

[96] In 2009, the management fee accounted for more than 95% of TFI revenues

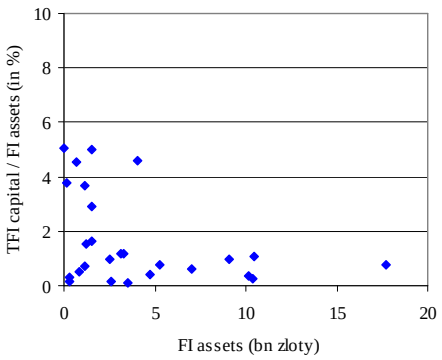
management fee is the main source of revenues of investment fund management companies[96], as the funds pay most of the handling contribution fee to distributors of participation units. The financial result of TFI is strongly determined by the value of assets under management, and their sensitivity to changes in value is far greater than that of PTE[97].

On the basis of Ppreliminary data on the financial situation of investment fund management companies it seems that in the first half of 2010 point tothere was an increase in revenues from management fees in comparison to the first half of 2009corresponding period last year. This was caused by an increase in the average value of net assets managed by TFI, primarily as a result of rising prices of financial instruments. A higher management fee was characteristic for investment fund management companies investing part or all their assets in equities. On the other hand, companies that managed funds collected in insurance unit-linked funds investment funds within a group, had relatively lower management fee revenues.

In September 2010, participation units certificates of the first Exchange Traded Fund (EFTF managed by Lyxor Asset Management) in Poland were launched on the Warsaw Stock Exchange. The Lyxor Asset Management, which charges lower management fees compared to the fees charged by other types of funds, may generate additional pressure towards reducing fees charged on fund assets and, thus, influence TFI revenues in the future.

At the end of 2009, the value of the funds' own capital amounted to less than 1.1 billion zlotys and was lower by 17% compared to the end of 2008 as a result of. This stemmed from a decrease in net financial result in 2009 and an additional dividend pay-out (see Figure 4.14)[98]. In the sector of investment funds, there are no guarantees as to the rates of return posted by the entities and no compensation system exists – investment risk is fully borne by a fund participant. However, it seems that in the periods of high volatility of the financial instrument prices, and consequently of the funds' assets, the value of TFI own capital may enhance fund participants' confidence in entities managing funds collected therein.

Figure 4.14. Ratio of own capital of selected TFI to the value of assets of funds they manage



Note: the value of capital as at the end of December 2009, the value of assets as at the end of September 2010.
Source: Analizy Online.

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Work is underway at EU level to amend investor compensation scheme directive that would also cover participants of harmonised investment funds. The purpose of the proposed changes is to ensure protection of investor funds in the case of a failure of the depository institution or the sub-custodian. Such measures were also prompted by the failure of the Madoff pyramid scheme and the absence of EU regulations ensuring repayment of

[97] For example, in the first half of 2010, the share of management fees in revenues of pension fund management companies amounted to around 50%.
[98] For example, the value of own capital of PTE that managed assets nearly twice as large as the assets of investment funds amounted to 3.2 billion zlotys at the end of 2009.

funds to harmonized UCITS fund participants[99], as well as the lack of the obligation to advise fund participants of compensation schemes.

The legal solutions that are in force in Poland (they consist in separating a legal person, which is an investment fund, and excluding investment fund's assets from the depository's bankruptcy estate) limit the likelihood of a loss of funds by investors due to a failure of the depository bank. However, bearing in mind the irregularities in investment activities of three funds managed by one the same TFI in 2009 and the related losses borne incurred by these funds' participants, it makes sense to introduce solutions enabling the repayment of funds invested by fund participants, should these funds take excessive investment risk.

Table 4.4. Financial results and key ratios of the investment fund management companies sector compared with the average monthly net asset value of investment funds

	12-2007 (in bn zloty)	12-2008 (in bln zloty)	12-2009 (in bn zloty)	Change 2009/2008 (in %)
Revenues on operational activity	4 410.4	2 560.8	1 819.8	-28.9
- management fee	3 766.8	2 462.3	1 737.7	-29.4
Costs of operational activity	3 213.3	1 895.5	1 429.0	-24.6
Pre-tax profit	1 261.5	722.9	451.2	-37.6
Net profit	1 018.1	579.7	365.4	-37.0
Average monthly value of net assets	129 689.2	93 913.9	80 474.6	-14.3
Pre-tax profit margin on operational activity (in %)	28.6	28.2	24.8	-3.4 pp.
ROE (in %)	67.5	44.0	33.5	-10.5 pp.

Source: GUS, Analizy Online.

[99] In Poland, harmonised funds are open investment funds and open specialised investment funds that apply open investment fund investment limits.

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 – 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 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 cash flow data - the value of cash flow in a year; in the case of data about 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 non-life insurance sector according to the Law on insurance activity.

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

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

Basis risk – the risk that the change in the value of a hedge may not move in line with the value of its underlying hedged position.

Cash liquidity ratio – the ratio of short–term investments (short–term assets purchased for the purpose of achieving economic profits resulting from the increase in value of the assets) to short–term liabilities (liabilities arising from purchase of goods and services, and other liabilities that become due within 12 months).

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

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 deposits – the stable part of deposits of the non-financial sector. For the purpose of NBP analyses, it is assumed that the proportion of core to total deposits amounts to 70% of the value of deposits. This level is the minimum amount reported by eight banks questioned by the NBP on their estimation of the stable part of deposits placed by non-financial entities.

Cost/income ratio – the ratio of operating costs to net income from banking activity.

Coverage of liabilities with cash flows – ratio of cash flows from operating activities to the value of short- and long-term liabilities.

Coverage of loans with cash flows – ratio of cash flows from operating activities to the value of loans.

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.

Credit spread – the difference between the loan interest rate and the interbank market interest rate.

Cross Currency Interest Rate Swap (CIRS) –instrument hedging interest rate risk and FX risk simultaneously for a series of interest payments of a fixed maturity, calculated from nominal amounts in two different currencies.

Debt service burden ratio (corporate sector) – the quotient of liabilities (residents and non-residents) and the balance-sheet total. Data compiled by GUS based on F-01 reports are used for calculations both on the level of the sector as a whole and on the level of individual enterprises.

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

Domestic banking sector – domestically incorporated commercial banks and cooperative banks functioning in Poland (without branches of credit institutions from other EU countries).

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

Financial leverage – the ratio of liabilities to shareholders equity.

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) – 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 loss ratio – the ratio of gross (i.e. before taking reinsurance into account) insurance claims and benefits paid, taking into account the changes in the amount of provisions for unpaid gross claims, to premiums earned, in percentages.

Gross profit rate – the quotient of gross profit and sales revenues.

Gross written premium – 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.

Guarantee Fund – intended to increase the safety of funds accumulated in the financial mandatory part of the pension system. The fund comprises of a core part administrated by the National Depository for Securities (KDPW) and a supplementary part formed by open pension funds. Payments to the supplementary part are made by respective pension fund management companies.

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.

Income buffer – the difference between households' disposable income and loan servicing costs and basic living costs.

Individual rating – a measure of a bank's probability of default and need for support from third parties, as assessed by Fitch. This measure reflects the exposure of the financial institution to risks. This measure assesses: risk appetite and risk management of the institution, balance sheet structure as well as size of the institution and diversification of activity.

Insurance provisions – provisions of an insurance company earmarked to cover current and future liabilities that may arise from insurance contracts.

Interest Rate Swap (IRS) – 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.

Loan service burden ratio (corporate sector) – the quotient of bank loans (residents and non-residents) and the balance-sheet total. Data compiled by GUS in compliance with F-01 reports are used for calculations both on the level of the sector as a whole and on the level of individual enterprises.

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 ordinance of the Finance Minister regarding principles for creating provisions for the risk of banking activity (in banks applying Polish accounting standards).

Net charges / Net movements in provisions and valuation allowances – charges to provisions less releases of provisions.

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

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

Net percentage – 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.

Net premium earned – part of the gross written premium (after excluding the share of reinsurance) payable to the insurance company for the risk borne in a given reporting period (set as a written premium in the reporting period less the balance of unearned premium reserve as at the end of the reporting period plus the balance of unearned premium reserve as at the beginning of the reporting 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 cash flow – the value of cash flow form operating activity. The value of operating cash flow was based on financial reports F-01, according to indirect method which adjusts net income as follows: net income + amortisation + change in the value of reserves - change in the value of stocks - change in the value of claims + change in the value of short-term liabilities + change in the value of accruals - change in the value of accrued liabilities - profit from sold investments + loss from sold investments - interest received (financial income) - dividends + interest paid (financial costs) - exchange gain + exchange loss.

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

Overnight Index Swap (OIS) – 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

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

Quick liquidity ratio – the ratio of the sum of short–term investments (short–term assets purchased for the purpose of achieving economic profits resulting from the increase in value of the assets) and short–term claims (claims arising from sales of goods and services, and all or part of other claims that are not classified as financial assets and become due within 12 months) to short–term liabilities (liabilities arising from purchase of goods and services and other liabilities that become due within 12 months).

Specific interest rate risk – the risk of a change in debt instrument price/yield arising from factors connected with the issuer's or with the reference entity's situation, subject to capital requirement pursuant to Appendix 9 of Resolution No. 380/2008 of the Polish Financial Supervision Authority.

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.

Support rating – measure of ability and willingness of parent entities and home country government to financially support the analysed institution.

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

Technical profitability in the insurance sector – ratio of technical result and net premiums earned.

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

VIX Index – stock market volatility index introduced in 1993 by the CBOE (Chicago Board Option Exchange) measuring implied volatility on the basis of options for S&P 500 index, one of the major benchmarks in the U.S stock exchange market. High value of the index indicates increased risk aversion.

Abbreviations

BAEL	Labour Force Survey
BCBS	Basel Committee on Banking Supervision
BIEC	Bureau for Investment and Economic Cycles
BFG	Bank Guarantee Fund
BIK	Credit Information Bureau
CDS	Credit Default Swap
CEBS	Committee of European Banking Supervisors
CEE–3	Group of countries comprising Czech Republic, Hungary and Poland
CEIOPS	Committee of European Insurance and Occupational Pensions Supervisors
CIRS	Cross Currency Interest Rate Swap
COREP	Common Reporting (CEBS standard on bank's capital adequacy reporting for supervisory needs)
CRD IV	Capital Requirements Directive IV (Directive relating to the taking up and pursuit of the business by credit institutions)
CTI	Cost-to-income ratio
DNG	Rating under review by agency for a possible downgrade
EC	European Commission
ECB	European Central Bank
FI	Investment funds
FINREP	Financial Reporting (CEBS standard on bank's financial situation reporting for supervisory needs)
FRA	Forward Rate Agreement
FUS	Social Insurance Fund
GPW	Warsaw Stock Exchange
GUS	Central Statistical Office
IFRS/IAS	International Financial Reporting Standards / International Accounting Standards
IMF	International Monetary Fund
IRS	Interest Rate Swap
KDPW	National Depository for Securities
KNB	Commission for Banking Supervision
KNF	Polish Financial Supervision Authority
LCR	Liquidity Coverage Ratio
LIBOR	London Interbank Offered Rate

LTV	Loan-to-value ratio
MWSZ	Minimum required rate of return
NBP	National Bank of Poland
NBFI	Non-bank financial institutions
NEG	Negative rating outlook - expected downgrade
NSFR	Net Stable Funding Ratio
OFE	Open Pension Funds
OIS	Overnight Index Swap
PAS	Polish Accounting Standards
PMI	Purchasing Managers' Index
POLONIA	Polish Overnight Index Average
POS	Positive rating outlook - expected upgrade
PTE	Pension fund management companies
QIS	Quantitative Impact Study
ROA	Return on Assets
ROE	Return on Equity
SME	Small and medium-sized enterprises
STA	Stable rating outlook
TFI	Investment fund management companies
UFK	Insurance investment fund
UPG	Rating under review by agency for a possible upgrade
UKNF	Office of the Polish Financial Supervision Authority
VaR	Value at Risk
VAT	Value Added Tax
WIBOR	Warsaw Interbank Offered Rate
WIG	Main index of the Warsaw Stock Exchange
WIG20	Index of the 20 biggest and most liquid companies listed on the Warsaw Stock Exchange
WIG–Banki	Index of banks listed on the Warsaw Stock Exchange
ZU	Insurance companies
ZUS	Social Insurance Institution