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Editor:
Piotr Szpunar

Contributors:
Adam Głogowski
Marta Gołajewska
Szymon Grabowski
Maciej Grodzicki
Marzena Imielska
Piotr Kasprzak
Sylwester Kozak
Krzysztof Maliszewski
Dobromił Serwa
Sławomir Zajączkowski
Piotr Zboromirski

Cover design:
Oliwka s.c.

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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. This is due to the role of banks in financing the economy and in the settlement of payments. Banks also perform another important function, i.e. they provide products that allow other entities to manage their financial risk. Therefore, a special emphasis is put on the analysis and assessment of banking system stability.

Financial system stability is also the object of the NBP's particular interest 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.

Maintaining the stability of the financial system is of particular importance from central banks' perspective. This is due to the fact that 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. The instability of the financial system 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 conditions for the efficient operation of payment systems is the stable functioning of financial institutions that are the integral components of these systems.

The "Financial Stability Report" is primarily addressed to financial market participants, as well as other persons and institutions interested in the subject. The aim of the Report is to present the conclusions from analytical and research work on financial system stability, including the assessment of its resilience to potential disturbances. The dissemination of 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 these 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 2009 and is based on data available up to 20 November 2009. The *Report* was approved by the Management Board of the National Bank of Poland at a meeting on 11 December 2009.

Contents

Chapter 1.

Assessment of financial stability and risk outlook

Since the publication of the last "Financial Stability Report" in June 2009, the conditions in the economic environment of the domestic financial system have improved. The global crisis continues to have a strong impact on the Polish economy; however the economic outlook improved as uncertainty over the future business climate, as perceived by economic entities, diminished. The situation on the world financial markets considerably improved, which contributed to a reduction of tensions on domestic markets. These factors helped reduce the risk to the stable functioning of the Polish financial system, as compared with the assessment presented in the June Report. However, due to a large scale of the economic slowdown recorded since the fourth quarter of 2008, the revenue of some financial institutions was lower. Moreover, banks' funding costs rose and the costs resulting from the materialisation of credit risk accumulated in the years of favourable economic conditions increased as well. These processes cause the risk to the stable functioning of the financial system to remain elevated.

The global financial and economic crisis is strongly affecting the macroeconomic situation of Poland and the conditions in which its financial system operates. The crisis caused a strong decline of the economic growth rate and disruptions in the functioning of domestic financial markets. Since the publication of the previous edition of the *Report*, growth forecasts in the world economy have however improved and currently available data indicate that the period of the strongest recession may have come to a close in the second half of 2009. In line with the assessment of the International Monetary Fund presented in the October issue of "Global Financial Stability Report", the risk to the stability of the world financial system also diminished. This development resulted from a better outlook for economic growth, increased availability of market funding and the improving earnings of the largest financial institutions.

Despite the slower pace of economic growth, Poland's was the only European Union economy to maintain a positive annual economic growth rate of the real GDP; in the first three quarters of 2009 it stood at 0.8%, 1.1% and 1.7%, respectively, whereas in the successive quarters of 2008 the economic growth rate amounted to 6.2%, 6.0%, 5.1% and 3.0%. As the economic growth rate fell, the unemployment rate went up and

the wage growth rate was considerably reduced, which contributed to the decrease of the real growth of households' disposable income. In the same period, banks considerably tightened their standards and terms of granting loans. These developments were reflected in, among others, a lower demand for residential property and a continuation of modest decreases in property prices.

Since the publication of the June issue of" Financial Stability Report", some signals emerged suggesting that the economy would not slow down further. A better economic outlook for Poland's economic growth may be indicated by, among others, positive economic growth in the third quarter of 2009 in the euro area (0.4% q/q in comparison with a decline of 0.2% q/q in the previous quarter). A stronger growth (0.7% q/q) was recorded in Germany, Poland's main trading partner. However, the NBP macroeconomic projection of October 2009 shows that despite a faster pace of economic growth in Poland in 2010, unemployment is expected to continue to rise and the wage growth rate is expected to decrease further. The forecasted deterioration of the situation on the labour market is the consequence of a lagged, in comparison with changes in aggregate demand growth, response of the labour market to the downturn .

After a period of turmoil at the turn of 2008 and 2009, the situation in the domestic financial markets was improving in the second and third quarters of 2009. This was reflected by a decrease in volatility, notable particularly in the FX market, appreciation of the zloty and stabilisation of government bond yields. The improved situation on the domestic financial markets mainly reflected global factors, in particular the increase in global investors' propensity to take risk which may be indicated by, among others, increase of foreign investors' holdings of Polish government bonds. The rise in propensity to take investment risk resulted, among others, from both a better outlook for global economic growth and very low interest rates in major world economies.

Despite a recorded improvement in the situation, the turnover in some segments of the Polish market remains significantly lower, and so do increased spreads. Although uncertainty over the prospects of the financial situation of Polish banks and their parent entities decreased, trading in the domestic market for interbank deposits rose only modestly, and it is still concentrated in the segment of overnight transactions. However, liquidity provided to domestic banks by their parent banks, the availability of liquidity providing operations from the NBP and the rise in the value of government bonds held by banks helped to considerably reduce short-term risk to banks' liquidity resulting from market turmoil. This may be proven by, among others, absence of incidents likely to disrupt the operation of the payment system. Maintaining a continuity of the payment system operation in difficult market conditions, among others at the turn of 2008 and 2009, also testifies to the efficiency and effectiveness of domestic payment systems.

In the period preceding the economic slowdown, domestic financial institutions, and banks in particular, posted high earnings (average return on equity of the banking sector in 2008 amounted to 20.5%). The balance-sheet structure of the domestic banking sector (a relatively low ratio of loans to deposits) and the structure of banks' revenues (focus on deposit taking and lending activities and a relatively insignificant role of operations on financial instruments) curtailed the decrease of banks' earnings. Owing to this fact, a strong deterioration of operating conditions did not produce losses in the whole banking sector, and only lowered earnings.

Although the earnings of the Polish banking sectors decreased, its situation positively differs from the situation of banks in developed countries. The majority of non-residents-controlled commercial banks reported higher return on assets than their parent entities. The activity profile of banks in Poland permits to expect that the net income of the Polish banking sector will be more stable in the coming quarters than in Western European countries.

In the analysed period, the rising costs of credit risk and funding were the main factors contributing to the decrease of banking sector earnings. The increase in credit risk cost, resulting from the worsening financial position of borrowers and the rise in the value of loans not repaid in a timely manner, was particularly visible in the segment of consumer loans and corporate loans, whereas the quality of housing loans, denominated either in zloty or in foreign currencies, was stable. The increase in credit risk cost is a natural consequence of the economic slowdown, but also - notably in the segment of consumer loans - reflects a lenient lending policy in a period of rapid lending growth. On account of the cyclical nature of credit risk, credit risk cost may be expected to remain at increased level until the situation of enterprises and the situation in the labour market improves.

Turmoil in the financial market and the related lower availability of market funding forced banks to compete intensely for stable sources of funding, especially for households' deposits. This led to an increase of the share of non-financial sector deposits in banks' liabilities, which has a favourable influence on banks' funding stability. Despite the fact that the intensity of competition for retail deposits diminished in the second and third quarters of 2009, which is confirmed by a decrease in interest rates on new deposits, the average funding cost of banks strongly grew in the last 12 months. When banks competed for customers' deposits, they expanded the range of products offered to the public; offering saving accounts with high interest rates by more banks is a good example. The intense competition of banks may result in a permanent increase of the cost of funding raised from the non-financial sector.

The worse quality of loan portfolio and banks' earnings as well as lasting uncertainty over medium-term economic growth outlook made banks tighten their lending policies. In the second and third quarters of 2009, banks continued to tighten their policies in all market segments, however, the percentage of banks that tightened lending policies was lower in comparison with the fourth quarter of 2008 and the first quarter of 2009.

The tightening of lending policy contributed to a reduction of the growth rate of all main categories of loans to the non-financial sector. NBP surveys indicate that a reduction in loan supply had a larger influence on the fall of lending growth rate than factors influencing demand for loans. The decrease of the growth rate of lending was strongest for loans to corporates. The growth rate of lending to households also decreased. A decrease of the growth rate of lending was relatively lowest for consumer loans. These loans are characterised by high interest rates, which, according to banks, allows them to offset the cost of credit risk incurred.

Retention of major part of the profits generated in 2008 to increase regulatory capital, as well as lower rate of lending contributed to the increase of the capital adequacy ratios of the domestic banking sector. Simulations presented in this Report indicate that owing to the increase in the regulatory capital of banks, their capacity to absorb credit risk costs - that could arise in the event of a stronger than expected deterioration of loan portfolio - grew significantly. Macroeconomic stress test simulations indicate that the majority of the sector is able to absorb higher than expected costs of credit risk with the revenue it generates and the capital buffer it holds, without threatening its capital adequacy even if the rise in credit risk cost is accompanied by a significant decrease of banks' revenues.

The situation of the sector of non-bank financial institutions does not pose material threats to the financial system stability. As non-bank financial institutions concentrate on providing conventional financial and insurance services and the scale of relationships between these institutions and banks is relatively small, the impact of non-bank financial institutions on the situation of the banking sector is insignificant.

The improved situation in the financial markets, in particular, a rise in share prices, supported

the increase in assets of non-bank financial institutions in the first half of 2009. In this period, profitability fell, however, especially in the case of investment fund management companies. The fall was driven by changes in investments preferences of clients who invested less funds than previously in equity and balanced funds that tend to exhibit the highest level of charges levied by investment fund management companies. In the nearest quarters, developments in the financial markets, especially in the equity market, will have a big influence on the earnings of the sector of non-bank financial institutions.

The analysis presented in this *Report* supports the view that economic developments in line with the central path assumed for the October projection of the NBP will not pose a threat to the stable functioning of the financial system although earnings are likely to remain lower than in 2007-2008 for 2-3 years. The outlook for world economic condition is still highly uncertain. Several processes that will have an impact on domestic financial stability in the coming quarters can be identified.

The first of the processes are macroeconomic developments in euro area countries and in the whole European Union. Preliminary GDP estimates for the third quarter of 2009 show that the economy of the euro area is beginning to recover. An expansive economic policy played an important role in improving the economic situation in euro area countries. Therefore, it cannot be ruled out that when fiscal stimulation measures end, the economic condition will deteriorate again. Although the risk that the recession will return decreased in the analysed period, it still remains elevated.

The exit strategy from fiscal and monetary stimulation measures pursued by the economic authorities of most development countries may impact domestic financial stability. Due to the scale of the measures taken, the strategy has to be particularly balanced. If economic stimuli are withdrawn too quickly, an increase in demand from the private sector may turn out to be insufficiently sustainable to ensure stable long-term economic growth. On the other hand, if stimulation packages are withdrawn too late, long-term interest rates in most developed countries may rise due to a rise in inflationary expectations and concerns related to public debt growth. A strong increase of interest rates may in turn suppress private demand growth, thereby preventing a return of most developed economies to the path of economic growth. Therefore, there is risk for the scenario of the global economy exit from recession, and it is related to uncertainty over the effectiveness of the economic policy.

Within the next few years, some international banking groups will be compelled to reduce the scale of their activities and their financial leverage. This will result from the higher capital requirements for banks and a smaller (than in the past) availability of funding, in particular lower demand for instruments issued in the process of asset securitisation. It is difficult to assess in advance to what extent the deleveraging and reduction of total assets of banking groups will concern their activities on their home markets, and to what extent it will concern these activities on the emerging markets, including Poland. On account of the higher return on assets of banks in Poland than that of their foreign parent entities, it may be expected that the scale of the process on the Polish market will be relatively insignificant; however this assessment is highly tentative.

Future tightening of monetary policy in most developed countries may also affect the prices of financial assets. A very low cost of financing investments in the US dollar is a factor supporting increases of asset prices (in particular equities, as well as some raw materials and other commodities) observed in the second and third quarters of 2009. The increase of interest rates in the United States or a considerable decrease in liquidity provision by the Federal Reserve may lead to a renewed growth in volatility in the financial markets and a fall of asset prices that have recently risen strongly. For the Polish financial system, this could imply an increase in volatil-

ity in the FX market and the Polish government bond market.

The earnings of the largest global finance institutions improved in the second half of 2009, which was supported by low funding costs and a relatively high credit risk premium. According to the IMF and the ECB, the expense of global banks related to a fall in value of structured financial instruments decreased, especially those related to instruments issued in the process of loan securitisation. On the other hand, the quality of banks' loan portfolios will be deteriorating due to the effects of the recession. Therefore, it may not be ruled out that large financial institutions will record losses again, which may lead to a renewed increase of risk premia in the financial market and of risk aversion.

Another factor influencing the stability of the Polish financial system is the development of the zloty exchange rate and its dependence on the economic situation in the countries of the region (regional risk). In the analysed period, the zloty strengthened after a strong depreciation at the start of the year. The appreciation of the zloty was the consequence of a significant decrease in risk aversion of global investors and the fact that they diversified their investment policies by adjusting them to the economic situation of the individual countries of the region. In the present market conditions, pessimistic information about economic outlook for countries of the region influences quotations on the Polish market to a lesser degree. These developments and the evaluation of Poland's economic fundamentals indicate that a further strong and prolonged depreciation of the zloty seems rather unlikely.

Chapter 2.

Financial institutions' economic environment

The global financial crisis led to a recession in the main economies in the world. In the last two quarters, however, some symptoms of stabilisation appeared, followed by a gradual improvement of the situation of the world economy. Poland's economy was one of few to have maintained a positive economic growth rate during the crisis, with an increase in net exports and a positive, though declining, rate of change in consumption demand contributing to this growth. However, there is still a significant uncertainty regarding the outlook for the economic situation across the world and in Poland. In the coming quarters, Poland's positive GDP growth rate is expected to gradually increase in line with the recovery of the main world economies from the crisis. The risk of a lower-than-expected economic growth is mainly connected with the developments in the macroeconomic situation abroad and the potential consequences of a further rise in Poland's public debt.

The situation on the international and domestic financial market has stabilised since March 2009 due to the rising expectations of a quick and sustainable recovery of the world economy from the crisis. These expectations contributed to an increase in investors' propensity to take investment risk and an increase in their exposure to emerging markets, including the Polish market. The increase in investors' appetite for risk was supported by loose monetary policy in the main world economies. These processes led to the appreciation of the zloty and the stabilisation of yields on Polish government bonds. As the economic situation is improving, further gradual normalisation of the situation in the financial markets, a slow decline of risk premium and a rise in market liquidity may be expected.

In the property market, the ask prices of flats in most big cities displayed a downward trend in the first three quarters of 2009, similarly as rents for office space. These trends did not, however, pose a threat to financial stability.

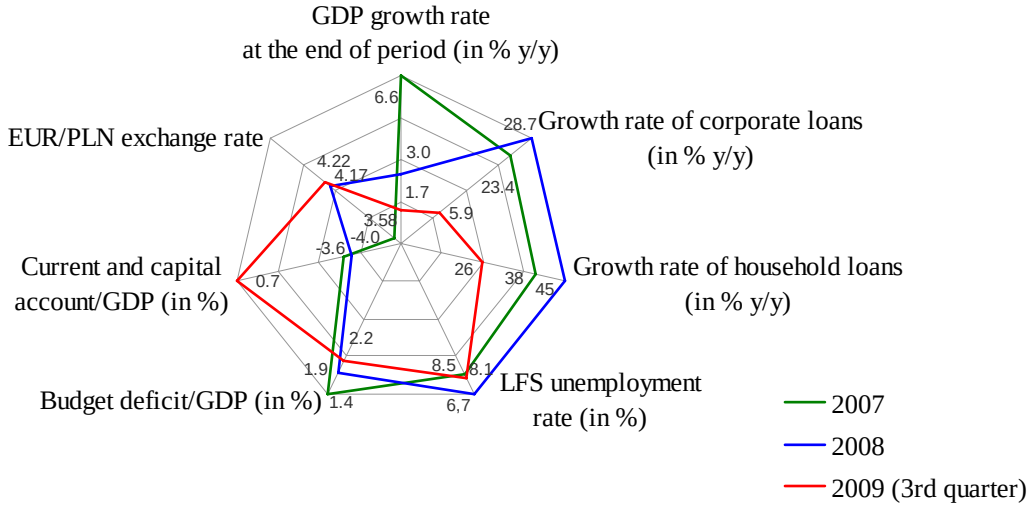
2.1. Macroeconomic developments

In recent quarters the global financial crisis has contributed to a decrease of Poland's economic growth rate. The recession in the economies of Poland's main trading partners and the uncertain outlook for global and domestic economic growth contributed to a fall in economic activity. The deterioration in enterprises' financial situation at the end of 2008 and the beginning of 2009 resulted in a significant slowdown of wage growth, a slight increase of unemployment and a fall in companies' investments. The growth rate of foreign direct investment in Poland also decreased. A slower growth rate of households' disposable income had an impact on the reduction of consumption growth rate.

An adverse influence on the economic situation was also exerted by a slowdown of lending which resulted from the tightening of credit policies by banks and a fall in demand for loans. The decrease in the growth of lending to corporates and households (see more on this subject in Chapter 3.2) contributed to a fall in investment and slower growth of total consumption. (zob. Figure 2.1).

A strong depreciation of the zloty at the end of 2008 and at the start of 2009 led to an improvement in current and capital account balance, which was positive in the first half of 2009 and amounted to 1.2% in relation to the GDP[1].

Figure 2.1. The changes of macroeconomic indicators in the last three years



Note: points in the Figure are shown after standardization, in which for each presented variable (x) the largest (xmax) and the smallest (xmin) value from the period 2000-2009 was found and the current value of x was transformed by the formula y=(x-xmin)/(xmax-xmin). Thus, the individual economic variables have been presented in relation to the highest and lowest point over the business cycle. Numbers placed by the points in the figure present the actual values of analysed variables (before standardization) in a given period. Source: GUS and NBP.

[1] When analysing external balance of EU countries it is reasonable to consider the current account and capital account jointly. The inflow of funds from EU structural funds, which is not determined by market conditions, is shown in the capital account. In the first half of 2009, the negative current account balance amounted to 0.6% of GDP, and the positive capital account balance to 1.8% of the GDP.

However, the depreciation also became the source of financial loss in some enterprises whose exposures to foreign exchange derivatives were not offset by foreign exchange flows generated by ongoing business. In some of these cases foreign exchange derivatives exposures were of speculative nature.

In the first half of 2009, the growth rate of real GDP declined significantly and amounted to 0.8%, 1.1% and 1.7% y/y in the first, second and third quarter of 2009, respectively, compared with 3.0% in the fourth quarter of 2008 and 6.6% in the fourth quarter of 2007. [2].

The lower economic growth rate adversely influenced public finances. The increase in the public finance deficit resulted, among others, from the functioning of the automatic stabilizers: the fall in tax revenues, larger subsidies to the Social Insurance Fund, rise in Labour Fund expenditures. The higher cost of servicing foreign debt was an additional factor. The reduction of tax burden in 2008 and 2009 was, however, an important factor that contributed to the increase in the deficit.[3].

A comparison of values of selected macroeconomic indicators for Poland from mid-2009 with their extreme values observed in 2000-2009 makes it possible to better understand the macroeconomic conditions for the functioning of the financial system against the background of a business cycle (see Figure 2.1). In the second quarter of 2009, the economic growth rate was close to the lowest values observed in the last decade and the budget deficit in relation to GDP exceeded almost twofold the lowest value posted in 2007. Despite the economic slowdown in 2009, unemployment was close to its lowest level recorded in 2008. The annual growth rate of lending to corporates and households remained above the ten-year average. Current and capital account balances against the GDP displayed one of the highest values recorded in the last ten years. This is connected with the weak zloty/euro exchange rate that was close to its highest level from 2003-2004. Macroeconomic data presented here show that although the Polish economy recorded a strong decline in growth rate, this was within the scale of cyclical changes in the last 10 years. Moreover, some of the macroeconomic variables remain at levels that are more favourable from the point of view of financial stability than in the previous periods of economic slowdown. In particular, the situation in the labour market has remained relatively good.

The GDP growth rate in Poland will remain, according to the central path of the projection presented in the October edition of "Inflation Report", below 2% y/y until the third quarter of 2010 and will amount to 3.6% y/y by the end of 2011. Market expectations related to developed economies, including Poland's major trading partners, and preliminary data on economic growth in the third quarter of 2009 show that the situation in these countries has been improving slowly. This will support the rise in demand for Polish exports, but due to the increase in domestic demand the net exports will contribute less to the economic growth. Factors that are likely to support acceleration of the economic growth are public investments financed to a great extent with proceeds from the EU structural funds, and in 2011 - an increase in enterprises' fixed investments and consumption. The unemployment rate will go up in 2010 despite a higher rate of economic growth.

The potential return of a recession in the most developed economies, the situation of public finances and uncertainty over the impact of banks' restrictive lending policies on investment and consumer demand are the most important risk factors that may lead to the realisation of a lower economic growth rate than presently expected. A

[2] See "Inflation Report - October 2009", NBP for more information on the current economic situation and forecasts until the end of 2011.

[3] See „Polska wobec światowego kryzysu gospodarczego" [Poland and the world economic crisis], NBP, September 2009, for more information on the impact of the world crisis and economic slowdown in Poland on public finances.

potential deeper economic slowdown would raise the risk to the stable functioning of the financial system.

2.2. Developments in financial markets

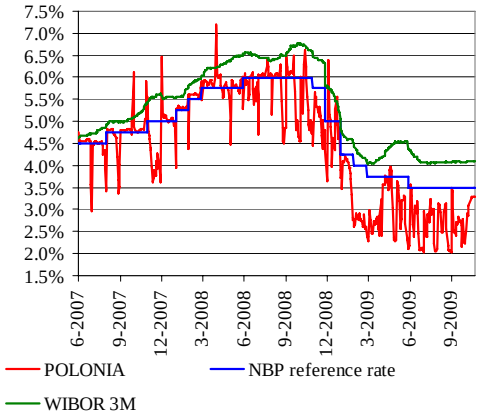
Investors' propensity to take risk has increased in the financial markets since March 2009. As a result of the above, the prices of riskier assets have gone up, including the prices of assets in the emerging markets. The improvement in the situation in the financial market is connected with expectations of a swift end to the recession in the main world economies, which is partly reflected in statistical data published in the fourth quarter of 2009. Market expectations currently assume a quick return of highly developed countries to the path of economic growth. Looking ahead, in a few-quarter horizon such an assessment may be too optimistic.

The factor that supported the improvement in the situation in the international financial market was the loose monetary policy of central banks that provided liquidity to commercial banks and took non-standard measures to revive the economy and stimulate lending. These measures included, among others, purchase of debt securities, long-term financing for banks and, in some cases, currency intervention.

The scenario of developments that is concurrent with the average of market participants' expectations suggests further normalisation in the international financial market. In such a scenario, investors' demand for riskier assets should rise, which would support an inflow of capital to emerging markets. The volatility of asset prices would decrease along with a fall of risk premia. In such a scenario, the expected gradual withdrawal of governments from fiscal stimulation programs and the increases in central bank rates should not lead to the reappearance of financial turmoil.

The risk underlying the scenario is the potential return to strong risk aversion, caused, for example, by the worsened earnings of international banking groups in connection with growing charges for impaired loans, or by insolvency of one of the emerging market governments. This would lead to a re-allocation of capital towards safe assets.

Figure 2.2. Market interest rates against NBP reference rate



Source: NBP.

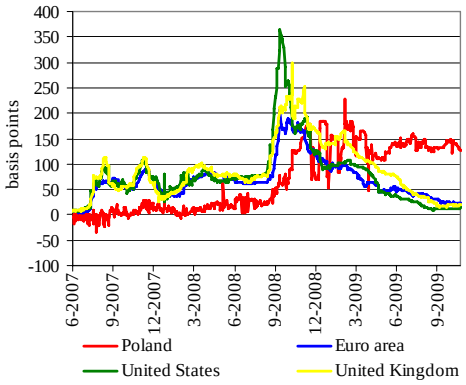
2.2.1. Interest rates

The "Confidence Pact", under which NBP provided liquidity to banks in zlotys and in foreign currencies, significantly reduced the risk related to the rollover of short-term funding obtained by banks and thus contributed to the reduction in the perception of risk embedded in transactions executed on the interbank deposit market. Despite this, trading on the interbank deposit market decreased in comparison with the first quarter of 2009, particularly in the segment of transactions with maturity longer than one day.

Following cuts in NBP reference rate, interest rates for transactions with maturity of several months went down (see Figure 2.2). Interest rates for transactions with relatively long maturity (of one month and longer) are higher and take into account the premium for limited liquidity of these market segments. At the same time,

interest rate on transactions with very short maturities is low as there is excess liquidity in the banking sector. The effects of this development can also be observed on the overnight index swap market, which leads to an overstatement of the risk premium accounted for in WIBOR rates (see Figure 2.3)[4]. This information allows to conclude that in the analysed period the intensity of turmoil in the financial market decreased but did not fully subside. Due to the increase in the share of stable funding sources on banks' balance sheets and a rise in the value of government bond portfolio held by banks that may be used to raise liquidity (see Chapter 3.5), the current market situation does not pose a major threat to financial system stability.

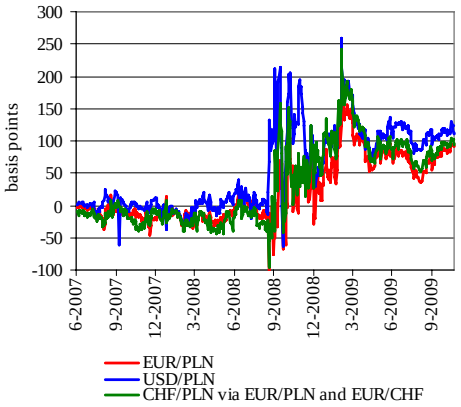
Figure 2.3. Risk premium in interbank deposit market



Notes: risk premium calculated as the spread between the interest rate on 3M interbank deposits and the rates on 3M overnight index swaps (OIS). The premium may be distorted owing to a long-lasting deviation of OIS rates, below reference rates of central banks.
Source: Bloomberg, Reuters.

Arbitrage between money market segments remains limited. In the market for foreign exchange swaps with maturity longer than one month, a large risk premium persists. (see Figure 2.4). It results in part from the excess liquidity of the Polish banking sector and in part from the concerns of Polish banks' counterparties related to the credit risk of the Polish banking sector. In addition, some Polish banks use foreign exchange swaps to hedge an open balance sheet FX position. Such banks have to frequently roll over swaps, which may give counterparties an opportunity to dictate high margins.

Figure 2.4. Premia in foreign exchange swap markets



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

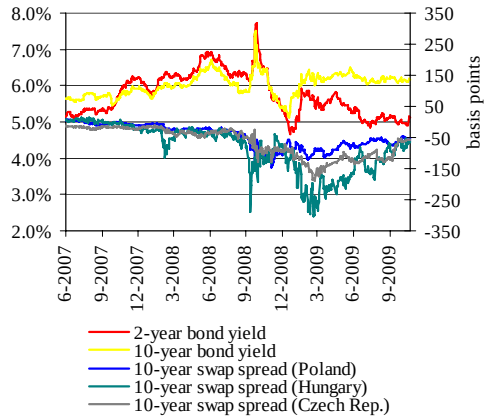
Since March 2009, long-term interest rates have oscillated within a narrow band. Despite the publication of information about a high budget deficit planned for 2010, bond prices remained stable. However, yield on Treasury bonds continued to exceed interest on IRS transactions with a similar maturity (see Figure 2.5).

Foreign investors who disposed of Polish Treasury bonds in autumn of 2008 returned to the market. Non-residents' exposure in the bond market amounted to 75 billion zloty in Octo-

[4] The risk premium is estimated as the spread between WIBOR rate and the fixed leg of OIS transaction with the same maturity. In the developed markets, such a premium is related to a higher credit risk of a deposit transaction compared to a swap transaction. On the Polish market, it comprises two components: credit risk and deviation of POLONIA (overnight) rate from NBP reference rate.

ber 2009, which represents an increase by almost 20 billion zloty since the minimum level was recorded towards the end of 2008.

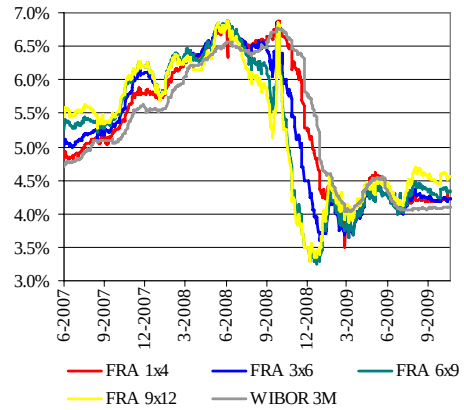
Figure 2.5. Yield on Polish Treasury bonds and IRS-bonds spread



Source: Bloomberg.

The price for hedging the default risk of the Eurobonds issued by the Polish government has decreased significantly since the maximum value was recorded in February 2009. Movements of CDS premia for other Central European countries was similar. This reflects relatively limited ties between changes in CDS premium and local factors.

Figure 2.6. Current and expected WIBOR rates



Source: Bloomberg.

Forward rates for money market rates show that financial market participants expect a gradual rise in these rates as soon as in the second quarter of 2010 (see Figure 2.6). The comparison of WIBOR rates with the OIS rates shows that market participants expect a slight decline in spreads between WIBOR and OIS rates. If the economic situation develops in line with current expectations, the risk premium embedded in long-term interest rates should decrease. However, due to a limited liquidity of the FRA market and the interbank deposit market it is difficult to interpret these expectations explicitly as they take into account not only market expectations of NBP interest rates but also credit and liquidity risk premium accounted for in WIBOR rates.

Risk factors for the presented expectations of market participants are related to the situation in the international financial market and the condition of public finances. It cannot be ruled out that the situation observed in the fourth quarter of 2008, when yield on Treasury bonds and money market rates increased significantly, will repeat itself. However, this is rather unlikely.

2.2.2. Foreign exchange market

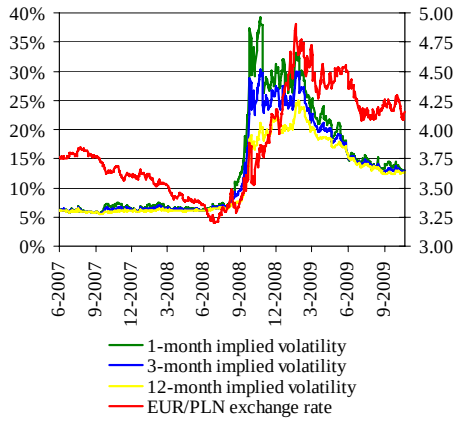
The rapid depreciation of the zloty, which lasted from August 2008 to February 2009, ended with the EUR/PLN exchange rate[5]reaching near historically weakest levels. Subsequently, the zloty appreciated, which was mainly the effect of global factors, including increased propensity to invest in the emerging markets. The appreciation of the foreign exchange rate was accompanied by a slow fall of its volatility, which remains, however, slightly higher in relation to levels recorded before September 2008. (see Figure 2.7). Since July 2009, the EUR/PLN exchange rate has remained in the fluctuation band of 4.10 - 4.30.

Zloty exchange rate movements depended to a great extent on external factors, mainly on

[5] The analysis of movements in the exchange rate focuses on the EUR/PLN exchange rates as the spot market for this cross is the most liquid.

changes in investors' propensity to make investments in the emerging markets, including the markets in Central and Eastern Europe. This is reflected by a high correlation of changes in the zloty exchange rate with changes in the forint exchange rate despite differences in the macroeconomic situation of Poland and Hungary. The zloty appreciation was supported by the return of foreign investors to the market for Polish Treasury bonds and the equity market.

Figure 2.7. Zloty exchange rate and its volatility



Source: Bloomberg.

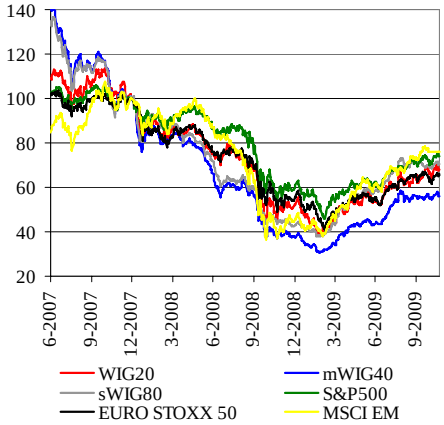
Local factors had a weaker impact on the zloty exchange rate than external factors. A short-term influence on the level of zloty exchange rate was exerted by the sale of foreign currencies by BGK at the request of the Ministry of Finance. The gradual maturing of foreign currency options written by enterprises reduced uncertainty over future supply of the zloty in the currency market and supported the strengthening of the exchange rate[6]. Information about increased political risk and deterioration in the condition of public finances had a temporary impact on the depreciation of the zloty.

The scale of zloty undervaluation was significantly smaller compared with the first quarter of 2009. This is proved, among others, by the reduction of the gap between the market exchange rate and the break-even point of Polish exports, estimated based on NBP surveys.

In future, market participants expect that large uncertainty over the level of zloty exchange rate will persist. This is reflected by the high implied volatility of currency option prices.

The materialization of an unfavourable scenario of developments in the international financial market, where high risk aversion might return, could lead to another depreciation of the zloty and a rise of volatility. Such processes could also be triggered by the unexpected economic difficulties in one of the region's countries, for example, by a forced devaluation of the currency of a country running a fixed exchange rate regime.

Figure 2.8. Indices of Polish and global equity markets



Note: data normalized to 100 as at the end of June 2007.
Source: Bloomberg.

2.2.3. Equity market

Stock indices of the Warsaw Stock Exchange continued the upward trend that started in February 2009 (see Figure 2.8). The rise in equity prices

[6] According to a statement of Polish FSA of 17 August 2009, the liabilities of Polish enterprises related to currency options amounted to 2.21 billion zloty on 31 July 2009, which represents a fall by 51% compared to 17 April 2009. The fall in enterprises' liabilities was driven by maturing option transactions and restructuring thereof, and the appreciation of the zloty, with the first two factors playing the most important role.

resulted mainly from favourable trends in foreign capital markets. Domestic investors, including individual investors who purchased participation units in investment funds, slowly appeared on the demand side.

2.3. Property market

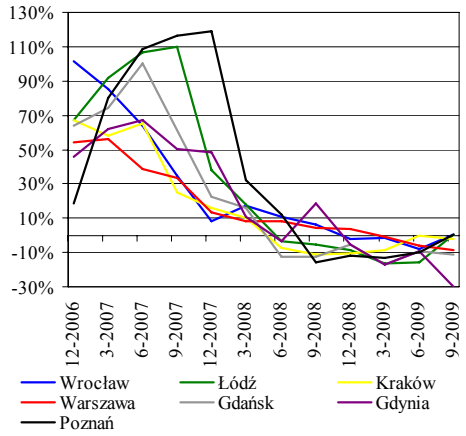
Residential property market

In the second and third quarter of 2009, the ask prices of flats went down in most big cities (see Figures 2.9 and 2.10). The scale of the decline depended on the region, market segment and the location. In the second quarter of 2009, the symptoms of a halt in price decline were seen. In some cities prices rose on a quarter to quarter basis. Similarly as in the previous periods, sale prices were lower by a few percent than ask prices, but the spread between them narrowed in the analysed period.

The decline in prices of flats was mainly caused by a decrease in households' effective demand. The following factors contributed to the decline in demand: strong tightening of lending policy by banks, a slower growth rate of households' disposable income and a rise in unemployment, which reduced confidence in certainty of employment.

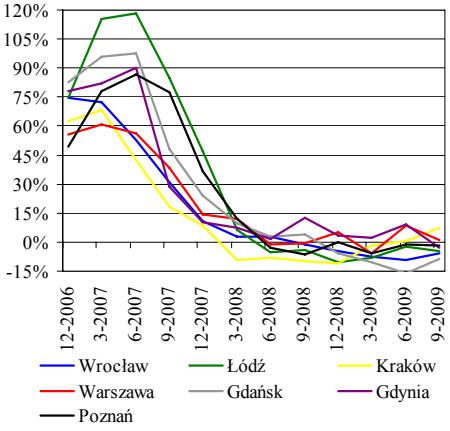
The fall in demand on the residential property market had an influence on a rise in the number of unsold flats, which - coupled with reduced availability of funding for developers - led to a decrease in the housing unit starts (see Figure 2.11). In January-October 2009, the housing unit starts and the number of permits issued fell in comparison with the same period in the previous year by 21.9% and 24.2%, respectively (the largest fall was recorded among developers: a fall by 41.7% and 39.8% respectively)[7]. Developers slowed down the pace of construction work and withdrew from offering investments requiring a thorough change of project resulting from a change in demand structure.

Figure 2.9. Annual growth in residential property prices in the biggest cities - primary market (y/y)



Source: NBP calculations based on Pont Info data.

Figure 2.10. Annual growth in residential property prices in the biggest cities - secondary market (y/y)



Source: NBP calculations based on Pont Info data.

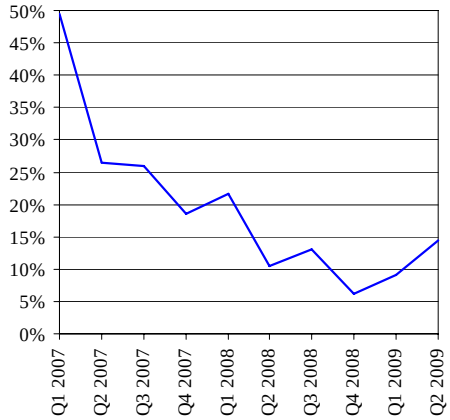
In the second quarter of 2009, the number of flats sold on the primary market increased in comparison with the two previous quarters. In six biggest

[7] GUS data.

[8] According to Reas, the largest number of flats is built in Warsaw, Kraków, Wrocław, Tri-City, Poznań and Łódź urban areas which represent around 60% of the residential property market and in terms of value - around 75% of the market.

urban areas [8] around 5.8 thousand flats were sold on the primary market in the second quarter of 2009, i.e. 32% more than in the first quarter of 2009. The number of unsold flats in Warsaw at the end of the second quarter of 2009 amounted to around 13.2 thousand, of which around 2 thousand were completed [9].

Figure 2.11. Ratio of the number of flats sold by developers in Warsaw to the number of flats offered for sale and the existing inventory of flats

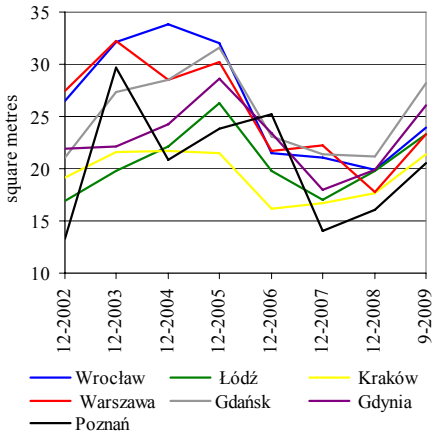


Note: quarterly data.
Source: Reas.

Demand on the residential property market was enhanced by an increased interest in the government program "First family home (Rodzina na swoim)" where interest on housing loans is subsidised, [10]. Factors that supported the growth in use of the program were: an increase in the maximum price of a subsidised flat and the behaviour of developers who adjusted the prices of their projects to conform with the price limit under the program.

As a result of the fall in the prices of flats and a slight rise in wages, the households' purchasing power increased. It should be emphasised, however, that due to the tightening of housing loans terms the increase in the purchasing power did not translate into an increase in households' real capability of purchasing a flat.

Figure 2.12. Purchasing power of the consumer on selected residential property markets



Note: The figure shows the size of a flat (in square metres), which a person with average income for a given region (voivodship), funding the purchase with a loan, could afford to buy. Assumptions for the calculation: downpayment of 20%, borrower is a one-person household, borrower's income equals the average gross salary for a given voivodeship, as calculated by GUS, monthly funds left to cover expenses after loan instalment has been paid - 1,000 zloty, loan maturity of 25 years, loan repaid according to declining interest payment schedule (borrower is able to cover the highest instalment).
Source: NBP calculations based on Pont Info and GUS data.

In the coming quarters, the demand on the residential property market may be expected to be relatively low, which will be influenced, among others, by the rise in unemployment and a low rise in real wages. Easing lending policy by banks would result in an increase in demand for flats, thus reducing the number of flats unsold by developers. This should induce developers to start new investment projects, which would support stabilisation of flat prices.

The main risk factor for changes in flat prices, and thus in respect of the value of collateral on loans granted by banks is the level of households'

[9] see "Mniej mieszkań w ofercie" ["Fewer flats on offer"], www.reas.pl
[10] From January to September 2009, 22 thousand loans subsidised by the State Treasury were extended, and the total value of loans extended amounted to 35 million zloty, www.rodzinanaswoim.pl

demand and banks' policy regarding financing extended to developers. A significant fall in demand on the residential property market, resulting, e.g., from a major deterioration in the situation on the labour market would lead to a deterioration in developers' financial position, which would adversely affect earnings of their lenders. The financial situation of developers would also be adversely affected if banks continued to limit funding for developers.

Office space market

In the first half of 2009, office space market was characterised by a lower demand on the part of tenants and a fall in rents.

Stock of vacant office space in Warsaw in the first half of 2009 increased by 23%, i.e. by 174.1 thousand square metres. In this period a total of 108.9 thousand square metres were leased, which represented a fall by around 50% compared with the first half of 2008.[11].

As a result of increasing supply and falling demand the office space vacancy rate increased in Warsaw to 5.7% at the end of the first half of 2009 from 2.8% in December 2008. In addition, it is estimated that around 50 thousand square metres of office space are offered for sub-lease, which pushes up the real office space vacancy rate to 7.3%.

At the end of the first half of 2009, average rents for office space in the centre of Warsaw declined to 23-24 euro per square metre and 14-15 euro for square metre outside the centre (in December 2008, average rent rates in the centre of Warsaw amounted to 24-28 euro per square metre.) Office space market analysts forecast a further fall in rents.

[11] Source: Warsaw Research Forum (WRF). WRF is a Warsaw forum of property market analysts, established in 2000 by representatives of CB Richard Ellis, Healey & Baker (now Cushman & Wakefield), DTZ Zadelhoff Tie Leung, Jones Lang LaSalle. The forum has been joined by Colliers International and King Sturge.

Chapter 3.

Banking sector stability

The earnings of banks for the first three quarters of 2009 decreased considerably in comparison with the corresponding period a year ago. The earnings decreased on the back of the strong growth in the value of irregular loans, which pushed up the cost of credit risk, and on the back of a lower net interest margin. However, the banking sector's profitability remained in the positive territory and the sector posted a double-digit return on equity. Persistent considerable uncertainty over the outlook for the quality of loan portfolio led banks to further tighten their lending policy. This tightening was responsible for the steady decrease of the growth rate of all main loan types, which reduced banks' capacity to increase their income. Uncertainty over the economic outlook, which had an impact on contraction in both supply and demand for loans, implies that a low lending growth may be expected to continue.

The liquidity position of the banking sector improved compared with that from the turn of 2008 and 2009. The funding position of banks was positively influenced by the inflow of new household deposits and contraction of credit growth, which contributed to narrowing of the funding gap. The foreign parent entities of Polish banks continued to renew financing provided in autumn 2008, which - in view of persistent difficulties in obtaining long-term funding from domestic interbank market - allowed the banks to continue lending.

Retention of 2008 profits by the majority of commercial banks allowed the banking sector to improve its capital adequacy. The analyses presented in this report indicate that the banking sector as a whole will be able to absorb the effects of the economic slowdown without endangering its safe operation.

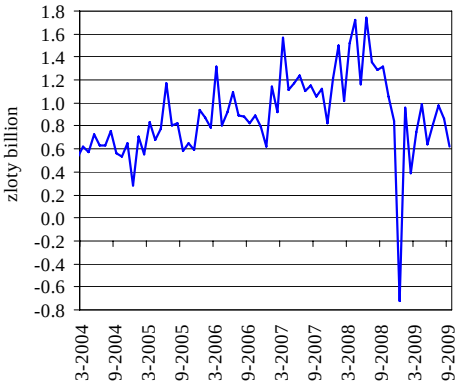
The expected acceleration of economic growth improves the prospects for the financial position of banks, which are now better than those presented in the June issue of the "Financial Stability Report". Nevertheless, due to slow economic growth further deterioration of the quality of loan portfolio, in particular of loans to households, may be expected in the coming quarters. This development will induce banks to provision for further impairment of loans.

3.1. Earnings

The earnings and profitability of banks in three quarters of 2009 were much lower than in the previous year. They decreased as a result of a strong increase in the costs of materialisation of credit risk. In the coming quarters, earnings should be expected to be under the pressure of further charges to loan impairment provisions, growing funding costs and deceleration of lending growth.

In the first three quarters of 2009, banks posted much lower earnings than in the previous year (see Figure 3.1 and Table 3.2). After a sharp decline at the turn of 2008 and 2009, the earnings of the banking sector stabilised at a lower level than before the crisis had started.

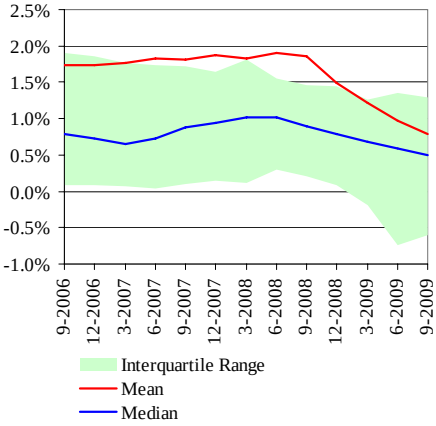
Figure 3.1. Monthly net profit of the banking sector



Source: NBP.

Similarly as in the period discussed in the previous issue of the *Report*, a large group of commercial banks and branches of credit institutions reported losses (21 institutions with a total share in the banking sector's assets amounting to 13.9%). However, these banks are still in a good situation, in terms of their capital levels. Their capital adequacy ratios are higher than 10% (average level is 12.7%)[12]. It should also be noted that some loss-making banks, including branches of credit institutions, are still in the early stage of their operations and are yet to reach operational efficiency (their operating costs were high).The loss of this group of banks in the three quarters of 2009 amounted to around 1.2 billion zloty, compared with the net earnings of 8.2 billion zloty of the remaining banks in the period.

Figure 3.2. Return on assets



Notes: annualised data.
Unless otherwise stated, the dispersion plots in Chapter 3 relate to domestic commercial banks and branches of credit institutions. At the end of September 2009, the assets of these banks accounted for around 95% of the assets of the whole banking sector.
Source: NBP.

A lower value of the generated earnings was reflected in the considerable falls of profitability ratios, i.e. ROA, ROE and the ratio of net earnings to net income from banking activity (see Table 3.1). Larger entities recorded, on the average, a more considerable decline, which reduced their advantage over other banks, in terms of profitability (see Figure 3.2). At the same time, differences among banks have grown.

[12] This does not concern one bank with a share in the banking sector's assets at 0.05%. The capital adequacy ratio of this bank was around 7% in September. The bank is now subject to a rehabilitation programme.

Table 3.1. Selected operating indicators of the banking sector

	As % of average assets			As % of net banking income		
	Q4 2008	Q1 2009	Q3 2009	Q4 2008	Q1 2009	Q3 2009
Net interest income	3.35	3.14	2.80	62.04	61.26	59.84
Net non-interest income	2.05	1.98	1.88	37.96	38.74	40.16
Operating costs[1]	3.03	2.93	2.70	56.22	57.18	57.84
Net movements in provisions and valuation allowances	0.59	0.76	1.06	10.93	14.77	22.69
of which: net charges to provisions for irregular loans	0.41	0.50	0.79	7.59	9.83	16.95
Income tax	0.35	0.29	0.19	6.49	5.64	4.07
Pre-tax earnings	1.88	1.53	0.98	34.90	29.79	20.92
Net earnings	1.53	1.24	0.79	28.41	24.15	16.86
Pre-tax earnings [2]	25.19	20.46	12.66	-	-	-
Net earnings [2]	20.52	16.62	10.22	-	-	-

[1] Operating costs = general expense + depreciation.

[2] As percentage of core capital (no deductions); profits of branches of foreign banks are deducted.

Notes: annualised data. Net banking income = net income on banking activity.

Source: NBP.

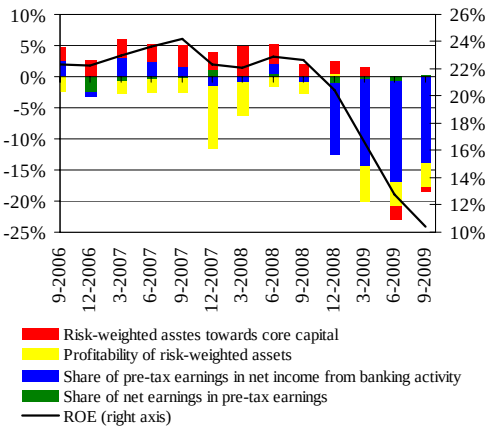
Table 3.2. Selected items of the profit and loss account of the banking sector

	9-2008 (PLN billion)	12-2008 (PLN billion)	9-2009 (PLN billion)	Change in 2009 (9-2009/9-2008. in %)
Interest income	42.95	59.86	43.25	0.7
Interest expense	20.87	29.86	22.38	7.3
Net interest income	22.08	30.00	20.86	-5.5
Net fee income	8.56	11.30	9.15	6.9
Income from equities and other securities	1.34	1.51	1.31	-2.5
Net income on financial operations	0.29	-0.70	3.38	1 073.7
Net FX income	4.61	6.25	1.92	-58.5
Net income from banking activity	36.88	48.35	36.62	-0.7
General expense	17.96	24.84	18.44	2.7
Depreciation	1.72	2.34	1.87	8.9
Net movements in provisions and valuation allowance	2.60	5.28	8.23	216.1
- of which: net charges to provisions for irregular loans	1.83	3.67	6.31	244.3
Pre-tax earnings	15.40	16.88	8.59	-44.2
Net earnings	12.64	13.74	7.01	-44.6

Source: NBP.

The analysis of the decomposition of ROE of the domestic banking sector shows (see Figure 3.3), that the fall of in core capital profitability was primarily the result of the fall in the share of pre-tax earnings in the allocation of income from banking activity, and also of the decrease of the profitability of risk-weighted assets (measured by the relation of net income from banking activity to average risk-weighted assets). Improved capital levels of banks and the increase in income tax burden on pre-tax earnings were, however to a lesser extent, also responsible for the fall in profitability.

Figure 3.3. ROE of the domestic banking sector (right-hand axis) and decomposition of changes (left-hand axis)



Notes: annualised data, changes of decomposition components –quarter-on-quarter.
Source: NBP.

The main reason behind the decrease of the share of pre-tax profits in the allocation of net income from banking activity was the worsening quality of loan portfolio and a related increase of the costs of credit risk materialisation (more on the subject in Chapter 3.3). The effectiveness of banks measured by the CTI ratio also worsened (see Table 3.1).

The nominal value of net income from banking activity remained at the level from the previous year, but its composition changed considerably (see Table 3.2). Net interest income remained the main source of net income from banking activity, however its share decreased, mainly due to high interest expense incurred by banks in connection with their competition for clients' deposits (more on the subject, see Chapter 3.5). The decrease of net interest income was roughly balanced with the increase of the trading income and net fee and commission income. Net fee and commission income was the largest component of net non-interest income.

In the nearest several quarters, the earnings and profitability of banks are likely to remain under a strongly adverse influence of the high costs of credit risk materialisation. Further growth of net fee and commission income seems limited, especially after recent increases of fees. It is, however, difficult to clearly predict changes with regard to the sources of net interest income, although it may be presumed that in the short-term factors supporting continued downward trend will prevail:

- Net interest income may be negatively affected by the funding costs of mortgage loans with low credit spreads, extended in the past (including foreign currency-denominated loans), which are presently much higher than at the time when these loans were extended. It cannot be ruled out that part of the housing loan portfolio from the years 2007–2008 will not generate profits until confidence re-appears on the financial markets.
- Low or diminishing pace of lending will not support acceleration of the growth rate of banks' interest income.
- The expected deterioration of the quality of loans, including consumer loans, will reduce interest income from the portfolio of loans extended in past periods.
- Changes in the composition of liabilities, which were the result of competition for households' deposits (i.e. expansion of

banks' offer with saving accounts) may permanently raise banks' interest expense.

- A change in the composition of new loans, i.e. the rising share of consumer loans on which banks earn the highest spreads, may positively impact interest income.

Although the earnings of Poland's banking sector worsened, its situation positively differs from the situation of banks in developed countries. The majority of commercial banks, controlled by non-residents, reported higher return on assets than their parent entities. The good earnings of the Polish banking sector against other countries are related to its orientation towards traditional deposit-taking and lending activity and a relatively modest exposure to operations on financial instruments. The activity profile of banks in Poland gives reasons to expect that the net income of the banking sector in the coming quarters will be more stable than in Western European countries.

However, the risk remains that banks' profitability will deteriorate, should risk factors, such as return to slowdown of economic growth or restricted availability of funding and a rise of funding costs, materialise. It may be assumed, however, that the earnings of banks in Poland would nevertheless be better than the earnings of their parent entities. Banks' profitability will hinge, among others, on the pace of lending growth. The scale of deleveraging by international banking groups will have an influence on the potential to increase lending by banks that are members of such groups. It is difficult to assess in advance how deleveraging and reduction of total size of assets will be related to activities on home markets, and to activities on the emerging markets, including Poland. On account of the higher return on assets of banks in Poland than of their foreign parent entities, it may be expected that the scale of deleveraging on the Polish market will be relatively small; however this assessment is highly uncertain.

3.2. Lending

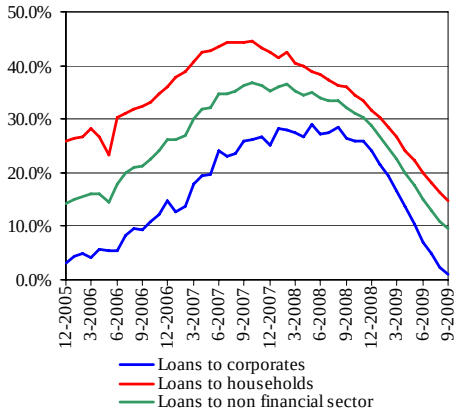
The growth rate of all loan categories in 2009 was significantly lower than in 2008. NBP survey data show that the tightening of lending policies by the banks had a stronger impact on the fall in the growth rate of loans than factors influencing demand for loans.

The growth rate of all main categories of loans to the non-financial sector has been declining since the end of 2008. Since March 2009, these trends have accelerated and currently the growth rate of loans to the non-financial sector on a y/y basis is similar to the growth rate at the end of 2005, i.e. the period preceding a significant acceleration of the lending growth rate. The yearly growth rate of loans continues to be a two-digit figure (in September it amounted to around 18%), but after excluding the impact of foreign exchange rate changes it amounts to around 9% (see Figure 3.4).

Since autumn 2008, monthly increases in the value of loan growth, after excluding the impact of foreign exchange rate changes, have been considerably lower than the average changes in 2008. Compared with 2008, the smallest relative decline was recorded in the growth of consumer loans (see Figure 3.6). The largest contraction was observed in loans to corporate sector - during most of the second and third quarter of 2009 the value of loans repaid exceeded that of loans extended (see Figure 3.7)[13].

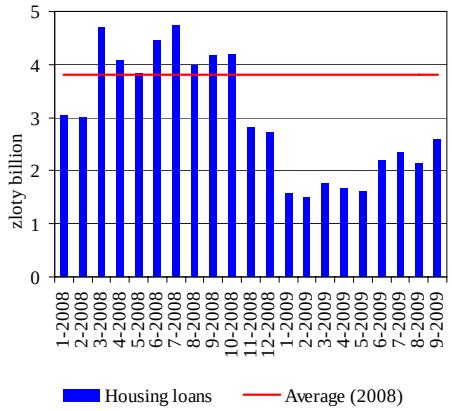
[13] The value of loans may have been influenced by the conversion of part of enterprises' currency option liabilities into long-term loans. Data available do not make it possible to estimate the scale of this development. See Inflation Report - October 2009, NBP 2009, for more information about the developments in banks' lending.

Figure 3.4. Growth rate of lending (y/y)



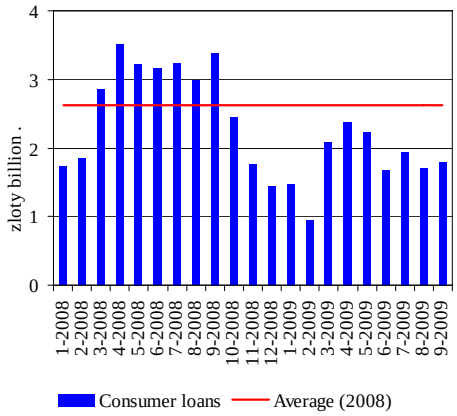
Note: data after excluding the impact of foreign exchange rate changes.
Source: NBP.

Figure 3.5. Changes (m/m) in the value of housing loans to households



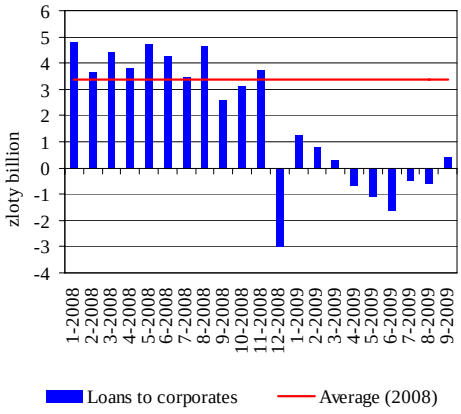
Note: data after excluding the impact of foreign exchange rate changes.
Source: NBP.

Figure 3.6. 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 3.7. Changes (m/m) in the value of loans to corporates

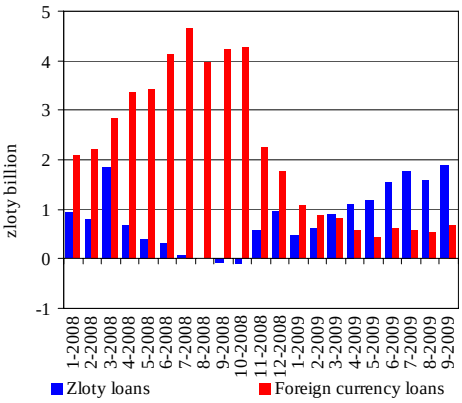


Note: data after excluding the impact of foreign exchange rate changes.
Source: NBP.

Compared to 2008 the share of consumer loans, which display the highest spread above the market rate, increased in the composition of loan types to households in 2009. In the first three quarters of 2009, the average share of consumer loans in new loans to households amounted to around 45%, and in 2008 – around 39% (based on data about the structure of loan increases after excluding the impact of exchange rate changes).

As most banks stopped offering foreign currency-denominated housing loans at the end of the year, the share of zloty loans prevails in the composition of new loans (around 91% in September 2009 and 76% a year earlier – in the case of all types of loans and around 90% and 38%, respectively - in the case of housing loans).

Figure 3.8. Changes (m/m) in the value of housing loans to households - per currency



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

Contraction in lending was to a great extent supported by the tightening of lending policies by banks. After the banks had strongly tightened the terms and standards of granting loans in the fourth quarter of 2008 (the net percentage stood at around –80% to –90%), they continued to tighten their lending policies in subsequent quarters, albeit on a smaller scale [14].

The banks surveyed by the NBP cited primarily the risk related to the expected economic situation and the increase in the share of irregular loans in the portfolio as reasons for tightening lending policies. On the other hand, the significance of banks' capital position, which was indicated as the reason for tightening lending policies by banks in the fourth quarter of 2008 and the first quarter of 2009, diminished, which resulted from retaining large part of profits generated in 2008 at banks and obtaining capital through share issues.

The tightening of lending policies by banks[15] is confirmed by surveys conducted among enterprises. In the second and third quarter of 2009, the share of approved loan requests remained at a low level. The share amounted to around 70% after a fall from the maximum level of around 90% in the second quarter of 2008.

The NBP surveys show that demand factors contributed to the decrease of the lending growth rate to a much lesser degree. According to the banks surveyed by the NBP, demand for loans, after a decline in the fourth quarter of 2008 and the first quarter of 2009, stabilized or even increased slightly in the second and third quarter of 2009.[16] The percentage of enterprises requesting loans increased from the level of 25% in the first quarter of 2009 to 28% in the third quarter of 2009.

In the corporate sector, the rise in demand for loans resulted from increased financing needs for current activities , company restructuring and, in parallel, a decrease in financing needs for fixed investment. In the household sector, the stabilisation of demand for loans was related to the following: falling residential property prices, the fact that the program "First family home" (Rodzina na swoim, see Chapter 2.3.) with subsidies to the interest on housing loans has become widespread, and a continuing rise of consumption.

The banks surveyed by the NBP at the end of the third and beginning of the fourth quarter of 2009 expected a rise in demand for loans in the fourth quarter of 2009. The expected rise in credit demand concerned mainly short-term loans to enterprises and housing loans. The banks planned to tighten lending policies slightly in the majority of credit types. The strongest tightening is expected for consumer loans. Simultaneously, for the first time in two years, the banks expected the lending policy with regard to short-term loans to corporates to be slightly eased.

[14] See "Senior loan officer opinion survey on bank lending practices and credit conditions", NBP, published for individual quarters of 2008-2009 for more information about changes in banks' lending policies.
[15] See "The condition of the non-financial enterprises in Q3 2009 and forecast for Q4 2009", NBP, 2009.
[16] A detailed description of changes in the demand for loans and their factors can be found in "Senior loan officer opinion survey on bank lending practices and credit conditions", NBP, editions from the individual quarters of 2008–2009.

Table 3.3. Irregular loan ratios

	12-2007	12-2008	3-2009	6-2009	9-2009
Non financial customers	5.2	4.5	5.3	6.3	7.0
Enterprises, of which:	6.9	6.2	7.9	10.0	10.8
- zloty loans	7.5	7.0	8.9	11.4	12.4
- foreign currency loans	4.4	3.8	5.3	6.3	6.5
Households, of which:	4.1	3.5	3.8	4.2	4.9
- zloty loans	5.3	5.4	6.0	6.4	7.3
- foreign currency loans	1.0	0.7	0.9	1.1	1.2

Note: a correct interpretation of irregular loan ratios is not straightforward as irregular loans include claims regarded as unrecoverable for a long time that are shown on banks' balance sheets, being already covered by provisions. These issues were thoroughly discussed in the previous issues of *Report* of 2006 and 2007. If all claims regarded as unrecoverable were debited to the reserves account and moved to off-balance sheet memo or sold to special securitisation funds, the irregular loan ratio for the non-financial sector would stand at 4.3% in September of 2009, against 3.0% in March 2009 and 2.3% in December 2008.
Source: NBP.

A slower economic growth rate compared to previous years will probably contribute to a low loan growth also in 2010. Although a high lending growth rate in the period preceding the economic slowdown made it possible for banks to generate high earnings in the short term, it involved accumulation of credit risk and funding liquidity risk, which was indicated in the previous editions of the *Report*[17]". Uncertainty about Poland's growth rate and among Poland's main trading partners may keep lending growth at a low level. Uncertainty about the future economic situation will make if difficult for banks to assess credit risk of both new loans and of the existing loan portfolio, which may reduce banks propensity to extend loans. Loan supply may also be constrained by the worsening quality of loan portfolios and a rise in credit risk cost. A slight acceleration in economic growth, which has been in line with recent forecasts, will support an increase in demand for loans. However, given the constraints on the supply side, this will probably influence the size of lending to a small degree.

The ability of banks operating in Poland to extend loans will also be influenced by the condition of their parent banks. Any further reduction of financial leverage in parent banks in the future [18], may have an impact on their propensity to increase funding for their Polish subsidiaries or to maintain it at the present level.

Taking into account estimates based on qualitative survey data related to changes in banks' lending policies, the fall in the growth rate of lending may be expected to persist - on a yearly basis – until the end of the first half of 2010.[19] Afterwards, during the next few quarters the yearly loan growth rate is most likely to remain at a low level. Future lending growth will, however, depend to a great extent on banks' decisions as regards the standards and terms of granting loans.

[17] E.g. "Financial Stability Report June 2008", p. 29: "However, the sector's long-term stability outlook is much worse than the present situation as credit risk accumulates in banks' balance sheets, due to broadening of the customer base and to a strong promotion campaign targeting the segment of less affluent customers. International experience and the situation in Poland in 1998-2003 indicate that a rapid growth in lending in the upward phase of the business cycle may generate loan losses to banks in the period of an economic slowdown to follow.

[18] IMF estimates that banks in developing countries have so far shown only half of the loss tied with credit exposures (see "Global Financial Stability Report – October 2009", IMF, p. 9.). Recognition of further losses, to the extent that it would lead to a reduction in banks' capital, may trigger the need for a reduction of total assets of these banks to reduce the leverage.

[19] Assuming that the standards and terms of granting loans will not change in two-year time horizon.

3.3. Credit risk

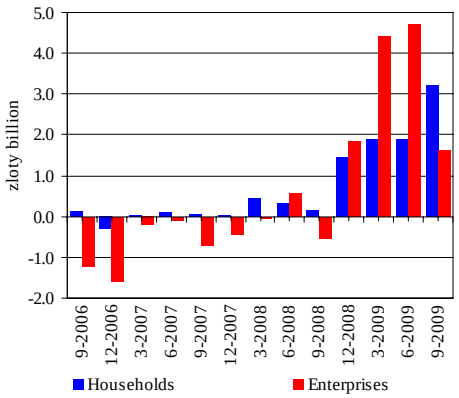
Since the publication of the last Report the upward trend of value of irregular loans has consolidated and their share in total loans has significantly increased. In the coming quarters, unfavourable trends with regard to the development of the value of irregular loans may be expected to deepen, which will push up the charges to impairment provisions.

3.3.1. Banks' credit risk premium and cost

In the second and third quarters of 2009, the scale of materialisation of credit risk, which was accumulated in banks' loan portfolios in times of good economic situation, was increasing. The value of irregular loans of enterprises and households considerably rose (see Figure 3.9), which coupled with a relatively lower lending growth rate led to the increase of irregular loan ratios (see Table 3.3).

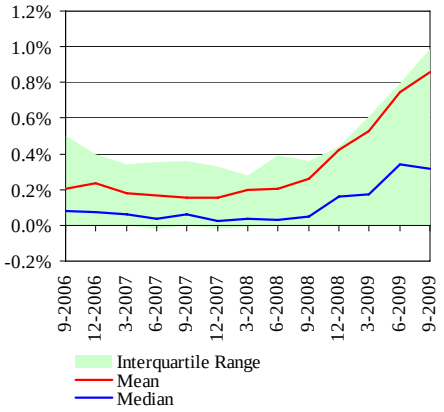
The deterioration of the quality of banks' loan portfolios resulted in the growing burden of cost of credit risk materialisation on net income from banking activity. The value of charges to provisions for impaired receivables rose over threefold (see Table 3.2), which was reflected in the increase of burden ratios of charges to provisions on assets and net income from banking activity (see Table 3.1). Such a pronounced growth in credit risk cost may result from underestimation of risk in the period of favourable economic conditions, which was pointed out in the previous issues of the *Report*.

Figure 3.9. Quarterly changes in the value of irregular loans



Note: data adjusted for exchange rate movements.
Source: NBP.

Figure 3.10. Ratio of net charges to loan impairment provisions to assets



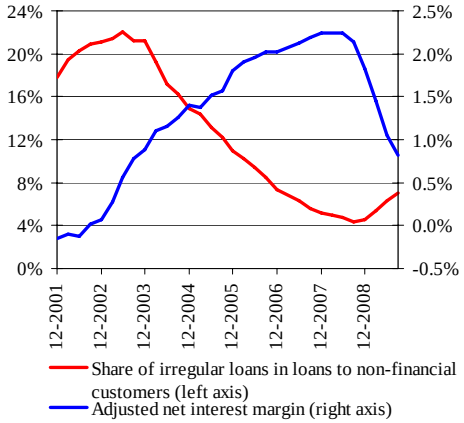
Note: data annualised.
Source: NBP.

Differentiation of banks with regard to ratios of charges to provisions for impaired receivables to average assets increased markedly (see Figure 3.10). Among the banks with the highest ratio there is a large group of universal banks and banks specialised in consumer lending.

[20] Under the current financial reporting and prudential reporting standards, net interest income does not include all interest income and expense of banks. Income and expense arising from interest rate transactions in derivatives concluded by banks (in particular IRSs and CIRSs) are unaccounted for in net interest income. In economic terms, these transactions often hedge interest income and expense against interest rate volatility, but due to formal requirements

Banks' credit risk (and liquidity risk) premium, i.e. net interest income and net interest margin, decreased considerably in comparison with the period analysed in the previous edition of the *Report* (see Table 3.2 and 3.1)[20]. These decreases stemmed primarily from competition for the sources of funding and from the reduction in banks' own credit risk appetite. Interbank competition for the deposits of non-financial sector customers led to a considerable increase in interest expense (more on the subject in Section 3.5). On the back of a relatively low lending growth rate, interest income remained almost unchanged from the third quarter of 2008, despite an increase in credit spreads.

Figure 3.11. Adjusted net interest margin and the share of irregular loans in the loan portfolio



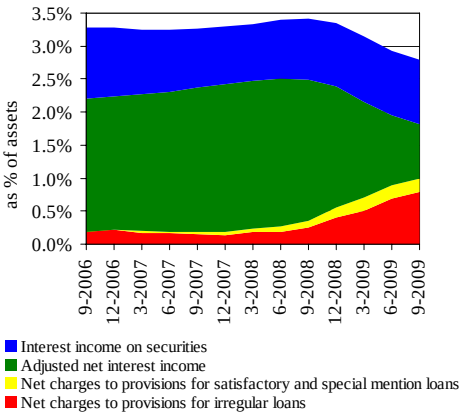
Note: net interest margin annualised.
Source: NBP.

The developments discussed above resulted in the fall of the so-called adjusted net interest margin which measures the profitability of intermediation between borrowers and savings holders (see Figure 3.11). Over half of net interest income excluding interest income on securities (mostly Treasury bonds and bills) was used for the creation of charges to provisions for impaired loans (one third in March 2009 and nearly 15% in September 2008, see Figure 3.12).

At several large commercial banks and in many banks specialising in consumer finance, the costs of charges to provision for impaired loans exceeded 75% of net interest income on lending activity.

Adjusted net interest margin is expected to decrease further in the coming quarters. On account of a lagged impact of the economic slowdown on the quality of the loan portfolio, the cost of credit risk materialisation will remain high.

Figure 3.12. Net interest margin



Note: data annualised.
Source: NBP.

3.3.2. Credit risk of corporate loans

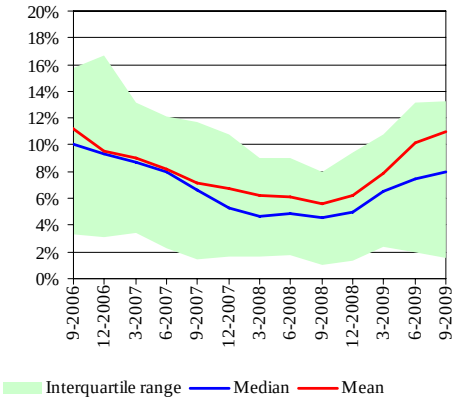
In the first three quarters of 2009, the value of irregular loans to corporates significantly rose (by around 37% in March-September 2009 and nearly 100% from September 2008 to September 2009). In September 2009, the non-performing loan ratio stood at 10.8% (see Figure 3.13).

Changes in values of irregular loans differed across sections of industry (see Table 3.4) and were also different depending on the size of corporates. The highest increase in the value of irregular loans was recorded in *manufacturing*, where the non-performing loan ratio increased markedly (see Table 3.4). Estimates show that the growth rate of the value of irregular loans is

they are not included in hedge accounting).

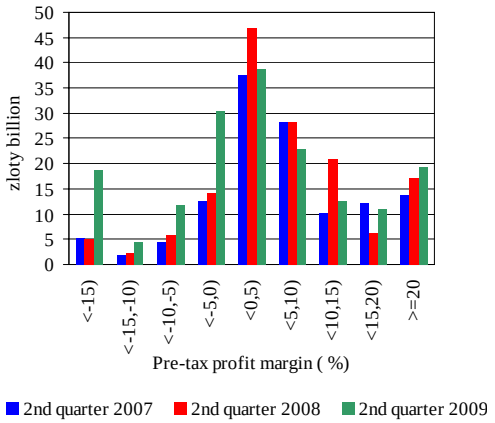
higher in the group of small- and medium-sized enterprises than in the group of large ones.

Figure 3.13. Irregular loan ratio for corporates



Source: NBP.

Figure 3.14. Distribution of debt of enterprises by pre-tax profit (annualised)

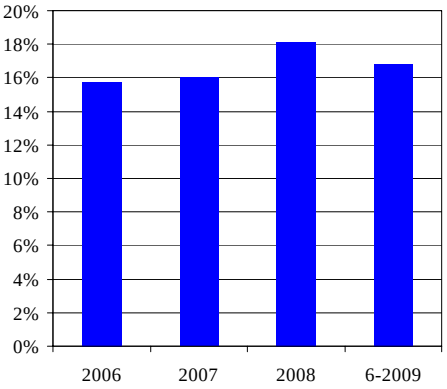


Note: debt includes advances and loans.
Source: NBP calculations based on GUS data.

The economic situation in the corporate sector improved slightly in comparison with the end of 2008[21] Since the beginning of 2009, enterprises have improved their income from the sale of products, goods and materials. . In the second and third quarter of 2009, an improvement of the profitability of enterprises was observed, however the pre-tax profit margins for enterprises in the first three quarters of 2009 were lower than in previous years.

The improvement of earnings of the corporate sector is accompanied by an increasing diversity of borrowers in terms of profitability ratios. The share of borrowers posting negative pre-tax profit margins is rising (see Figure 3.14). This means that more debt is concentrated in the group of enterprises that have not improved sales and whose cost to income ratio worsened.

Figure 3.15. Percentage of enterprises with negative value of cash flows from operating activities (annualised)



Note: calculations for a fixed sample of enterprises which have been present in the database in all analysed periods
Source: NBP calculations based on GUS data.

In comparison with the end of 2008, the financial liquidity of the corporate sector has slightly improved (see Figures 3.15 and 3.16). The liqudity position of enterprises in the first half of 2009 was still worse than in the years 2006–2007, which is confirmed by a higher percentage of enterprises reporting negative cash flows from operating activities, a lower value of the ratio of coverage of loans and other liabilities with cash flows, and

[21] For details of developments in the corporate sector, see "Informacja o kondycji sektora przedsiębiorstw ze szczególnym uwzględnieniem stanu koniunktury w III kwartale 2009 r. oraz prognoz na IV kwartał 2009 r." ["Information on the condition of the enterprise sector, including the economic climate in 2009 Q3 and forecasts for 2009 Q4"], NBP, 2009. Available in Polish only, with synthesis in English.

longer periods for settling liabilities. Survey data also indicate that the percentage of enterprises reporting no delays in repayment of banking and non-banking debt is lower than in 2008[22].

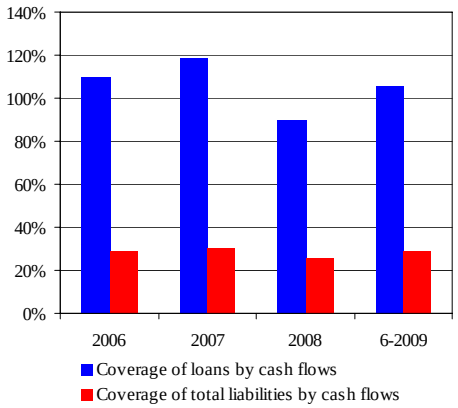
Table 3.4. Irregular loans to corporates (the so-called large exposures) by sections of the economy (%)

Section	Total loans by section	Irregular loans in section	Irregular loans in sections	
			percentage of section portfolio	of which classified as loss
A – Agriculture	1.5 (1.5)	1.9 (4.4)	10.2 (11.0)	6.4 (8.5)
B – Fishing	0.01 (0.01)	0.0 (0.0)	0.0 (6.7)	0.0 (0.0)
C – Mining	0.9 (0.8)	2.7 (1.8)	24.6 (8.3)	0.8 (0.8)
D – Manufacturing	30.5 (31.0)	41.5 (36.4)	11.0 (4.5)	3.9 (2.5)
- of which: food processing	6.4 (6.5)	10.4 (11.0)	13.1 (6.5)	6.2 (4.3)
E – Electricity, natural gas and water supply	4.8 (4.7)	0.9 (1.0)	1.5 (0.8)	0.8 (0.7)
F – Construction	10.6 (10.5)	10.9 (9.9)	8.25 (3.6)	2.0 (1.5)
G – Retail trade and repairs	19.3 (19.9)	15.1 (18.4)	6.3 (3.6)	3.1 (1.9)
H – Hotels and restaurants	1.9 (1.5)	3.0 (3.3)	12.9 (8.4)	2.1 (1.8)
I – Transport and communication	5.0 (5.1)	3.9 (4.2)	6.4 (3.2)	2.0 (1.0)
J – Financial intermediation	10.4 (9.8)	1.0 (2.2)	0.8 (0.9)	0.5 (0.8)
K – Real estate, research and services for enterprises	23.1 (22.5)	18.5 (18.3)	6.5 (3.1)	1.5 (1.2)
L – Public administration, defence and compulsory social security	6.7 (5.4)	0.1 (0.2)	0.1 (0.1)	0.01 (0.02)
M – Education	0.3 (0.3)	0.3 (0.6)	8.1 (7.8)	4.0 (1.5)
N – Health care	1.0 (0.9)	0.3 (0.5)	2.6 (2.3)	0.7 (0.5)
Other	1.2 (1.2)	0.8 (1.2)	5.1 (3.8)	2.6 (2.6)
Total (excluding Sections J and L)	85.3 (86.7)	98.8 (97.6)	8.1 (3.9)	2.7 (1.9)
Total value (excluding Sections J and L). (billion zloty)	340.2 (351.1)	–	27.4 (13.6)	9.1 (6.5)

Notes: data for September 2009, in brackets - data for September 2008; by NACE-2004 sections of the economy; data in the Table include claims arising from advances and loans, debt purchased, cheques and bills of exchange, guarantees realized, other similar claims and off-balance 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 zlotys.
Source: NBP.

[22] see "Informacja...", *op.cit.* and "Portfel należności polskich przedsiębiorstw" ["Portfolio of Claims of Polish Enterprises"], National Debt Register, 2009.

Figure 3.16. Ratio of the value of cash flows from operating activities (annualised) to total liabilities of enterprises



Note: calculations for a fixed sample of enterprises which have been present in the databases in all analysed periods.
Source: NBP calculations based on GUS data.

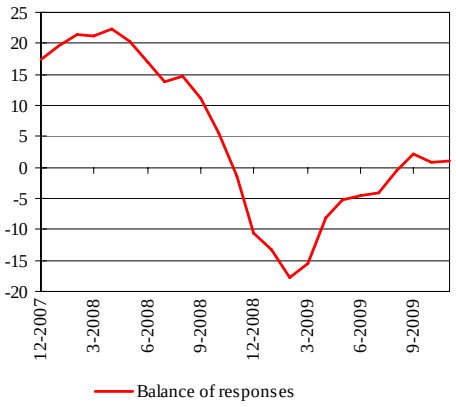
In the coming quarters, the value of irregular loans may be expected to increase further, mainly due to a significant slowdown of economic growth. At the same time however, if the market-expected scenario of a quick exit from recession of the developed economies that are Poland's main trading partners materialises, the value of irregular loans may grow in the coming months slower than before. The indicators of economic sentiment also point to an improvement of enterprises' expectations in the third quarter of 2009 with regard to future economic growth [23] (see Figure 3.17).

If enterprises' expectations concerning higher demand and a larger number of orders do not materialise, the capacity of enterprises to repay loans may be at risk [24]. For exporters, a potential halt to improvement in the economic situation or renewed deterioration of the economic situation abroad remains a risk factor. For non-exporting enterprises, it is important that domestic individual and public consumption remains at the current level. A fall in external or internal demand could reduce enterprises' profits from core operations, thereby compromising their capacity to generate cash necessary to settle banking and non-banking liabilities.

Depreciation of the zloty and growth of market interest rates could also adversely affect the liquidity of enterprises. Should this scenario materialise, costs of servicing outstanding loans and of raising new financing would grow.

A relatively low financial leverage of the corporate sector (see Figure 3.18) might have a mitigating effect on the sensitivity of enterprises to shocks originating in the financial system. This indicator has not been rising significantly in the past few years.

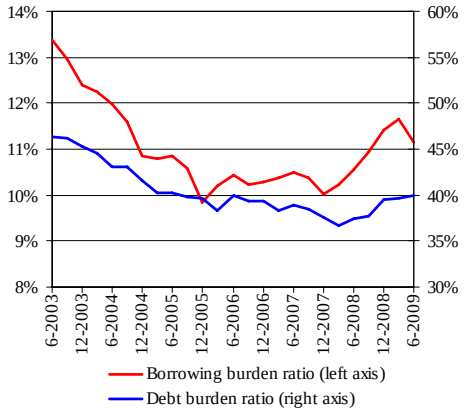
Figure 3.17. Business tendency survey in manufacturing



Note: balance of responses: difference between the percentage of enterprises reporting improvement and deterioration of the general economic condition.
Source: GUS.

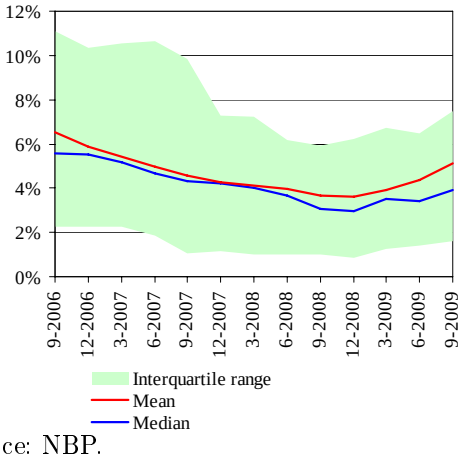
[23] Leading Indicator published by the Bureau for Investments and Economic Cycles (BIEC), NBP surveys ("Informacja...", *op.cit.*), business tendency indicators released by GUS and the PMI (Purchasing Managers' Index) published by Markit Economics.
[24] See "Informacja...", *op.cit.*

Figure 3.18. Financial leverage



Note: indicators calculated for all enterprises with employment over 49. Data include domestic and foreign debt.
Source: NBP calculations based on GUS data.

Figure 3.19. Irregular loan ratios for households



Source: NBP.

3.3.3. Credit risk of the loan of portfolio to households

Since the publication of the June issue of the *Report*, the quality of loans to households further deteriorated, which was mainly related to a slower economic growth and a lagged effect of a lenient lending policy of the past periods. The value of irregular loans rose considerably, although at a lower rate than in the case of loans to corporates (by around 33% since March 2009 and 75% since September 2008). The irregular loan ratio increased to 4.9% at the end of September 2009 (see Figure 3.19 i tabela 3.3).

Housing loans

The quality of housing loans still remains good although it deteriorated over the past year. The amounts of increases of irregular loans were low in relation to the size of loan portfolios. Therefore, the increase of the irregular loan ratio was relatively modest and much lower than in the case of consumer loans (see Table 3.5).

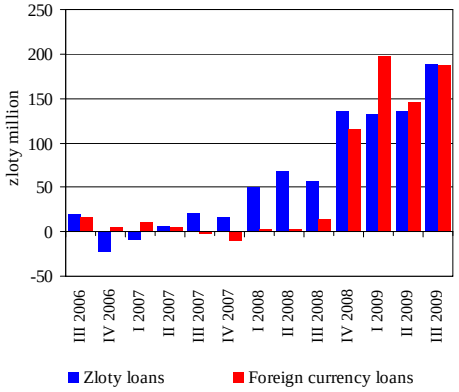
Foreign currency-denominated loans accounted for a considerable share in banks' loan portfolio of housing loans (66.7% at the end of September 2009; in the case of consumer loans, this share was 7.2%).

Table 3.5. Irregular loan ratios for consumer and housing loans to households

	12-2007	12-2008	3-2009	6-2009	9-2009
1. Housing loans, of which:	1.2	1.0	1.1	1.2	1.4
- zloty loans	1.7	2.0	2.2	2.3	2.4
- foreign currency loans	0.7	0.6	0.7	0.8	0.9
2. Consumer loans, of which:	6.6	6.6	7.3	8.0	9.4
- zloty loans	6.8	7.0	7.7	8.4	9.9
- foreign currency loans	2.8	2.1	2.6	3.3	3.4

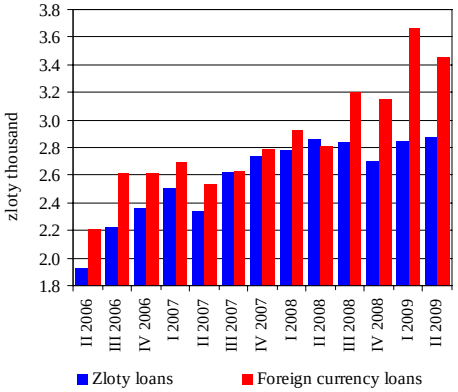
Source: NBP.

Figure 3.20. Quarterly changes in value of irregular housing loans to households



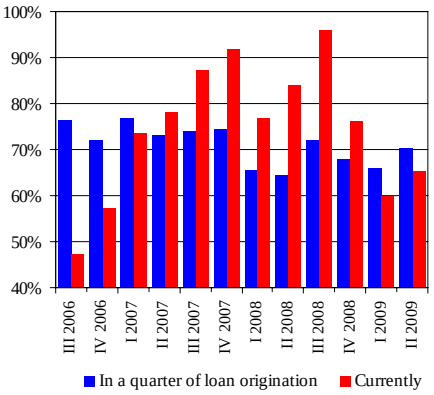
Note: data adjusted for exchange rate movements.
Source: NBP.

Figure 3.21. Average income per person at the time of loan origination



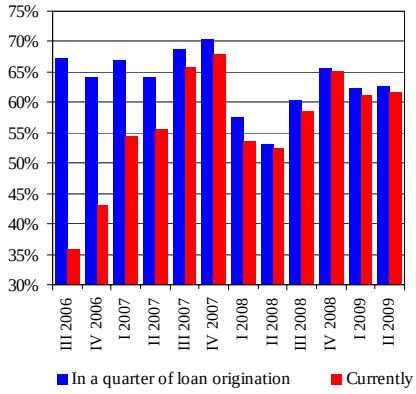
Source: NBP estimates based on data from an additional question to senior loan officer opinion survey.

Figure 3.22. Average LTV of Swiss franc-denominated housing 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 16 October 2009.
Source: NBP estimates based on data from an additional question to a senior loan officer opinion survey.

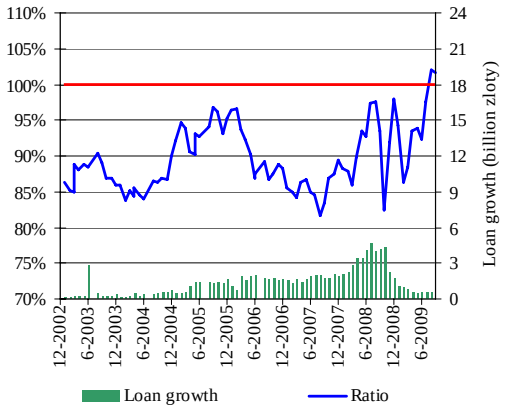
Figure 3.23. Average values of LTV for zloty housing loans by quarter of loan origination



Assumptions: estimates of the current average value of LTV were made on the basis of average LTV at the time of loan origination, average maturity of loans taken out in the particular quarters of the survey period and changes in transaction prices of flats in the surveyed period.
Source: NBP estimates based on data from an additional question from a senior loan officer opinion survey.

The quality of foreign currency-denominated housing loans was higher than that of zloty housing loans (see Table 3.5), which is in line with the conclusions from survey data[25] indicating the higher, on the average, capacity to service loans in the group of households that took out foreign currency-denominated loans. The households–borrowers who were repaying these loans were characterised by a higher average income per person (see Figure 3.21). For the larger part of the surveyed period, these borrowers had, on the average, a higher income buffer[26].

Figure 3.24. The ratio of the current loan instalment to the instalment at loan origination, against monthly loan growth



Assumptions: Swiss franc-denominated loan of maturity of 25 years, repaid in equal principal instalments (decreasing interest instalment), present instalment calculated on the basis of Swiss franc exchange rate and LIBOR 3M rate of 30 September 2009 and the average spread on Swiss franc loans at the time of origination; loan growth excluding the impact of foreign exchange rate movements.
Source: NBP.

The low Swiss franc market interest rates had a favourable impact on the quality of foreign currency-denominated housing loans in the past year[27]. The simulations show that the increase in the debt servicing costs for Swiss franc-denominated housing loans, related to the depreciation of the zloty in the first three quarters of 2009, was more than compensated by a reduction of the amounts of interest instalments, resulting from a sharp fall of money market interest rates in the period (see Figure 3.24).

However, the depreciation of the zloty had negatively impacted the extent to which collateral covers the value of housing loan. The estimates indicate that current average LTV ratios of foreign currency-denominated housing loans extended in each of the quarters of the years 2007–2008 are higher than at loan origination (see Figure 3.22).

In the case of housing loans denominated in zloty, the situation is much more favourable in this respect. Current average LTVs for loans taken out in all the quarters of the surveyed period are lower than at loan origination (see Figure 3.23).

Consumer loans

The quality of consumer loans is much lower than that of housing loans, and diverged substantially since the publication of the June issue of the *Report* (see Table 3.5 and Figure 3.25).

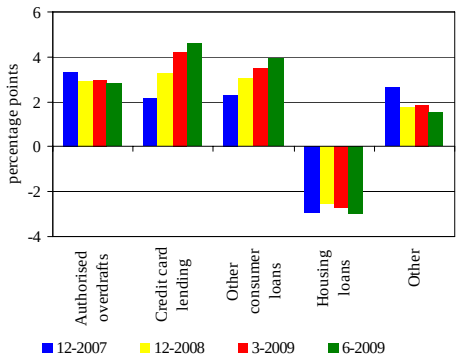
The highest growth of the irregular loan ratio (respectively by 2.6 percentage points and 4.3 percentage points in the past 6 and 12 months) concerned credit card lending. When assessing the scale of threats arising from the deterioration in the quality of credit card loans, it should be kept in mind that in terms of value these loans still account for a relatively small part of consumer loans (9.5% at the end of September 2009).

Deterioration in the quality of consumer loans in the past several quarters was significantly higher

[25] Additional questions in the quarterly NBP senior loan officer opinion surveys. The questions concerned housing loans taken out in the period: 2nd quarter 2006 – 2nd quarter 2009. Housing loans extended in this period constitute a vast majority of the portfolio of housing loans. In this period, the value of housing loans almost quadrupled.
[26] A higher income buffer indicates that the borrower's capacity to service a loan is higher.
[27] Swiss franc is a dominant currency of foreign currency-denominated housing loans. At the end of June 2009, the share of Swiss franc-denominated loans in foreign currency-denominated housing loans amounted to over 95%.

in retail banks specialising in consumer finance, including banks that offered consumer loans in cooperation with retail chains. In the case of some banks, the process of deterioration of the quality in consumer loans has accelerated significantly since the publication of the previous *Report*.

Figure 3.25. Quality of main types of loans to households

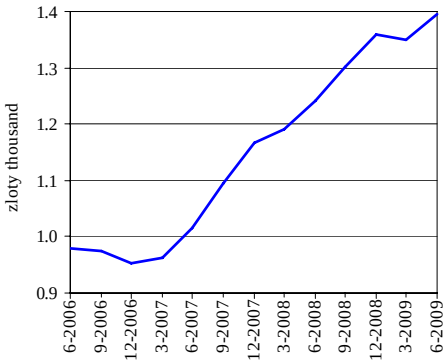


Note: the figure shows the difference between the values of irregular loan ratios for specific types of credit and the average irregular loan ratio for loans to households.
Source: NBP.

The more severe deterioration in the quality of consumer loans than in the quality of housing loans in the recent period may be attributed to differences in the structure of the population of households repaying consumer and housing loans, which is visible in household budget surveys. The group of households repaying mortgage loans is characterised by a high share of households with higher education (43.6%[28]) and residing in the biggest cities with population over 500,000 (23.6%). In the case of households repaying non-mortgage loans, the percentages are much lower (18.7% and 13.2%, respectively) and close to average in the whole population. GUS statistics on unemployment rate growth by education and place of residence show that the sensitivity of the population of persons with higher education and residing in the biggest cities to the worsening situation in the labour market is much lower than average.

The quality of credit card loans is deteriorating while cards are being more frequently used as a funding source for expenditures of households. In the past two years, as the number of credit cards increased, there was a marked increase of average balance per credit card (see Figure 3.26). Survey data received from banks[29] also show a rise in the average limit utilisation for credit cards in the surveyed period (see Box 1).

Figure 3.26. Average balance per credit card



Source: NBP estimates based on data from 31 banks with a 99% share in the market of credit cards at the end of the first half of 2009.

[28] Source: NBP estimates based on GUS "Household Budget Survey in 2008".
[29] Source: an additional question from a senior loan officer opinion survey from the fourth quarter of 2009.

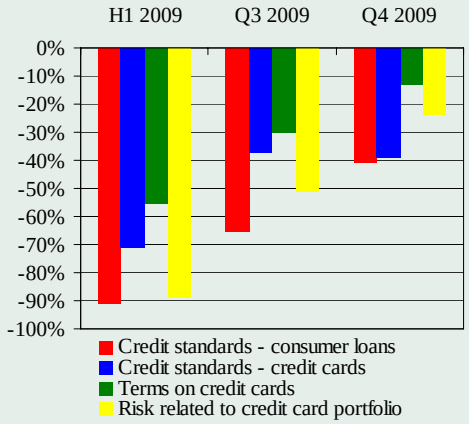
Box 1. Credit card lending

This Box presents an overview of responses to an additional question in the senior loan officer opinion survey addressed to the chairpersons of banks' credit committees, conducted by the NBP at the turn of September and October 2009. The share of surveyed banks in credit card lending to individuals exceeds 90%.

Similarly as in the case of consumer loans, the banks considerably tightened the standards and terms of credit card lending in 2009. Changes in the segment of credit cards were made by a slightly smaller percentage of banks than in the segment of consumer loans (see Figure 1). Similarly as in other segments of the credit market, the scale of the tightening of credit card lending policy was the largest in the first half of 2009. The banks' declarations show that a contraction in loan supply in the credit card market gradually came to a halt in the second quarter of 2009.

According to a firm majority of the banks, the first half of the year saw in increase in credit risk related to credit card lending to individual customers (see Figure 1), with 37% of the banks considering the increase as significant. The risk continued to grow in the third quarter of 2009, and the banks expect this growth to continue in the fourth quarter of 2009.

Figure 1. Changes in lending policy and risk assessments in segment of credit cards

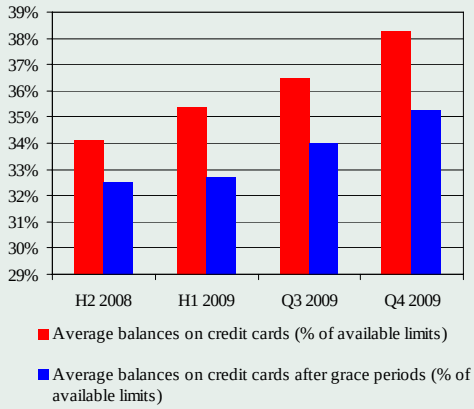


Note: net percentage - the difference between the percentage of banks that eased their lending policies and the percentage of banks that tightened their lending policies. For the fourth quarter of 2009, banks' expectations were presented.
Source: NBP survey.

The banks' decisions to tighten standards of issuing credit cards were largely related to assessments of credit risk developments. In 80% of the cases in which the standards of issuing credit cards were tightened, increased credit risk was also seen by the banks.

Although the lending policy was tightened in the segment of credit cards, the value of credit card lending significantly increased in the course of 2009. However, the credit card lending growth slowed from around 3-4% (month-to-month) in 2008 to around 0.6-2% (month-to-month) in 2009.

Figure 2. Utilisation of credit card limits

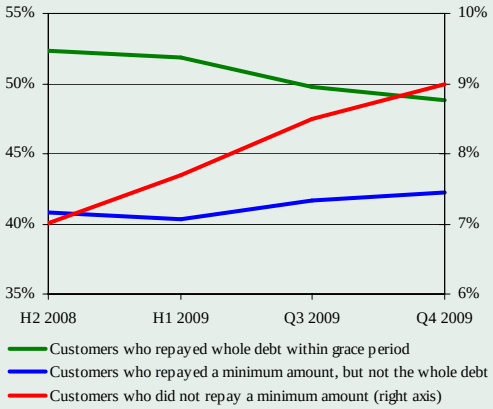


Note: for the fourth quarter of 2009, banks' expectations were presented.
Source: NBP survey.

The rise in the average balances on credit cards from 34.1% of available limits in the second quarter of 2008 to 36.5% in the third quarter of 2009 (see Figure 2) contributed to overall growth in credit card lending. The banks expect the utilisation of credit card limits to grow further in the fourth quarter of 2009. The increase in the average balances concerns, to a similar extent, customers repaying debt after grace period.

Average balances on credit cards vary across banks and range from 20% to 70%. They are markedly higher for banks focused on consumer finance than for large universal banks. This development shows a relative prevalence of customers with low income buffers at banks focused on consumer finance[1]. This may result from their more lenient lending policies, which attracts more risky customers.

Figure 3. Composition of customers using credit cards



Note: for the fourth quarter of 2009, banks' expectations were presented.
Source: NBP survey.

The growth in credit risk, as indicated by the banks, is confirmed by data on the composition

of the population of customers who use credit cards. The percentage of the customers who are not capable of repaying a minimum amount has steadily risen since the second half of 2008 (see Figure 3), with the banks expecting the figure to rise to around 9%.

[1] It is worth pointing out that these banks are generally strongly specialised in providing consumer finance services (instalment loans, cash loans and credit cards often issued in cooperation with retail chains.)

A group of borrowers burdened with the repayment of a large number of loans had a significant adverse impact on the quality of consumer loans. The estimates made by BIK show that customers repaying at least 10 non-mortgage loans accounted for around of 1.1% of borrowers owing liabilities related to consumer loans at the end of August 2009. As the average total indebtedness of these customers was significantly higher than the average, their share in consumer loans was around 3.8%.

BIK data indicate that the quality of loans extended to this group of customers is much lower than in the case of the remaining borrowers. According to BIK calculations, the share of non-mortgage loans in arrears of more than 90 days in loans taken out by these customers amounted to around 20.6% (in the case of the remaining customers who took out consumer loans, i.e. who took out fewer than 10 loans, this share is 3.3%). It should be pointed out that when a customer is in arrears of more than 90 days on at least one loan, the repayment of part of the remaining loans, on a regular basis, may also be at risk. In an extreme case, if calculations included all loans to customers who have taken out more than 10 non-mortgage loans, the ratio of riskier loans in this group of customers would amount to 33.4%.

***

On the basis of the expected economic outlook, the capacity of the sector of households to service debts in the quarters to come will remain affected by unfavourable economic conditions, primarily due to the expected further worsening of the situation in the labour market[30]. For the years 2010–2011, the unemployment rate is forecasted to rise further, coupled with a decrease in the wage and employment growth. According to economic forecasts, fall in employment and rising unemployment may also persist in the early period of an economic recovery. Due to this development, the deterioration in the quality of loans to households may last longer than in the case of corporate loans. However, estimates of the impact of unemployment rate on the capacity of the households' sector to service loans do not indicate that given the current expectations concerning the scale of unemployment growth, this might generate systemic risk.

According to simulations based on data from GUS Households Budget Surveys (2008), the rise of the unemployment rate of the size assumed in "Inflation Report - October 2009", i.e. by 3.8 percentage points until the fourth quarter of 2011 would cause the percentage of households with a negative income buffer to increase by around 1.8 percentage points[31]. In the shock scenario of the simulation (described in Chapter 3.6) that assumes the rise of the unemployment rate by 7.6 p.p. till the end of 2011, the increase of the

[30] More on expectations regarding the condition of households in: "Inflation Report – October 2009", NBP.
[31] Assuming that the job-losing persons would not be provided with unemployment benefits, the percentage of households with a negative income buffer would rise by around 2.9 percentage points.

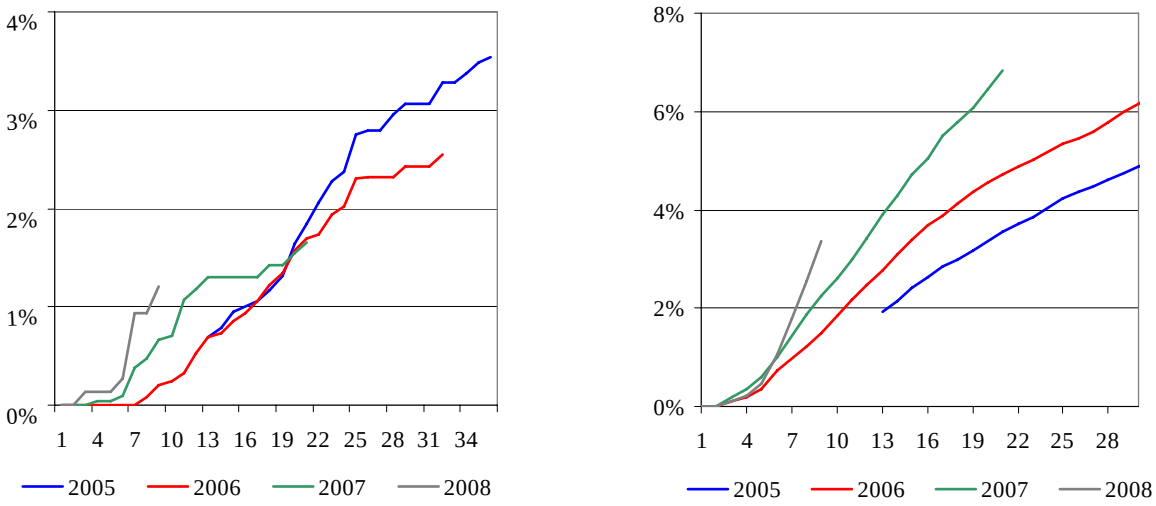
share of households with a negative income buffer amounts to around 3.7 percentage points[32].

The risk to the quality of loans related to a depreciation of the zloty does not seem high, either. The results of the simulation based on BIK data indicate that[33] a 30% decrease in the value of zloty would result in the increase of the share of households with a negative income buffer by around 1.5–2 percentage points from the level of 10–15% in July 2009[34].

It should be emphasized that the increase in the percentage of households with a negative income buffer does not translate into the same scale of irregular loans ratio rise due to the fact that households may use their assets to repay loans and because of households' incomes unaccounted for in official statistics.

The aging housing loan portfolio will have negative impact on the quality of the household loans. Historical data show that the value of loans in arrears tend to increase steadily in the first years after loan origination (see Figure 3.27). On account of the high value of loans extended in the past three years, this process will have an influence on the further increase in the value of irregular loans in the coming quarters, especially in the case of housing loans.

Figure 3.27. Cumulated fraction of loans in arrears in the successive months of the loan contract: housing loans (left-hand panel) and consumer loans (right-hand panel)



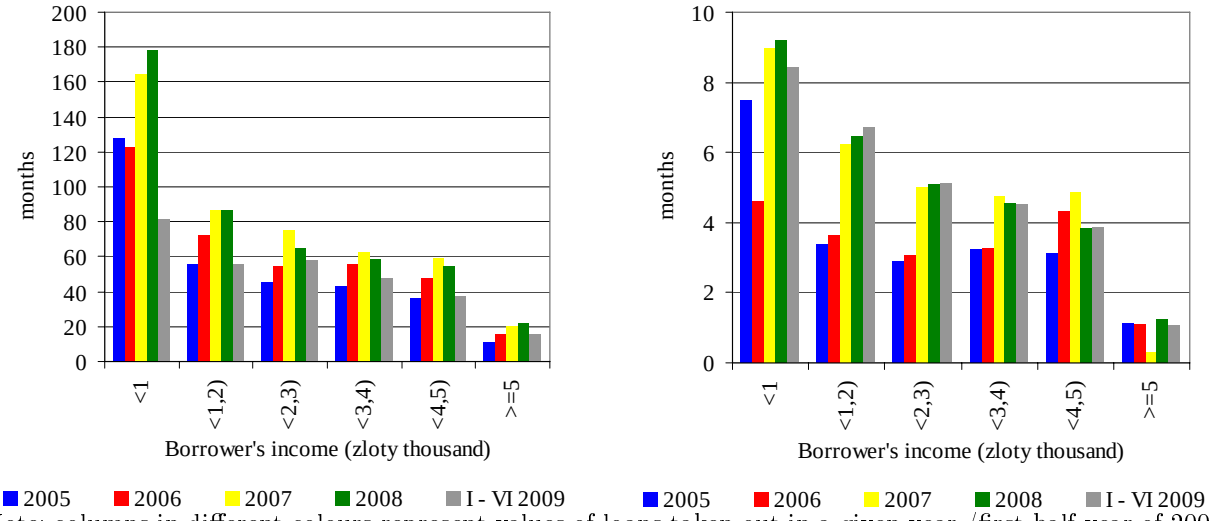
Notes: lines in different colours represent the percentage of loans in arrears at least over 90 days, by year of origination; data on consumer loans are presented for the first 30 months of the loan, as this is the average maturity of consumer loans; data for the repayment record in initial 12 months are not available for loans extended in 2005; the curve for loans extended in 2009 is not presented, as no adequately long repayment record was compiled for that year.
Source: NBP estimates based on BIK data.

[32] Assuming that the job-losing persons would not be provided with unemployment benefits, the percentage of households with a negative income buffer would grow by around 5.7 percentage points.
[33] Data presented in this paragraph are based on NBP estimates conducted on the basis of a representative sample of BIK data.
[34] The estimates are made on the basis of borrowers' income as at loan origination (the upper bound of the range), and under the assumption that borrowers' income is indexed according to the nominal wage growth index in enterprises (the lower bound of the range).

Last year's changes in banks' lending policy towards households should exert a positive influence on the quality of loans in the future. In the past several quarters, banks tightened their standards and terms of granting loans to households[35]. Previously, the lending policy of some banks was too lenient, as pointed out in the issues of the *Report* from the years 2007–2008.

A relatively significant decrease in the loan-to-income ratio on housing loans extended in the first half of 2009, especially to households from the lower income brackets, was one of the consequences of tighter banks' lending policy (see Figure 3.28). Lower burden on borrowers' income should support good loan repayment performance in the future. From the credit risk standpoint, the other positive development is that some banks cease to originate consumer loans to "external" customers, where proper risk assessment is difficult due to a small range of available data.

Figure 3.28. Average loan-to-monthly-income ratio for households taking out a housing loan (left-hand panel) and consumer loan (right-hand panel)



Note: columns in different colours represent values of loans taken out in a given year /first half year of 2009.
Source: NBP estimates based on BIK data.

From the point of view of credit risk, a significant decrease in the growth rate of the number of credit cards issued in the course of 2008 should also be considered a favourable development. In the case of some of large universal banks, the number of credit cards issued decreased in the first half of 2009. It seems that this reflects banks' policy to withdraw from aggressive policy of expanding their client base, irrespective of their creditworthiness. It has to be noted, however, that this trend is not followed by the entire sector. At some retail banks that specialise in consumer finance, the growth rate of the number of credit cards remains high.

Given no changes or modest changes in lending standards at some banks, an increase in the risk of adverse selection of borrowers in the case of new loans may be an unfavourable aspect of a strong rise in spreads and other non-interest credit costs. If assessment of creditworthiness at some banks is too liberal, this could adversely impact the quality of new loans.

[35] See "Senior loan officer opinion survey - on lending practices and loan conditions", NBP, quarterly editions from the years 2008–2009.

Despite a generally positive direction of recent developments in banks' lending policy in terms of exposure to credit risk, in the coming quarters values and ratios of irregular loans can be expected to grow further, mainly because of a high share of loans extended in the period of lenient lending policy. Given the expected worsening of the condition of the households' sector, this will have a negative influence on the quality of loan portfolio.

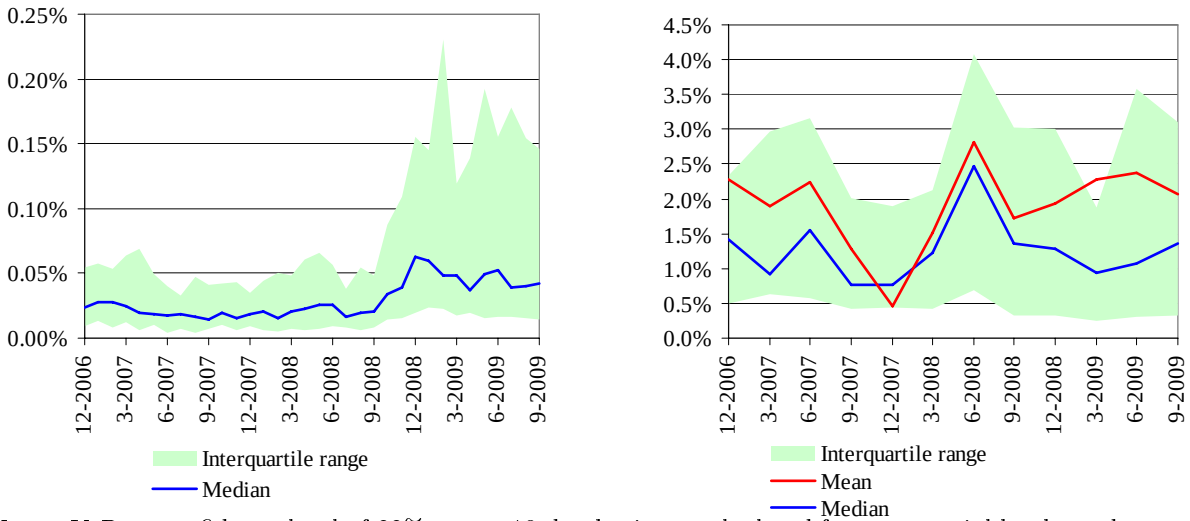
In the longer term, high spreads, notably on housing loans taken out for 10–20 years, may turn out to be a problem in the next phase of the business cycle, when central banks raise official interest rates. The rise in loan servicing costs may become a big burden for borrowers, unless it is matched by an increase in incomes.

3.4. Market risk

As the situation on the domestic financial market was improving, market risk taken by the banking sector diminished, remaining at a low level. As in the past, the essential element of risk is the risk that transactions hedging an open balance-sheet FX position related to foreign currency-denominated loans extended by banks will not be rolled over.

The main sources of market risk in the Polish banking sector are: the long balance-sheet FX position and the portfolio of fixed-rate securities, mainly government bonds. FX and interest rate risk related to these assets are hedged by banks with derivatives. The banks only buy shares of public companies at their own account in exceptional cases. In consequence, banks' exposure to market risk is low.

Figure 3.29. *Value at Risk* for FX risk (left-hand panel) and joint FX and interest rate risk (right-hand panel) in the banking sector



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

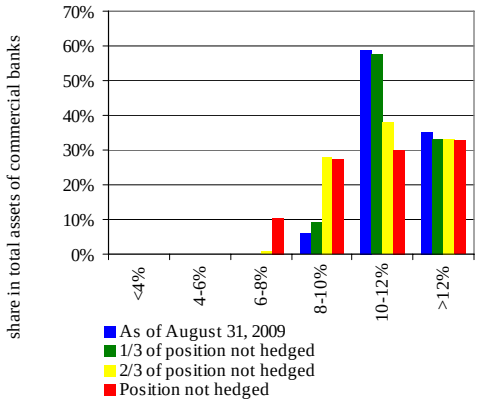
VaR for FX risk remains low. After an abrupt rise in the fourth quarter of 2008, the median value at risk stabilised (see Figure 3.29, left-hand panel) in connection with the fall of the volatility of the zloty exchange rate (see Figure 2.7).

General interest rate risk borne by the banking sector remained close to the levels recorded in March 2009. However, the scale of interest rate risk in individual banks was strongly discrepant; at several small and medium institutions it significantly exceeded average values for commercial banks (see Figure 3.29, right-hand panel).

It should be noted that value at risk does not take into account several risk types which may weigh significantly on the net income of financial operations of the banking sector. In standard market conditions, when a financial market is liquid and arbitrage is in place, this measure reflects the level of market risk taken by banks quite well. When the market is not liquid, banks may be incapable of rolling over maturing hedging transactions (such as FX swaps) or the cost at which they are rolled over may considerably exceed the cost of a maturing transaction. In the event of being incapable of rolling over hedges, the bank's capital requirement for FX risk would grow [36]. On the other hand, if arbitrage does not function on the market, hedging may become ineffective, which exposes the banks to the so-called basis risk. Its elimination is either difficult or even impossible.

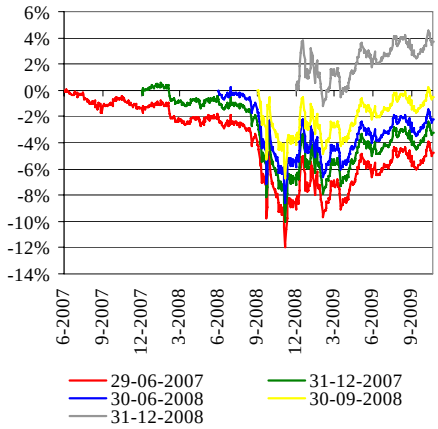
However, banks were able to roll over their hedges, also using support provided by their foreign parent entities. Banks could also use swap facilities offered by the NBP. It should be noted that the availability of swap facilities provided by the NBP effectively prevents the materialisation of risk of inability to roll over hedges.

Figure 3.30. Capital adequacy ratio of commercial banks when FX risk hedges are not rolled over



Notes: zloty exchange rate at the level of end of August 2009 and inability to close part or total balance-sheet FX position were assumed.
Source: NBP.

Figure 3.31. Valuation of a bond hedged with IRS



Notes: the simulation assumes that a 10-year benchmark government bond was purchased and at the same time a short position in 10-year IRS was opened to hedge against interest rate risk. Valuation of the position is presented as % of bond par value.
Source: NBP calculations based on Bloomberg data.

Figure 3.30 shows the impact of the hypothetical lack of rollover of maturing hedging transac-

[36] Exchange rate movements resulting from zloty exchange rate fluctuations and revaluation of assets and liabilities would directly impact the earnings of the bank; for banks with a long balance-sheet FX position, depreciation of the zloty would increase their earnings, whereas appreciation of the zloty would decrease them.

tions on capital adequacy of commercial banks. In an extreme case, should it be impossible to rollover the entire value of maturing hedging transactions, around 10% of banks (measured with their share in the banking sector's assets) would not meet the required capital adequacy ratio. The impact of this risk on the condition of banks is much lower than in the first quarter of 2009, when the corresponding percentage of banks would amount to 17%. This improvement results primarily from shrinking of open balance-sheet FX position due to an increase in FX liabilities obtained mainly from parent entities, and an increase of banks' regulatory capital.

The sensitivity of banks to liquidity risk of the market for instruments used to hedge FX risk (including FX swaps and CIRS) hinges on the strategy a bank adopts to manage its FX position. The longer the maturity of hedging transactions, the less sensitive the bank is to liquidity fluctuations of the market for hedging instruments. In the case of a number of banks, such instruments are mainly provided by foreign parent institutions. Then, market liquidity risk has an influence on these banks only through the rise in the cost of hedging against FX and interest risk, where it may pose a threat that net earnings on FX assets' portfolio may abruptly fall[37].

Investment in government bonds also involves specific interest rate risk [38]. Simulations show that since March 2009 this risk has dwindled along with the stabilisation of spreads between government bond yield and interest rate on swaps (see Figure 2.4). Valuation of a long position in a 10-year government bond, hedged with a short position in an IRS market, may presently range from around -5.1% to around 3.4% of the nominal value of a purchased bond, depending on the moment the transaction was concluded (see Figure 3.31). High volatility of this valuation indicates the scale of risk related to movements of spread between bond yields and swap rates.

3.5. Liquidity risk

The average funding gap in the banking sector decreased, which is related to a fall in the lending growth and expansion of the stable deposit base. After a marked growth in the fourth quarter of 2008, funding from foreign parent entities remains at a stable level.

The short-term liquidity gap shrank. At the same time, banks increased their portfolios of Treasury securities that may be used to obtain liquidity and cover the gap.

In the coming period, the present challenges related to funding liquidity are likely to hold. Banks will probably aim at increasing the share of deposit base in their funding structure.

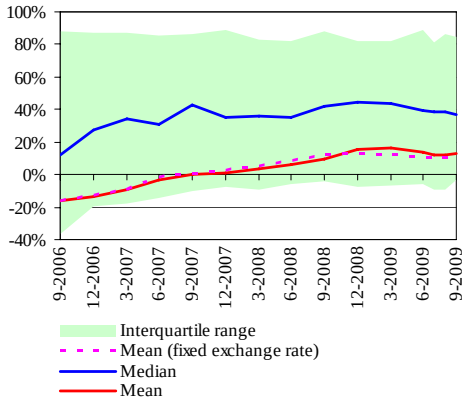
3.5.1. Funding liquidity

In the past six months, the average level of the funding gap in the banking sector decreased (see Figure 3.32). Therefore, in the banking sector, the share of claims that have to be financed with funding obtained from other sources than customers' deposits is smaller. It is worth noting that several banks that previously reported a positive funding gap now have a surplus of accepted deposits over extended loans.

[37] A considerable portion of banks' FX assets are Swiss franc-denominated housing loans, extended at a fixed low spread ranging from 100 to 150 basis points above LIBOR. An increase of the cost of a swap transaction above the spread means that net income on part of the portfolio may be negative.

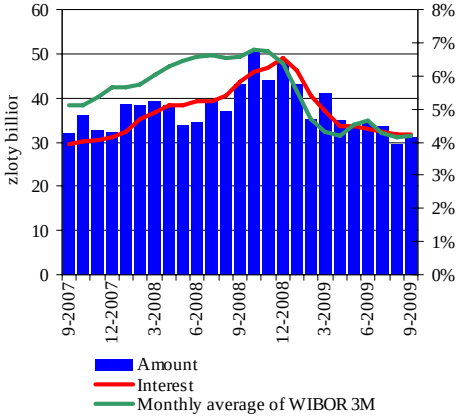
[38] In practice, there may be an additional accounting mismatch between the bond classified as available for sale, whose changes in value are accounted for in capital, and a swap, which is valued at fair value in the profit and loss account. In this analysis it is assumed that both components of the portfolio are valued at fair value through the profit and loss account. As data on the specific composition of banks' trading books are not available, the impact of this risk on banks' net income from financial operations can only be presented via simulations.

Figure 3.32. Funding gap in commercial banks



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 of the end of September 2006 in order to eliminate the impact of exchange rate movements on the value of the funding gap.
Source: NBP.

Figure 3.33. Households' zloty deposits – new agreements



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

The funding gap decreased due to changes in the structure of both banks' assets and liabilities. On the one hand, deterioration in the economic situation, increased credit risk and related lending policy tightening by banks contributed to a decrease in the growth of claims on the non-financial sector (see Chapter 3.2). On the other hand, difficulties in raising funding on the domestic market of interbank deposits led to an increase in banks' efforts to gather customer deposits (households, in particular), starting from the fourth quarter of 2009, and an increase of banks' stable deposit base. It has to be pointed out that recently the average share of liabilities towards the non-financial and general government sectors in total liabilities has risen regardless of the banks' funding strategy [39] (see Figure 3.34).

In the past six months, price competition for customer deposits diminished. The fall of interest rates for new deposits was bigger than the fall of domestic interbank market interest rates (see Figure 3.33). As a result, the average spread between the interest rate of new household deposits and WIBOR 3M rate fell from the level of around 70 basis points in February 2009 to around zero. Banks with a relatively small deposit base (in consequence, with a positive funding gap) continue to offer interest rates exceeding interbank market rates (the highest interest rate on deposits exceeds WIBOR 3M rate by more than 100 basis points).

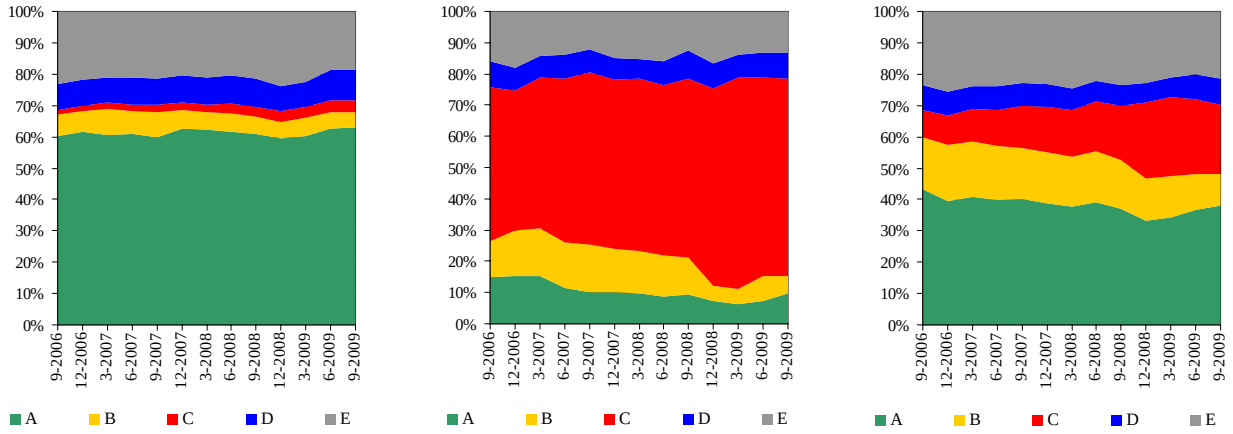
Despite the fall of the interest rate on new deposits, costs related to the entire portfolio of liabilities towards the non-financial sector remain high (see Figure 3.35). This negatively impacts margins on operations with the non-financial sector and, in consequence, banks' present and future earnings (see Chapter 3.1).

[39] More on funding strategies of Polish banks, see "Financial Stability Report - June 2009", Chapter 3.4.1.

Possibility of "closing" the funding gap is available mainly through funding raised from abroad. Foreign parent entities of Polish banks[40] roll over funding that was, on a large scale, provided to their subsidiaries in the fourth quarter of 2008. As a result, the value of domestic banks' liabilities towards foreign banks remains stable[41] (see Figure 3.36).

The possibility to roll over foreign funding is essential in the context of persistent difficulties in raising funding on the domestic interbank market. Turnover on this market remains at a lower level and the value of liabilities towards domestic banks, after a one-off rebound in the first quarter of 2009, is markedly lower than prior to the fall of Lehman Brothers (see Figure 3.36).

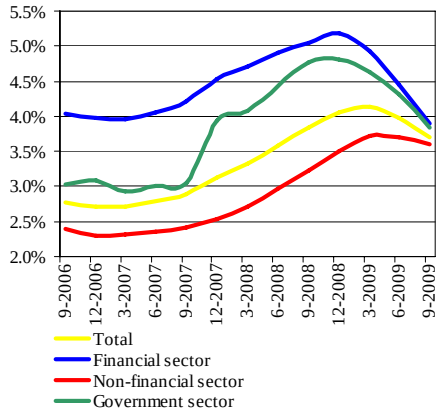
Figure 3.34. Structure of funding in banks applying deposit strategy (left-hand panel), foreign funding strategy (centre panel) and mixed strategy (right-hand panel)



Legend: A – deposits of non-financial and the general government sector, B - liabilities towards financial entities-residents, C - liabilities towards financial entities - non-residents, D - capital, E - other liabilities.
Notes: composition of individual groups of banks is constant in all periods shown in figures (banks were classified into the particular groups on the basis of their funding structure at the end of September 2009). The share of banks with individual strategies in the balance-sheet total of commercial banks amounted at that time to: deposit strategy - 59.5%, foreign funding strategy - 7.5%, mixed strategy - 33.0%
Source: NBP.

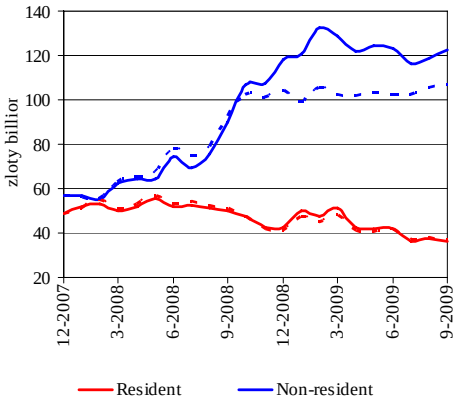
[40] Almost 90% of deposits and loans received by Polish banks from foreign monetary financial institutions is provided by parent entities.
[41] After accounting for FX rate movements. Most liabilities towards foreign monetary financial institutions are denominated in foreign currencies, which makes their zloty value very sensitive to FX rate movements.

Figure 3.35. Effective interest on liabilities in the banking sector



Note: data annualised.
Source: NBP.

Figure 3.36. Liabilities towards domestic and foreign monetary financial institutions



Notes: dotted lines denote values of liabilities after conversion according to a fixed foreign exchange rate as of the end of December 2007.
Source: NBP.

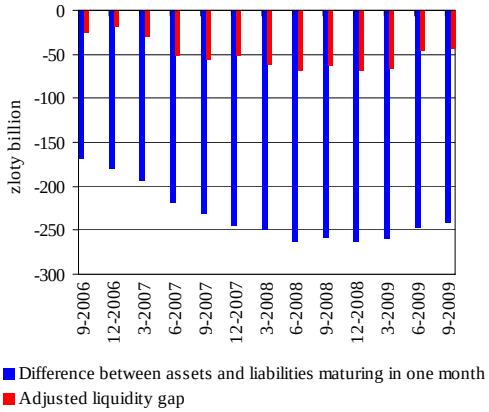
3.5.2. Short-term liquidity

After a period of stabilisation in the second half of 2008 and in the first quarter of 2009, the value of the short-term (one-month) liquidity gap in the banking sector declined. Similar changes occurred in the case of the adjusted liquidity gap (see Figure 3.37).

The decrease of the short-term liquidity gap resulted mainly from the increase in the value of assets with maturity of up to 1 month. This, in turn, was the result of changes in the structure of lending and a lower growth rate of long-term loans extended by banks. The changes in the structure of lending also had an influence on the stabilisation of the average maturity of banks' assets and on halting the process of widening the mismatch between the maturity of assets and liabilities on banks' balance sheets (see Figure 3.38).

The fact that some banks used repo facility, offered by the National Bank of Poland under the "Confidence Pact", was an additional reason behind the reduction of the short-term liquidity gap. These operations enable banks to raise funds using securities as collateral [42] in order to improve their current liquidity position.

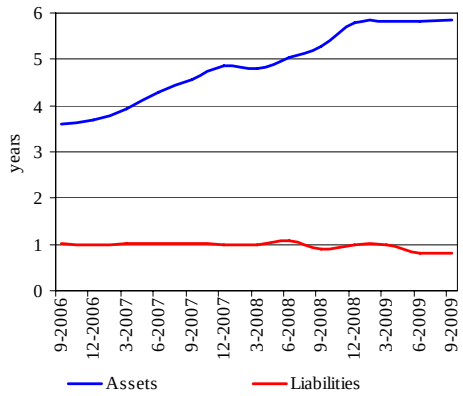
Figure 3.37. One-month liquidity gap



Note: For definition of adjusted gap, see *Glossary*.
Source: NBP.

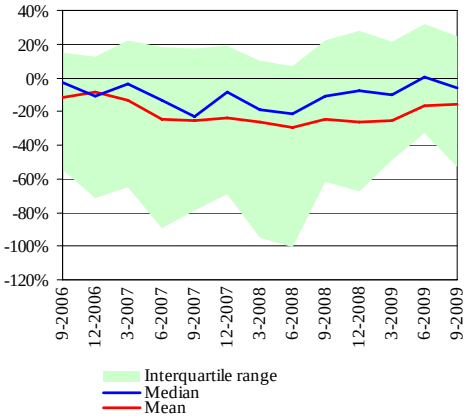
[42] Treasury securities, EIB bonds, covered bonds, euro-denominated debt securities and municipal bonds.

Figure 3.38. Average maturity of assets and liabilities



Source: NBP.

Figure 3.39. Ratio of adjusted one-month liquidity gap to assets with maturity of up to 1 month

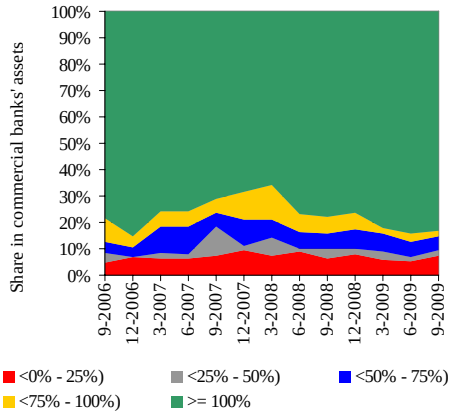


Source: NBP.

The adjusted liquidity gap also diminished. Since it is adjusted, among others, for the so-called core deposits, it may more properly represent the actual short-term liquidity position of banks. In the past six months, both the average adjusted funding gap and the number of banks with a negative gap decreased (see Figure 3.39). In addition to the above-mentioned factors, the decrease of the adjusted liquidity gap resulted from an increase in banks' deposit base.

Banks hold increased portfolios of Treasury securities that may be used to raise liquidity needed to repay maturing liabilities [43]. In consequence, the share of banks with coverage of the short-term liquidity gap with securities remains high (see Figure 3.40).

Figure 3.40. Structure of assets of domestic commercial banks by ratio of coverage of adjusted liquidity gap with Treasury securities

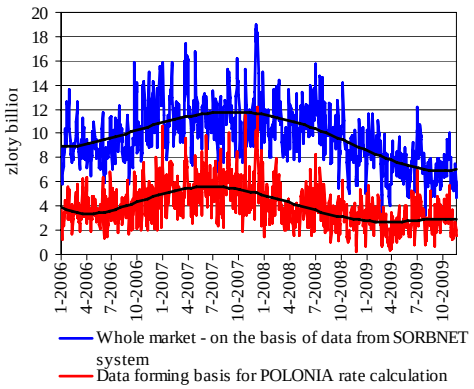


Source: NBP.

It is worth pointing out that some banks that previously invested in Treasury bills and bonds to a limited extent have recently increased their portfolios of these securities. This development may be an element of a change of the liquidity management model which made these banks dependent on interbank market liquidity. These banks were focused on lending, having their funding and short-term liquidity gap on high levels. At present, apart from increasing their portfolios of Treasury securities they reduced a relatively high mismatch of assets and liabilities with maturities of up to 1 month.

[43] Banks may sell securities outright in the market or use them in conditional transactions (repo, sell-buy-back) or as a loan collateral with the NBP (including an intraday credit facility).

Figure 3.41. Turnover in the market of interbank deposits



Source: NBP.

The value of turnover in the market of unsecured bank deposits stabilised in the third quarter of 2009 (see Figure 3.41). However, an upward trend in the market for O/N deposits[44] can be observed since the second quarter. Operations with shortest maturities play a dominant role in the domestic interbank market.

No significant incidents that might disrupt the payment system operation occurred. This was due to NBP measures to support banking sector liquidity under the "Confidence Pact" and the provision of intraday credit facility on a regular basis. According to the NBP, the fact that the operation of the payment system was not disrupted in difficult market conditions, among others, at the turn of 2008 and 2009, primarily testifies to the efficiency and effectiveness of domestic payment systems, and also allows to put forward a thesis that the risk of serious liquidity problems in Poland's payment system has diminished.

Box 2. Supervisory liquidity standards

The liquidity position of Polish banks and the risk related to liquidity management, both short- and long-term, is subject to supervisory regulation. It should be emphasised that the regulations in this respect implemented by the Commission for Banking Supervision and later confirmed by the Polish Financial Supervision Authority[1], had been developed before the onset of turmoil in the financial markets. *Recommendation P* on liquidity monitoring principles [2] and Resolution No. 386/2008 KNF [3] defining liquidity standards binding for banks are the key elements of these regulations. The Resolution came into force in January 2008, however, until 29 June 2008 banks and branches of credit institutions were not obliged to meet the regulatory limits provided for therein.

The resolution on liquidity standards introduces a breakdown of banks' asset and liability categories by their liquidity or stability. Assets have been broken down into the following four main categories:

- core liquidity reserve – approximately, cash and receivables as well as other assets in the amount obtainable within 7 days,
- supplementary liquidity reserve – approximately, receivables as well as other assets in the amount obtainable within 7-30 days,
- assets of limited liquidity – approximately, assets resulting from banking activities outside the wholesale financial market,

[44] These transactions form the basis for calculation of the POLONIA rate

- illiquid assets – approximately, assets not resulting from banking activities.

The resolution defines the following main liability categories:

- regulatory capital (less the sum of the value of capital requirements for market risk, settlement/delivery risk and counterparty risk)
- stable external funds – 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,
- unstable external funds.

The above-mentioned categories of assets and liabilities are then used to define the so called liquidity standards. Banks and branches of credit institutions are obliged to meet liquidity standards above the minimum provided for in the Resolution. Individual standards a given institution is obliged to meet differ and depend on the size and legal form of the institution.

Institutions with total assets above 200 million zloty are required to meet the following standards:

- short-term liquidity gap (M1) - the sum of core and supplementary liquidity reserve less unstable external funds; minimum value: 0.00,
- short-term liquidity ratio (M2) - the ratio of the sum of core and supplementary liquidity reserve to unstable external funds; minimum value 1.00,
- ratio of coverage of illiquid assets with regulatory capital (M3); minimum value 1.00,
- ratio of coverage of illiquid assets and assets of limited liquidity with regulatory capital and stable external funds (M4); minimum value 1.00.

Banks are required to meet all the above-mentioned standards, whereas branches of credit institutions - only short-term liquidity standards (M1 and M2).

Institutions with total assets below 200 million zloty are required to meet the following standards:

- share of core and supplementary liquidity reserve in total assets (M1); minimum value 0.20,
- ratio of coverage of illiquid assets with regulatory capital (M2); minimum value 1.00.

Banks are required to meet all the above-mentioned standards, whereas branches of credit institutions - only the short-term liquidity standard (M1).

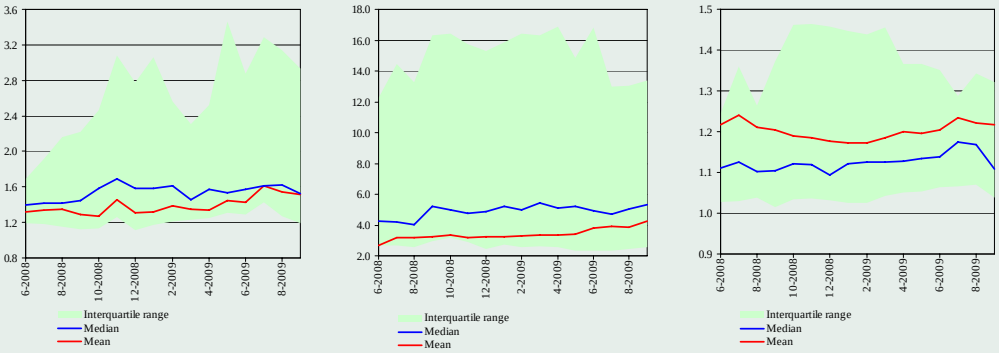
A vast majority of banks meet liquidity standards (see Table 1). A few banks have difficulties in meeting long-term liquidity standards. In recent months, the number of banks that fail to meet the required minimum coverage of illiquid assets with regulatory capital has increased. However, the share of these banks in the assets of the sector is insignificant.

Table 1. Banks failing to meet supervisory liquidity standards in September 2009

Liquidity standard	Number of banks			Share in banking sector's assets
	Commercial banks	Cooperative banks	Branches of credit institutions	
Short term liquidity gap	0	1	0	0.049%
Short term liquidity ratio	0	1	0	0.049%
Share of core and supplementary liquidity reserve in total assets	0*	6	1	0.042%
Ratio of coverage of illiquid assets with regulatory capital	2	3	n/a	0.168%
Ratio of coverage of illiquid assets and assets of limited liquidity with regulatory capital and stable external funds	1	3	n/a	0.161%

* total assets of all commercial banks exceed 200 million zloty, and these banks are not required to meet this standard; n/a - branches of credit institutions are only required to meet short-term liquidity standards.
Source: NBP.

Figure 1. Liquidity ratios M2 (left-hand panel), M3 (middle panel) and M4 (right-hand panel) in commercial banks.



Source: NBP.

Despite the fact that a few commercial banks fail to meet the liquidity standards, the average value of individual liquidity ratios has been rising recently (see Figure 1).

The largest rise has been recorded for the M3 ratio, which may be attributed to the increase in regulatory capital as most banks have retained profits generated in 2008. On the other hand,

the dispersion of this ratio among banks is the largest. Smaller banks with a limited network of branches usually maintain high values of this ratio due to a low share of illiquid assets (including fixed assets).

The situation of commercial banks is relatively better in terms of short-term liquidity. Since the entry into force of the Resolution fewer banks have failed to meet the required minimum and the average value of M2 ratio has been markedly higher than that of M4 ratio (given the same minimum required value).

[1] The Polish Financial Supervision Authority took over the function of banking supervision on 1 January 2008.

[2] Recommendation P on banks' liquidity monitoring system, KNB 2002.

[3] Resolution No. 386/2008 of the Polish Financial Supervision Authority of 17 December 2008 defining liquidity standards binding for banks (superseding Resolution No. 9/2007 KNB).

***

In the coming months challenges related to funding liquidity will persist. Preserving current deposit base and obtaining new deposits from the real sector will continue to involve relatively high costs. The opportunity to expand the deposit base may be adversely influenced by the economic slowdown resulting in deterioration in the economic standing of enterprises and households. On the other hand, the probability that the funding gap in the banking sector will grow is not high due to relatively low expected loan growth.

It may be expected that despite the high costs of obtaining new deposits, banks will strive to increase the share of liabilities towards the real sector in their funding structure. Customer deposits will remain the main source of new funding, as the situation in the financial markets (primarily in the domestic interbank market) has not yet returned to the situation before the crisis, making no space for possible funding source diversification.

In the medium- and long-term, the attempt to increase the share of liabilities towards the non-financial sector in the funding structure may also be an element of domestic banks' adjustment to the global trend of deleveraging. At present, foreign parent entities of Polish banks provide their subsidiaries with necessary funding to "close" their funding gaps. It is possible, however, that due to their own deleveraging policies foreign banks - over the longer time horizon - will not be able to fund lending of their subsidiaries.

In the longer perspective, providing banks with the possibility of diversifying their funding sources seems crucial to ensure stable funding for banks. In this context, development of market for long-term bank bonds, as well as creating the possibility for universal banks to issue mortgage bonds would be favourable. Currently, mortgage bonds can be issued only by mortgage banks whose scale of operations is modest and mainly contained to financing commercial investments. Housing mortgage loans are mostly extended by universal banks, therefore, if they were permitted to issue mortgage bonds, sources of financing long-term assets would be broadened.

3.6. Banks' capital position and loss absorption capacity

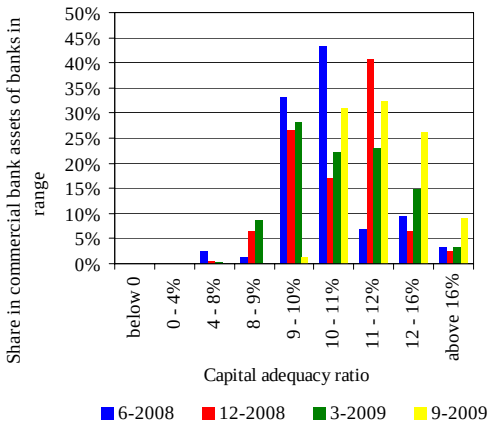
The fact that banks retained most of the profits generated in 2008 and a lower lending growth rate contributed to the increase in the capital adequacy ratios of the domestic banking sector in the second and third quarters of 2009.

The capacity of the majority of banks to absorb losses which might arise from the deterioration in the quality of loans currently serviced in a timely manner increased. The results of stress tests indicate, however, that in the case of an economic slowdown at a scale that considerably exceeds current forecasts some banks may be required to raise new capital.

The high earnings of banks generated in 2008 enabled them to increase their regulatory capital [45]. The regulatory capital of the domestic banking sector rose by 10.2% in the period of March-September 2009 (see Table 3.6), including also part of their profits from the current year included in regulatory capital (around 1.2 bn zloty). Regulatory capital was largely composed of core capital, i.e. the more stable element, which is favourable in terms of the capacity to absorb potential losses.

The sector's core capital grew mainly as a result of retention of the profit generated in 2008 in regulatory capital and raising new equity capital. The majority of banks decided not to pay out dividends from 2008 profits and earmarked profits to increase their capital - with a total value of around 9.7 bn zlotys (just the largest bank retained only part of its profits - 65% - in capital). In the period of March-September 2009, 14 commercial banks issued new shares of a total value of 5.7 bn zloty[46]. At the same time, banks raised 483 million zloty in the form of subordinated debt.

Figure 3.42. Distribution of assets of domestic commercial banks by the capital adequacy ratio



Source: NBP.

The growth of regulatory capital contributed to the increase of the average capital adequacy ratio of the domestic banking sector[47]. In September 2009, one commercial bank did not meet the minimum capital adequacy ratio requirement of 8%[48]. In addition, banks with the highest capital adequacy ratios increased their share in the banking sector's assets (see Figure 3.42).

[45] Branches of credit institutions operating in the territory of Poland are excluded from the analysis presented in Chapter 3.6. At the end of September 2009, the assets of the branches accounted for around 5% of the banking sector's assets.
[46] Most of the raised equity capital was concentrated in one bank - in June 2009, the state-owned Bank Gospodarstwa Krajowego received additional capital of 3.9 bn zloty from the Government.
[47] After excluding the impact of the June 2009 capital increase of BGK on regulatory capital, the capital adequacy ratio for the domestic banking sector in September 2009 would amount to 12.5%.
[48] The share of this bank in the banking sector's assets did not exceed 0.1%.

Table 3.6. Regulatory capital and the capital adequacy ratio of domestic banks

	2007	2008	3-2009	6-2009	9-2009
Regulatory capital (zloty billion)	61.0	77.6	81.1	87.4	89.3
- of which: core capital	55.5	70.2	73.4	79.1	80.9
Sum of capital requirements	40.8	55.5	57.7	56.2	54.8
- of which: against operational risk	–	5.7	5.7	5.7	5.7
Capital adequacy ratio (in %)	12.0	11.2	11.2	12.5	13.0
Capital adequacy ratio taking core capital into account (in %)	10.9	10.1	10.2	11.3	11.8

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. The value of core capital for 2007 is not comparable with data for subsequent years due to changes in the reporting layout.
Source: NBP.

Table 3.7. Annual changes in the value of selected positions of assets, the capital requirement for credit risk and regulatory capital of domestic banks

	2007	2008	9-2009	2007	2008	9-2009
	(in zloty billion)			(in %)		
Assets. of which:	100.2	221.9	103.5	15.2	29.2	11.7
- non-financial customers	99.6	151.7	85.1	32.5	37.4	17.1
- financial sector	-10.8	-20.1	-36.5	-8.5	-17.3	-33.1
- securities	-7.7	43.5	39.5	-5.5	33.1	24.4
Capital requirement for credit risk	9.4	9.6	4.3	32.0	24.6	9.9
Regulatory capital	9.5	16.5	16.6	17.9	27.1	22.8

Source: NBP.

The structure of growth of the banking sector's assets in the analysed period contributed to the increase of the capital adequacy ratio (see Table 3.7). The slower growth in loans to the non-financial sector was accompanied by a considerable increase in the value of Treasury securities that do not generate the capital requirement for credit risk. The increase of the value of government bonds in banks' portfolios reflected the policy pursued by certain banks which aimed to increase their buffer of liquid assets. In the analysed period, banks continued to reduce the value of claims on financial institutions.

As some convertible and long-term bonds can now be included in banks' core capital, banks' regulatory capital may grow further, without necessity of raising new equity capital (see Box 3).

Box 3. New possibilities to increase banks' core capital

Resolution No. 314/2009 of the Polish Financial Supervision Authority *on other items of the bank's balance sheet included in bank's core capital, its value, scope and terms of including it in bank's core capital* came into force on 14 October 2009.

Within two years from the date of the entry into force of this resolution banks can apply for Polish FSA's permission to include in their core capital the following instruments they have issued:

- convertible bonds with maturity of at least 5 years from closing date of issue.
- long-term bonds with maturity of at least 10 years and up to 30 years, which the issuer being a bank may buy out and which give the bondholder the right only to obtain interest.

For bonds to be included in core capital, the terms of their issue should grant the issuer the right to suspend or postpone interest payment, in case of a serious deterioration of the issuer's financial position. Moreover, when the issuing bank goes bankrupt or is liquidated, bondholders' claims will be satisfied last.

Convertible bonds and long-term bonds may be included in the bank's core capital up to the amount of 50% of the bank's core capital. However, convertible bonds may not constitute more than 50% of the bank's core capital and long-term bonds - more than 35% of the bank's core capital.

Including convertible bonds and long-term bonds in core capital requires permission of the Polish Financial Supervision Authority.

This resolution creates the new possibilities for banks to increase their core capital by allowing the use of hybrid instruments. Given the present macroeconomic conditions related to higher uncertainty over banks' future earnings, opening new possibilities to increase core capital may have a positive influence on the safety of banks functioning. The solutions in place can also by used by cooperative banks whose shareholders are subject to different regulations than shareholders of commercial banks, which makes it difficult for cooperative banks to obtain new capital via an increase of the value of shares (at cooperative banks the value of shares does not translate into a shareholder's number of votes). Introducing hybrid instruments will help cooperative banks strengthen their regulatory capital.

Take-up of hybrid instruments issued by commercial banks by their strategic investors involves the risk of using the instruments to transfer profits to their parent entities. This risk has been constrained by the requirement to obtain permission of PFSA to include hybrid instruments in core capital.

Banks hold sufficient capital to meet the minimum regulatory requirements. Despite the growth of the average capital adequacy ratio in the banking sector in the past 6 months, the capacity of some banks to absorb losses has not risen.

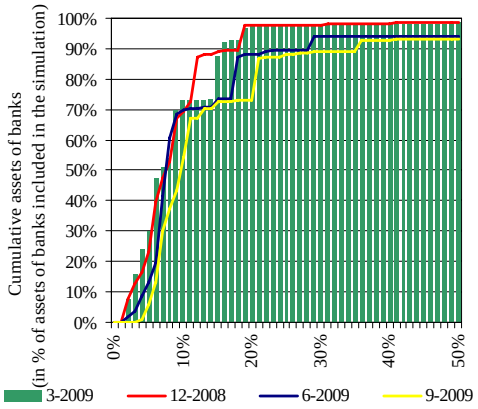
Simulations of loan loss absorption capacity

Three simulations were carried out [49] to determine whether banks' capital is sufficient to absorb possible credit risk losses. The results of the first simulation (see Figure 3.43) 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%.

The simulation performed on September 2009 data shows that banks' capacity to absorb losses increased in comparison with the end of the first quarter of 2009. This is reflected in the decrease of the share of banks that can absorb a relatively minor deterioration in loan quality. According to data as of September 2009, 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 sector's assets. In March 2009, an identical shock would have caused the capital adequacy ratio to fall below 8% at banks with a 30% share in the sector's assets.

The purpose of the second simulation was to determine the level of the capital adequacy ratio in the case of an abrupt deterioration in the quality of loans with identified impairment and a decrease in the value of their collateral. The results of this simulation may indicate whether the present portfolio of loans with identified impairment poses a threat to banks' capital adequacy. In the first scenario, the assessed impairment of all loans with identified impairment was assumed to be equal to the value of unsecured portion of the loans. In the second and third scenarios, an additional decrease in the value of collateral by 25% and 50% was assumed, respectively.

Figure 3.43. Assets of commercial banks by percentage of performing loans whose deterioration of quality would lower the capital adequacy ratio to 8%



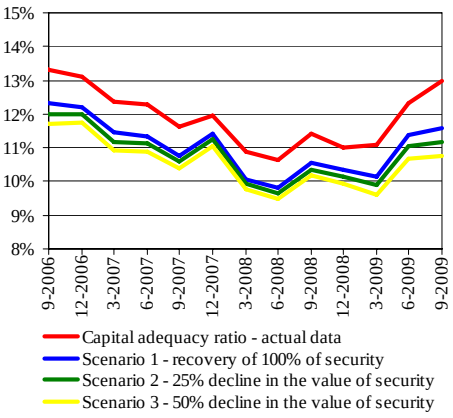
Assumptions of the simulation:
1. Deterioration of quality of loans means that a 50% impairment is recorded for these loans.
2. Hypothetical charges to impairment provisions fully decrease a bank's regulatory capital.
3. Impaired loans carry a 100% risk weight.
4. No release of impairment provisions.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

The results of the simulation show that in the second and third quarters of 2009, there was an increase in the significance of the portfolio with identified impairment for banks' capital adequacy (see Figure 3.44). The rise of the average capital adequacy ratio of commercial banks re-

[49] the first two simulations were conducted only on data of commercial banks (branches of credit institutions and cooperative banks were not included in these simulations).

sults in a situation where the capital adequacy ratio in all variants of the simulation is higher than in previous periods. However, the scale of the fall of the capital adequacy ratios in all variants of the simulation has grown.

Figure 3.44. Average capital adequacy ratio of commercial banks in scenarios assuming deterioration in the quality of impaired loans



Assumptions of the simulation:
1. The assessed impairment of all loans with identified impairment is equal to the value of unsecured portion of the loans.
2. The portfolio of loans without identified impairment remains unchanged.
3. Additional charges to impairment provisions fully decrease a bank's regulatory capital.
4. In the case of Scenario 2 and Scenario 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.

In this period, the majority of banks recorded an increase in the value of loans with identified impairment whose growth rate exceeded the growth rate of regulatory capital. As banks exhibiting the lowest capacity to absorb losses increased their capital buffers, the number of banks that record their capital adequacy ratio below 8%, in all variants of the simulation is similar to that at the end of 2008, however the share of this group of banks in the sector's assets has grown. According to end of September 2009 data, in the most pessimistic third scenario, the capital adequacy ratios of seven banks, with a share in the commercial banks' assets at 20%, would drop below 8%. In the simulation performed on March 2009 data, the capital adequacy ratios below 8% were recorded in 9 banks with an 11% share in the sector's assets.

The third simulation was designed to assess the impact of the simultaneous bankruptcy of the banking sector's three largest non-financial borrowers. These are enterprises from the raw materials and retail sale sectors. The simulation assumed impairment at 100% in the case of all loans extended to these enterprises[50] and that costs of provisions decrease banks' regulatory capital, which results in a fall of their capital adequacy ratio. The effects of the hypothetical bankruptcy of the three largest financial (non-bank) borrowers were examined in a similar way. The simulation did not take into account the exposures towards subsidiaries and affiliates. Among the three largest borrowers there are no institutions analysed in Chapter 4, i.e. insurance companies, investment funds, pension funds, investment fund management companies and pension fund management companies. The results of the two variants of the simulation are shown in Table 3.8.

The results of the simulation point to the important role of the financial position of the group of largest borrowers for the safe operation of the banking sector, and show a relatively high concentration of the portfolio of claims on non-financial customers at some banks.

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The results of the simulations show a diversity of capital buffers among banks. A large part of banks that exhibited the lowest capacity to absorb losses at the turn of 2008 and 2009 increased their capital. As a result, the share of the banks that are most sensitive to the deterioration in the quality of loan portfolio in the banking sector's

[50] The calculations account for available data on loan collateral accepted by banks.

assets decreased. Due to a high increase of loans with identified impairment (faster than capital growth) and decreased coverage of this portfolio with provisions (from 60% at the end of 2008 to 51% at the end of June 2009), the importance of this portfolio for banks' capital adequacy has increased.

Table 3.8. Impact of the hypothetical bankruptcy of three largest borrowers on the banking sector

	Sector of borrowers:	
	nonfinancial	financial
Number of banks lending to investigated companies	18	13
Share of these banks in assets of commercial and cooperative banks	75.8%	61.1%
Credit risk cost (zloty billion)	5.6	4.4
Number of banks where capital adequacy ratio falls below 8%	1	1

Source: NBP.

Macro stress tests

Macro stress tests were also used to assess banks' capacity to absorb potential loan losses that might arise from the deterioration in economic conditions. The tests are designed to analyse the possible effects of hypothetical negative shocks rather than present the most likely developments in the banking sector.

Macro stress tests conducted at the NBP consist of four stages.

In the first stage, macroeconomic scenarios were generated which formed the basis of the simulations to be conducted. Two scenarios were analysed - baseline scenario, consistent with the central path of the NBP macroeconomic projection from "Inflation Report – October 2009" and a shock scenario developed by NBP economists. The shock scenario assumes that world economic growth will slow again in 2010 and 2011 as a result of the waning effects of the stimulus measures in the world's most developed economies. These developments would lead to a decrease in Poland's real GDP, further increased by a hypothetical pro-cyclical response of fiscal policy which 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 bank lending policy would also contribute to a decline in GDP growth. The deterioration of asset quality and fall in value of held financial instruments could trigger such a tightening of lending policy. In these circumstances, one may expect a deepened deleveraging of banks based in developed economies, which would likely be transmitted to subsidiaries in emerging markets, inclusive of Poland. In turn, tighter bank lending policy, together with an absence of prospects that the economy would return to economic growth swiftly and financial standing of non-financial sector would improve, would lead to a collapse in credit growth. This would translate to a further weakening of demand and emergence of a self-reinforcing negative feedback loop between declines in credit and GDP growth.

The NECMOD model was used to assess the impact of analysed developments on Poland's eco-

[51] The multi-equation macroeconomic model of the Polish economy NECMOD 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 projection presented in "Inflation Report".

nomic condition [51]. The comparison of the path of GDP growth rate in the shock scenario with the fan chart of the GDP growth rate presented in "Inflation Report - October 2009" (see Figure 3.45) indicates that the likelihood [52] of a slowdown of the GDP growth rate stronger than that considered in the shock scenario amounts to 3% in 2010 and below 1% in 2011.

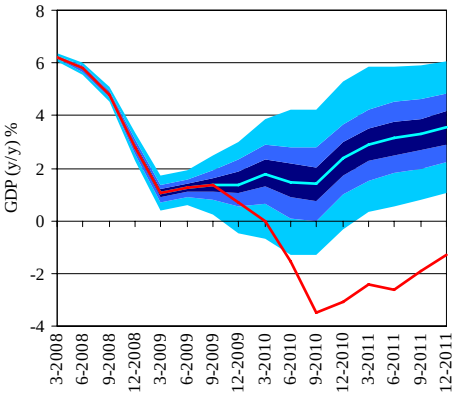
Table 3.9. Major economic indicators in macro stress test scenarios

	2009	2010	2011
GDP growth rate y/y			
Baseline scenario	1.3%	1.8%	2.1%
Shock scenario	1.1%	-2.0%	-2.1%
LFS unemployment rate, end of period			
Baseline scenario	8.5%	11.0%	11.4%
Shock scenario	8.5%	12.1%	15.2%

Source: NBP.

The paths of macroeconomic variables in the baseline and shock scenarios formed the basis for the conditional forecasts of the impact of macroeconomic condition on banks' credit risk costs. For this purpose, panel models which explain the development of net charges to provisions for impaired loans at the level of individual commercial banks were used. In these models, provisions are explained by macroeconomic variables (changes in the real WIBOR 3M rate, GDP growth rate, changes in real wage fund) and the characteristics of individual banks (composition of loan portfolio) as well as by an autoregressive component [53].

Figure 3.45. Shock macroeconomic scenario against the fanchart of GDP from "Inflation Report - October 2009



Source: NBP.

In the next stage of the simulation, banks' hypothetical earnings were calculated in both scenarios. The simulation assumed that net operating income before provisions for impaired loans [54] decreased by 20% against the value attained in the 12-month period ending in September 2009. Such a decrease is comparable with the hypothetical decrease of net operating income before provisions due to lower interest income resulting from the deterioration of the quality of loans to the non-financial sector[55] at a scale corresponding to the results of the most pessimistic scenario presented and with effective interest on claims on the non-financial sector stabilising at the level from the third quarter of 2009.

[52] Probability estimation only includes uncertainty factors shown in the fan chart.

[53] The forecasts from two versions of the model are presented in this *Report*. In the first version, provisions related to the portfolio of housing loans and other loans extended to households are modelled with separate equations. In the second version, which is close to the model used in the previous edition of the *Report*, provisions related to the entire portfolio of loans extended to households are modelled jointly. The trends of the quality of housing loans and other types of loans extended to households are divergent - the quality of housing loans is much better and stable. At the same time, due to a short history of housing loans as a mass product in the Polish banking system (during the previous economic slowdown the share of housing loans in total loans to households amounted to around 20% in comparison with over 50% now) forecasts based on the model comprising only housing loans may be over-optimistic. Therefore, it was decided to present the results of the simulation in two variants. The model used for forecasting provisions for loans to corporates is the same in both variants of the simulation.

[54] Net income from banking activity less general expense and depreciation.

[55] The growth in value of loans with identified impairment translates into a fall of banks' income by decreasing - ceteris paribus - the value of loans generating interest income.

The simulation covers the period till the end of 2011. The results of the simulations are shown in detail in Table 3.10.

Table 3.10. Results of macro stress tests

	Historical data for the period 10-2008 – 9-2009	Simulation results	
		Baseline scenario total for 10-2009 – 12-2011	Shock scenario total for 10-2009 – 12-2011
Impairment charges for loans (zloty billion)	8.7	12–16	43 – 54
- of which for loans to enterprises	2.0	7	26
- of which for loans to households	6.7	5 – 9	17 – 28
Impairment charges expressed as percentage of banks' regulatory capital at the end of September 2009 (in %)	10.6	14 – 19	52 – 66
Average yearly impairment charges expressed as percentage of pre-impairment income as of September 2009 (in %)	45	27 – 36	100 – 125
Value of capital injection necessary to ensure that capital adequacy ratios of all banks exceed 8%, assuming a 20% fall in pre-impairment income in relation to September 2009 (zloty billion)	n/a	0.6 – 0.7	3.1 – 4.9

1. In this Table, the term "provisions" is understood as the difference in the stock of provisions between the beginning and the end of a given period.
2. Net operating income before provisions - net income from banking activity less general expense and depreciation.
3. The simulation assumes a fixed value of loan portfolio in the simulation horizon and earmarking the whole profit for the first three quarters of 2009 to increase banks' capital.
4. The results of simulations performed using two versions of econometric models are shown in the Table - in the first version, provisions for housing loans and consumer loans extended to households are modelled separately. In the second version, provisions for all loans extended to households are modelled jointly. The lower of the two values of provisions shown in the Table was ob tained by using separate models for housing and consumer loans. The model used for forecasting provisions to loans extended to corporates is the same in both variants of the simulation.
5. Data for 49 commercial banks.
Source: NBP.

The results of the simulation indicate that in the baseline scenario banks can be expected to create provisions for impaired loans on a similar scale as in 2009. In the shock scenario provisions for impaired loans would rise considerably, which would lead to a decrease in banks' earn-

ings. In the baseline scenario, which assumed a 20% fall of the above-defined pre-provision income of banks, four small banks would have to increase their capital to keep the capital adequacy ratio above 8% (by a total of 600–700 million zloty). In the shock scenario, with the same assumptions with regard to banks' income, the amount of hypothetical capital increase would be higher, but would not exceed 4%–6% of commercial banks' total regulatory capital. In this scenario, 16–19 banks would have to increase their capital.

Due to significant uncertainty over the future quality of banks' loan portfolios it is essential for banks to maintain high levels of capital. The observed slowdown of economic growth follows a period of rapid lending growth under increasingly loose lending policy, particularly in the segment of mortgage loans. This makes the quality of loans highly uncertain. This uncertainty is further enhanced by the absence of data on the repayment performance of some loan categories, among others, housing loans, across the full business cycle.

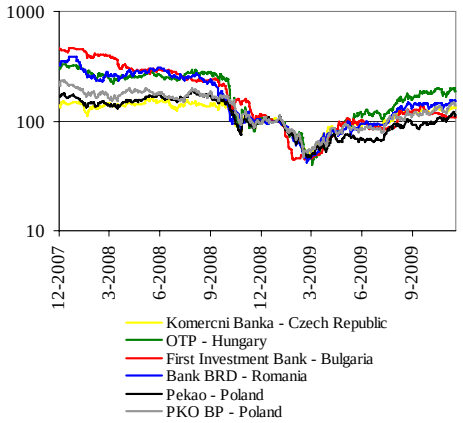
Although the outlook for economic growth has slightly improved, banks should be expected to create further provisions for impaired loans. Thus, in order to ensure a stable operation of banks in the long run, it is desirable that banks maintain their capital at the level that allows them to operate safely in the case of a considerable deterioration in loan quality.

3.7. Market assessment of Polish banks and their parent entities

Market assessments of Polish banks have improved. Investors expect the future earnings of the banking sector to improve. There was an improvement of the market assessment of risk related to investment in the parent entities of Polish banks. According to rating agencies, the financial position and the economic environment of Polish banks and their parent banks remained unchanged. The outlook for long-term ratings remains negative.

As risk aversion decreased and the signs of improvement in the economic situation appeared, stock prices, including on the Warsaw Stock Exchange and stock markets of the region, began to rise. This rise in stock prices also concerned the largest companies of the region's banking sector (see Figure 3.46).

Figure 3.46. Stock prices of banks in Central and Eastern Europe

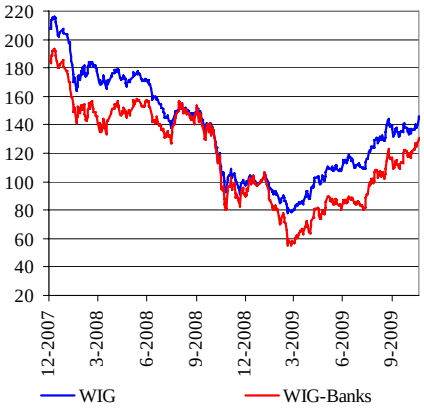


Note: share prices rescaled to 100 at the end of 2008. The Figure has a logarithmic scale
Source: Bloomberg.

Since the last issue of the *Report*, both WIG-Banki and WIG indices returned to levels recorded in September 2008 (the WIG-Banki in-

dex rose by 50% in the surveyed period). Stock investors continue to assess the situation of Polish banking sector companies as worse than the situation of other companies listed on the Warsaw Stock Exchange (see Figure 3.47).

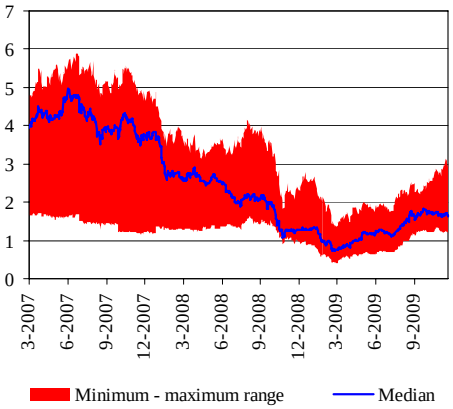
Figure 3.47. Sectoral index WIG-Banki against WIG index



Source: NBP calculations based on www.bossa.pl

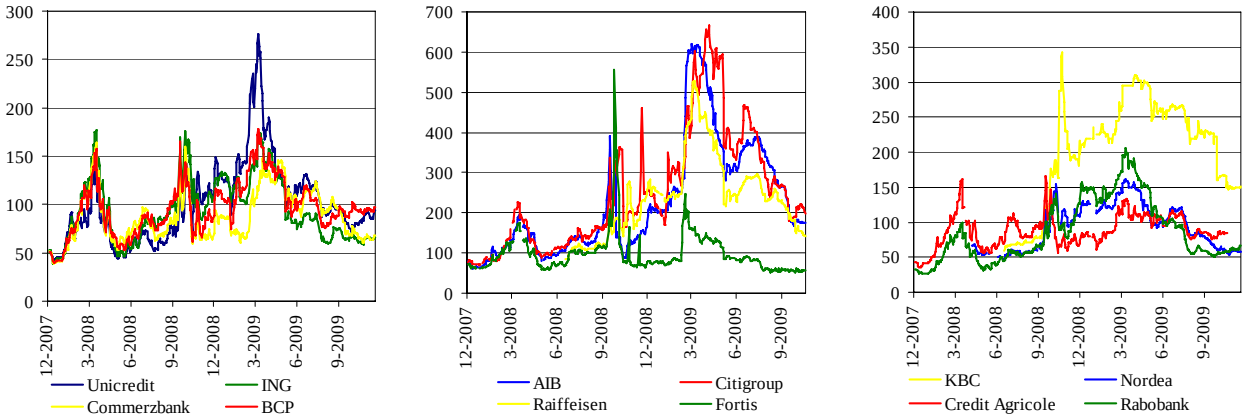
However, price-to-book value shows that the assessment of the future earnings of the banking sector has improved. The indicator's median returned to levels recorded in September 2008. This implies that investors do not expect banks to report losses (see Figure 3.48).

Figure 3.48. Price-to-book value ratio



Note: the index based on data for banks comprising the WIG-Banki index, excluding BPH (on account of the bank's division) and Noble Bank (as a subsidiary of Getin Holding included in the WIG-Banki index).
Source: Bloomberg.

Figure 3.49. CDS premia for bonds of parent entities of selected Polish banks



Source: Bloomberg.

Table 3.11. Ratings of Polish banks by Moody's and Fitch - as of 10 October 2009.

Moody's	Financial strength 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)	DNG (STA)
BRE Bank	D (D)	Baa1 (A3)	P-2 (P-2)	STA (DNG)
BZ WBK	D+ (D+)	Baa2 (Baa2)	P-2 (P-2)	NEG (NEG)
Bank Millennium	D (D)	Baa2 (A3)	P-3 (P-2)	NEG (DNG)
Bank Handlowy	D+ (D+)	Baa1 (Baa1)	P-2 (P-2)	NEG (NEG)
BGŻ	D (D)	A3 (A3)	P-2 (P-2)	STA (STA)
Getin Bank	D- (D-)	Ba3 (Ba3)	NP (NP)	NEG (NEG)
BPH	D- (D-)	Baa2 (Baa2)	P-2 (P-2)	UPG (UPG)
Lukas Bank	D+ (C-)	A3 (A2)	P-2 (P-1)	NEG (STA)
BRE Bank Hipoteczny	E+ (D-)	Baa3 (Baa3)	P-3 (P-3)	STA (DNG)
FITCH	Individual rating	Long-term rating	Short-term rating	Outlook
Pekao	C/D (C/D)	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 (F2)	STA (STA)
BZ WBK	C (C)	BBB+ (BBB+)	F2 (F2)	NEG (NEG)
Bank Millennium	C/D (C/D)	A (A)	F1 (F1)	STA (STA)
Getin Bank	D (D)	BB (BB)	B (B)	NEG (NEG)
BOŚ	D (D)	BBB (BBB)	F3 (F3)	STA (STA)

Note: as of June 2009 - in brackets. For definitions of ratings, see *Glossary*. Banks are listed according to total assets.
Source: www.moodys.com, www.fitchpolska.com.

Since the publication of the previous *Report*, rating agencies have not made significant changes in their assessments regarding Polish banks. The ratings of Polish banks remained at a relatively low level. The outlook for long-term deposit ratings of the majority of Polish banks has also remained unchanged and for most of them they are still negative. The ratings indicate that rating agencies assess that the financial position of banks and their economic environment have not improved (see Table 3.11). It should be noted that the low assessments of financial position and of the outlook for long-term deposit ratings concern banks in all countries of the region. Against the backdrop of other Central and Eastern European countries, the financial strength of Polish banks remains average.

The ratings of Polish banks are also strongly dependent on the situation of their parent banks. In the surveyed period, rating agencies their assessments of the parent banks of Polish banks at a low level. In the case of several banks, financial strength and long-term deposit ratings were downgraded (see Table 3.12).

The decrease of risk aversion and improved investors' assessments of the financial sector are reflected in the rise of stock prices of the parent companies of Polish banks. Since March 2009, stock prices of the parent banks of Poland's

largest banks rose, on the average, by 92%[56]. This improvement is also indicated by the increase of the price-to-book value ratio for the parent entities in comparison with June 2009. The value of the indicator is, however, markedly lower than for Polish banks and its median is still below 1.

Table 3.12. Ratings of the parent companies of Polish banks by Moody's - data as of 10 October 2009

Parent company	Financial strength rating	Long-term deposit rating	Outlook	Polish subsidiary
Unicredit	C (C+)	Aa3 (Aa2)	STA (STA)	Pekao
ING Bank	C+ (C+)	Aa3 (Aa3)	DNG (STA)	ING Bank Śląski
Commerzbank	C- (C-)	Aa3 (Aa3)	NEG (NEG)	BRE Bank
AIB	D (D)	A1 (A1)	STA (STA)	BZ WBK
BCP	D+ (C+)	A1 (Aa3)	NEG (DNG)	Bank Millennium
Citigroup	C- (C-)	A3 (A3)	STA (STA)	Bank Handlowy
KBC	C+ (C+)	Aa3 (Aa3)	NEG (NEG)	Kredyt Bank
Raiffeisen Bank	D+ (D+)	A1 (A1)	STA (STA)	Raiffeisen Bank Polska
Rabobank	B+ (B+)	Aaa (Aaa)	STA (STA)	BGŻ
GE Corporation	n/a (n/a)	Aa2 (Aaa)	STA (STA)	BPH, GE Money Bank
EFG Eurobank Ergasias	C (C)	A1 (A1)	DNG (NEG)	EFG Eurobank Ergasias Branch in Poland (Polbank)
BNP Paribas	B (B)	Aa1 (Aa1)	NEG (NEG)	Fortis Bank Polska (BNP Paribas Fortis)
Nordea	C+ (B)	Aa2 (Aa1)	STA (STA)	Nordea Bank
Deutsche Bank	B (B)	Aa1 (Aa1)	DNG (NEG)	Deutsche Bank PBC
Credit Agricole	B- (B-)	Aa1 (Aa1)	NEG (NEG)	Lukas Bank

Note: as of end of June 2009 - in brackets. For definitions of ratings, see *Glossary*. The data concern a group of those among 20 largest commercial banks that have a majority foreign shareholder.
Source: www.moodys.com.

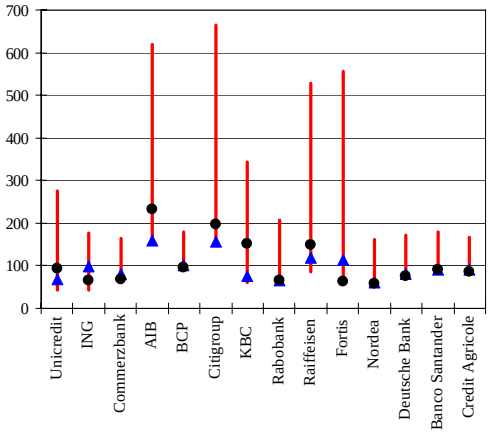
As share prices rose, CDS premia of the largest parent entities of Polish banks decreased. Current CDS premia are markedly lower than in October 2008 and in the first quarter of 2009 (see Figure 3.50). For some banks, CDS premia reached levels close to the September 2008 figures (see Figure 3.49). The decrease of credit risk premia means a better risk assessment of the parent entities and should have a positive influence on the risk assessment of their Polish subsidiaries.

Some parent entities of Polish banks will have to restructure their activities and dispose of some of their assets. On the one hand, this is caused by the need to repay state aid provided by the governments of their home countries and on the other hand, by the European Commission re-

[56] From 30 March 2009 to 20 November 2009.
[57] The European Commission has so far made the approval of the Member States's aid to banks contingent on the implementation of restructuring of the following institutions: Commerzbank, WestLB, ING, RBS, Lloyds Group and KBC. The Commission is reviewing the situation of another 28 banks, including Dexia that has operations in Poland. Based on reports by individual banks, it may be expected that the restructuring programs will cause banks' total

quirements for the observance of competition law and state aid rules[57]. These processes may result in ownership changes in the Polish banking sector, or in a broader sense, in the financial sector.

Figure 3.50. CDS premia for bonds of parent entities of selected Polish banks between January 2008 and October 2009



Note: the vertical lines show differences between maximum and minimum values in the period from January 2008 to 2009, triangles - values as of 20 October 2009, circles - as of 2 September 2008.
Source: NBP calculations based on Bloomberg data.

assets to decrease by 25–50%. European Commission's assessment of aid provided is based on guidance of Member States on measures for banks in crisis, see "State aid: Commission provides guidance to Member States on measures for banks in crisis" and "State aid: Commission provides guidance for the treatment of impaired assets in the EU banking sector". The two publications are available on the European Commission website. Information released by banks does not indicate that they have plans to sell their branches operating in Poland.

Chapter 4.

Non-bank financial institutions

The sector of non-bank financial institutions (NBFI) does not pose any major threats to financial system stability. As NBFIs focus on providing conventional financial and insurance services and the scale of relationships with banks is relatively small, their impact on the situation of the banking sector in Poland is limited.

In the first half of 2009, the improvement in the situation on the financial markets contributed to growth in NBFIs' assets. In this period, however, their profitability decreased, particularly as regards investment fund management companies. In the coming quarters, the developments in the financial markets, in particular in the equity market, will have a significant impact on NBFI s' earnings. The materialisation of the scenario assuming a larger than expected fall in GDP growth, combined with deterioration in the situation in the financial markets, could lead to substantial deterioration of NBFI s' financial results, particularly in the investment fund management and insurance sectors.

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

	OFE	ZU	FI	Banki
2007	140.0	126.9	133.8	792.8
2008	138.3	137.9	73.9	1 038.8
3-2009	137.2	138.1	69.5	1 075.6
6-2009	152.9	140.3	77.5	1 052.5
9-2009	168.3	n/a	88.2	1 045.7

Note: for OFE and FI - net assets.
Source: Analizy Online, KNF, NBP.

The sector of non-bank financial institutions is an important part of the financial system in Poland[58]. It should be emphasised, however, that in terms of asset size banks are the dominating institutions in the Polish financial system (See Table 4.1).

After a decline at the beginning of 2009, assets of non-bank financial institutions have been increasing since the second quarter of 2009. This was supported by rising prices in financial markets, primarily in the equity market. The factor that significantly influenced the rise in assets of open pension funds were transfers of pension con-

[58] This chapter discusses the impact of insurance companies, open pension finds/pension fund management companies and investment funds/investment fund management companies on financial system stability. Detailed information about all types of non-bank financial institutions in Poland in 2008 is presented in "Rozwój systemu finansowego w Polsce 2008" [forthcoming as "Financial System Development in Poland 2008"], NBP, Warszawa 2009.

tributions from the Social Insurance Institution (ZUS, 16.3 billion zloty[59] in the first three quarters of 2009). In the analysed period, the net inflow of cash to investment funds was relatively small.

The impact of non-bank financial institutions on banks was discussed in detail in the previous edition of the *Report*[60]. The scale of the impact of NBFIs transmission channels on the banking sector, i.e. credit channel, funding and liquidity channel, capital (ownership) channel and indirect market channel did not change significantly in comparison with the situation described in the previous edition.

4.1. Insurance companies

The decline in the economic growth rate had an adverse impact on earnings of the insurance sector, as a result of, among others, reduced demand for insurance products, a fall in earnings in the financial insurance subsectors (primarily loan insurance subsector) and a fall in asset prices. However, in the period analysed in the *Report*, a more pronounced impact on the profitability of the insurance sector stemmed from factors not directly connected with the deterioration in the economic situation, such as increase of loss ratio in automobile insurance subsectors, strong competition in certain insurance subsectors and a relatively large value of damages caused by natural disasters.

Earnings and their determinants

Earnings of the *non-life insurance and other personal insurance sector* (hereinafter: non-life insurance sector) went down in the first half of 2009 (see Table 4.2), mainly as a result of insurance risk materialisation.

The increase in loss ratio in two largest subsectors of the non-life insurance sector, i.e. automobile third party liability insurance (OC) and comprehensive auto insurance subsectors (AC) had a negative impact on the profitability of the non-life insurance sector[61]. In the case of automobile third party liability insurance (OC), the fall in the technical result[62] was caused, among others, by claims paid out as compensation for the next of kin of the deceased[63].

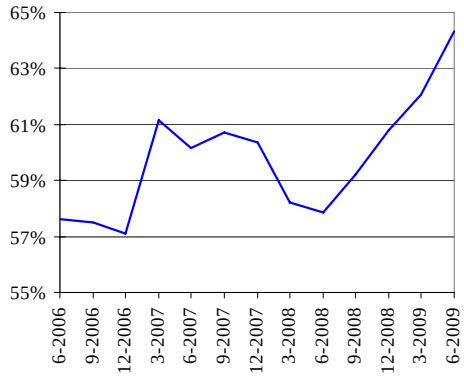
Another factor that had a negative impact on earnings of the non-life insurance sector were insurance losses of large size caused by torrential rain at the end of June 2009. The increase in loss ratio of automobile third party liability insurance (OC) and comprehensive auto insurance (AC) as well as the insurance against fire and other natural and man-made disasters subsectors lead to a marked increase of the loss ratio in the whole non-life insurance sector (see Figure 4.1).

Apart from a rise in loss ratio, the increase in the

[59] Comprising also interest on overdue contributions transferred by ZUS.
[60] " Financial Stability Report June 2009", NBP, Warszawa 2009, pp. 84-85.
[61] The criterion of amount of collected premiums is used to compare the size of insurance subsectors. Unless otherwise stated, the premiums in this section shall mean gross written premiums.
[62] The so called inverse production cycle is a specific feature of insurance companies. They first collect premiums which are used to cover the cost of future claims (cost of insurance risk materialisation). The premiums collected are not recognised as revenues of the company immediately but initially increase the value of investments (balance-sheet assets) and of the insurance provisions (balance-sheet liabilities). In the course of the insurance contracts, the value of these provisions is gradually reduced and the value of earned premiums is increased accordingly. The difference between net earned premiums and the net claims paid in a given period and the operating expenses (mainly acquisition and administration costs) is the main component of earnings from insurance activity (so called technical result). The technical result also includes part of earnings from investments (the remaining part increases net profit). In practice, in life insurance companies around 90% of the result on investments is included in technical result, and in non-life insurance companies around 90% of the result on investments is presented after the technical result in the so called non-technical account.
[63] In August 2008, regulations providing for a compensation for the next of kin of the deceased came into force. See Art. 446 (4) of the Civil Code.

operating expenses also contributed to the worsening of profitability in the non-life insurance sector. In the first half of 2009, the acquisition costs increased significantly (rise by 16% y/y) and their growth rate was considerably higher than the growth rate of premiums (see Figure 4.2). The rise in the acquisition costs and the fall in technical profitability may reflect a stronger competition in this segment of the insurance market.

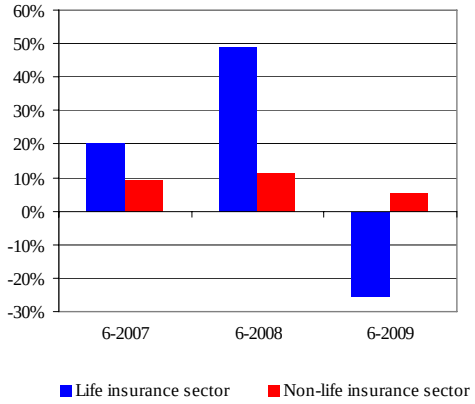
Figure 4.1. Gross loss ratio in non-life insurance sector



Source: KNF.

The decline in the economic growth rate also had an adverse impact on earnings of the non-life insurance sector. The consequences of economic slowdown, including the fall in the growth rate of sales of new cars and a significant decline in the import of second-hand cars, the fall in lending growth and the decline in property prices contributed to the decrease of the growth rate of premiums.

Figure 4.2. Growth rate of gross written premiums in the insurance sector (y/y)



Source: KNF.

Table 4.2. Earnings of insurance companies

	6-2008 (zloty million)	12-2008 (zloty million)	6-2009 (zloty million)	Change: first half 2009 / first half 2008 (in %)
Non-life insurance sector:				
Gross premiums written	10 325	20 306	10 876	5.3
Technical result	769	719	207	-73.1
Net investment income not included in technical result	2 482	2 896	2 270	-8.5
Net profit	3 020	3 277	2 239	-25.9
Life insurance sector:				
Gross premiums written	18 701	38 986	13 939	-25.5
Technical result	1 617	3 453	2 488	53.8
Net investment income not included in technical result	9	-347	305	3259.6
Net profit	1 344	2 506	2 300	71.0

Source: KNF.

Some highly profitable non-life insurance subsectors also recorded a relatively large nominal decline in premiums. This concerned, among others, comprehensive auto insurance subsector (fall by 7.4% y/y) which represents the second largest non-life insurance subsector (the first being third party liability automobile insurance). In previous years, technical profit in this subsector of non-life insurance represented the major part of the whole sector's technical result (61% in 2008.).

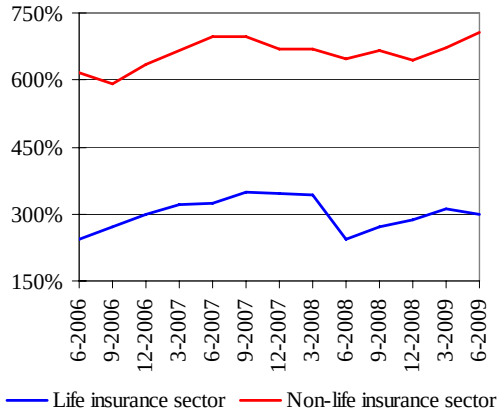
The loan insurance subsector was another highly profitable subsector where there was a significant decline in premiums and in technical result. The fall in the written premium in this subsector (by around 10%) was the result of a decline in the growth rate of lending to households. On the other hand, the sharp rise in loss ratio (from 22.0% in the first half of 2008 to 57.7% in the first half of 2009) was caused by an increase in the value of claims paid out as a result of worsening loan quality. The rise in loss ratio was the main reason for an almost twofold reduction in technical result in this insurance subsector.

Earnings of the life insurance sector improved mainly as a result of a rise in profit from investments, which was possible, among others, due to a rise in prices in the equity market.

The life insurance sector recorded a rise in profits in spite of a relatively large fall in collected premiums[64] (see Figure 4.2). This fall was recorded, among others, in certain investment–type insurance products, such as the so called anti-tax deposits as well as unit-linked insurance policies . Part of insurance companies withdrew from or reduced offering anti-tax deposits due to the low profitability of such products, the increase in the capital requirement and credit risk concentration, when most bank deposits were placed in one bank. Low technical profitability in the subsector of life insurance which includes unit-linked products contributed to the fact that the large fall in premiums (by 14% y/y in the first half of 2009) had an insignificant influence on the technical profit in this subsector.

Solvency and capital position of insurance companies

Figure 4.3. Activity monitoring ratio in the insurance sector



Source: KNF.

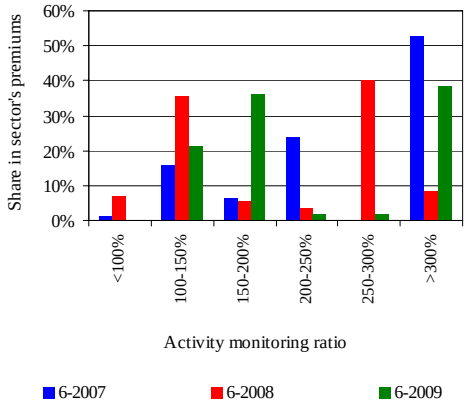
A characteristic feature of the insurance sector is a high excess of regulatory capital over the capital requirement. At the end of the first half of 2009, the main capital adequacy ratio in the life insurance sector exceeded the required minimum (100%) around threefold, and in the non-life insurance sector - sevenfold (see Figure 4.3). Similarly as in previous periods, such a high excess of regulatory capital over the capital requirement in the non-life insurance sector was the result of very high regulatory capital of PZU SA. In this company, the activity monitoring ratio exceeded the required minimum over 14 times at the end

[64] It should be noted that the decline in the value of insurance provisions was much smaller than the fall in premiums and amounted to 2.9%. In the case of life insurance where investment–type insurance policies have a large share, the value of provisions seems to be a better measure for the assessment of the scale of insurance company' activities than the value of collected premiums.

[65] The pay-out of a very high dividend by PZU SA at the end of November 2009, which resulted from a settlement reached by the shareholders, resulted in a significant reduction of the company's regulatory capital. This led to a substantial decrease in average capital adequacy ratios in the non-life insurance sector due to a large share of PZU SA in the whole sector. Ex dividend, the regulatory capital is estimated to be 5 times higher than the capital requirement

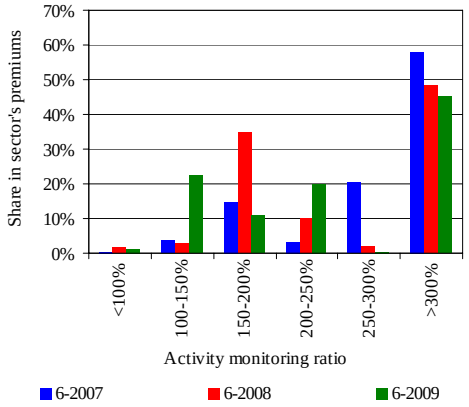
of the first half of 2009[65].

Figure 4.4. Distribution of activity monitoring ratio in life insurance sector



Source: KNF.

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



Source: KNF.

Due to a large portion of 2008 profit in insurance companies having been retained[66] as well as a decline in the growth rate of the insurance sector, capital adequacy ratios improved in the first half of 2009 (see Figure 4.3). This concerned, in particular, the life insurance sector, where there was a decline in the value of collected premiums and insurance provisions in the first half of 2009. In the group of small and medium non-life insurance companies, there was a decline in the capital adequacy ratio. In the part of the insurance sector not including 5 largest companies, the ratio declined from 2.4 at the end of the first half of 2008 to 2.1 at the end of the first half of 2009[67].

Positive trends were also observed in the change of the distribution of the insurance sector capital adequacy ratio. At the end of June 2009, the number and market share of insurance companies that did not meet the capital requirement went down in both insurance sectors (see Figure 4.4 i 4.5). Activity monitoring ratios in one life insurance company and one non-life insurance company did not reach the required minimum (100%), but in the case of the life insurance sector the market share of this company may be described as marginal (below 0.1%).

Investments of insurance companies

The investment risk of insurance sector investments can be assessed as low. At the end of the first half of 2009, their dominant part (over 80%)[68] were bank deposits and debt securities issued, guaranteed or warranted by the State Treasury or by international institutions of which Poland is member. A small portion of investments was still invested in high-risk financial instruments, such as shares or investment funds' participation units (see Figure 4.6). As at the end of the first half of 2009, shares and interests

for PZU SA.

[66] Around 70% of profits for 2008 was allocated to increase the reserve capital or coverage of loss of previous years. See "Regulacje wewnętrzne i polityka zakładów ubezpieczeń w zakresie podziału zysku finansowego w latach 2005 - 2008" ["Internal regulations and policy of insurers with regard to division of profits in 2005-2008"], KNF, Warszawa, 2009 for more information (available in Polish only).

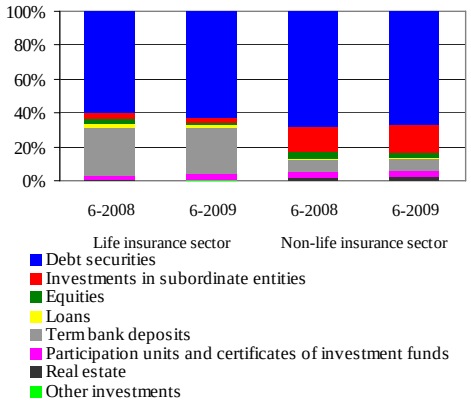
[67] Source: NBP estimates based on KNF data.

[68] Excluding equity investments in subsidiaries (the dominant part of this item was equity investments of the PZU Group, including shares of PZU Życie SA held by PZU SA) this share increased to 89%.

[69] In this section investments related to life insurance products, where the risk is borne by the insuree, are not taken into account for calculating the share in this section.

represented 2.0% of the investments' portfolio[69] (3.3% at the end of the first half of 2008); investment funds' participation units – 3.2% (3.3% at the end of the first half of 2008.).

Figure 4.6. Structure of investments of insurance companies



Note: the share calculated without taking into account investments where the risk is borne by the insuree.
Source: KNF.

Withdrawal or limiting by some life insurance companies of offering anti-tax deposits had a positive impact on the size of concentration risk connected with insurance companies' investments. As a result of this process, the share of bank deposits in insurance companies' investments decreased in the first half of 2009 (from 21.9% to 17.8%). This share was particularly high in life insurance companies (34.0% at the end of 2008.). In the first half of 2009, it declined to 27.3%.

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The expected economic growth rate below 2% in the coming quarters will have an adverse influence on insurance companies' earnings. The worsening of the situation in the labour market (fall in employment, decrease of wage growth, rising unemployment) may reduce the demand of household sector for non-mandatory non-life insurance and life insurance policies. The relatively low lending growth will in turn have a negative influence on the sale of certain types of insurance policies as extending a loan is often conditional on taking out such a policy (house and car insurance, loan insurance, different financial risks insurance, life insurance policies). If apartment prices fall further, its impact on the value of the insured property and thus the value of collected premiums and profits would also be adverse.

The rise in the amount of claims paid out as compensation awarded to the next of kin of the deceased may contribute to a fall of the technical result in the third party liability insurance subsector (OC). The scale of this impact will depend on the development of judicial practice in respect of claims awarded. The awareness of the insured of the possibility to receive such compensation may support a rise of the amounts paid out as compensation.

The expected further fall in the value of anti-tax deposits should not have an adverse impact on earnings of the life insurance sector. This process may, however, contribute to the improvement of capital adequacy ratios in this sector.

4.2. Pension fund management companies and open pension funds

Earnings of pension fund management companies

In the first half of 2009, pension fund management companies (PTE) recorded a slight decline in profits and technical profitability (see Table 4.3). The main reason behind the decline was a sharp rise in acquisition and management costs (by 20% and 21% y/y, respectively). The increase in acquisition costs may reflect PTE's intensified activities to acquire new members, which seems to be confirmed by the rise in the number of transfers between funds (by 32% y/y).

In the first half of 2009, there was also a relatively large rise in mandatory costs borne by PTE in

relation to management of OFE (see Table 4.3). The following costs rose, among others: the fees of the transfer agent/fund member register, commissions paid to ZUS on OFE member contributions, fees paid to finance operations of Polish FSA and the Polish Insurance Ombudsman, and contributions to the primary and supplementary parts of the guarantee fund. The costs related to contributions to the guarantee fund were particularly high. The reason for the rise was a higher increase in OFE assets and a higher value of contributions transferred to OFE in the first half of 2009 than in the same period of the previous year.

Profits and profitability of pension fund management companies declined in spite of the rise in income from management of OFE (see Table 4.3). Such rise is mainly attributed to an increase in the value of contributions transferred by ZUS to OFE (increase in the value of fees charged by PTE on the contributions) and an increase in OFE asset value. Taken together, these factors contributed to a slight rise in income earned by PTE on management of OFE.

Table 4.3. Financial results and technical profitability of pension fund management companies (million zloty)

	6-2008 (mn zloty)	12-2008 (mn zloty)	6-2009 (mn zloty)	Change I half of 2009 / I half of 2008 (in %)
Revenues from OFE management	951	1 895	995	4.6
- revenues from member contributions	607	1 226	652	7.5
- remunerations for OFE management	299	586	303	1.4
OFE management costs	497	1 050	579	16.5
- obligatory costs	207	428	239	15.2
- other costs	289	622	340	17.4
Technical profit on OFE management	454	845	416	-8.4
PTE net profit	404	731	386	-4.5
Technical profit margin on OFE management (in %)	48	45	42	-6 pp.

Note: technical profit margin - relation of technical profit to revenues from open pension fund management.
Source: KNF.

All but one pension fund management companies posted a technical and net profit in the first half of 2009. The loss posted by one pension fund management company can mostly be attributed to relatively high costs of acquisition, advertisement and marketing. This seems to point to the fact that the loss has resulted from the strategic choice to raise market share quickly. In the first half of 2009, due to transfers this pension fund management company acquired the biggest number of OFE members.

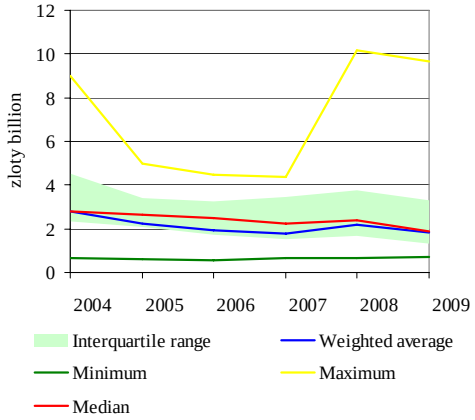
Minimum required rate of return of open pension funds

At the end of September 2009, all open pension funds generated positive 36-month returns which were higher than the minimum required rate of

return (MRRR). This implies that the supplementary payment risk of PTEs did not materialise[70] This risk is one of the major types of risk underlying the activities of pension fund management companies.

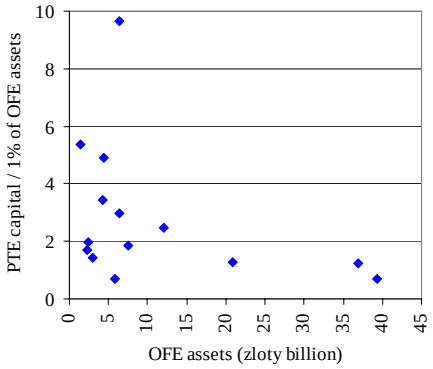
Despite a relatively large increase in the equity capital of pension fund management companies last year, the ratio of their equity capital to the value of assets of open pension funds they manage remains low (see Figure 4.7). Pension fund management companies that manage the biggest open pension funds have a particularly low value of this ratio (see Figure 4.8). It should be noted, however, that in the case of these open pension funds the risk of supplementary payment is limited as their impact on the weighted average rate of return, which is the basis for setting MRRR, is the largest.

Figure 4.7. Ratio of pension fund management companies' capital to 1% of the value of assets they manage



Note: data as at end of June 2009
Source: NBP calculations based on KNF data.

Figure 4.8. Ratio of pension fund management companies' capital to 1% of the value of assets they manage against the value of assets of the open pension funds



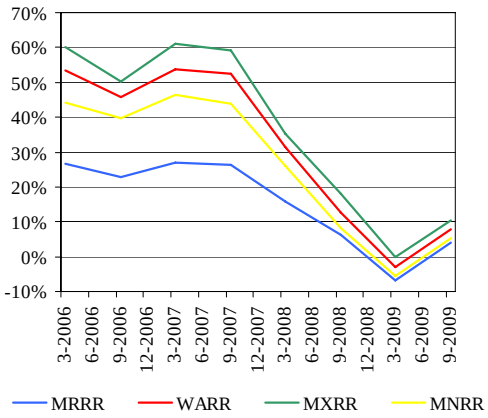
Note: data as at end of June 2009
Source: NBP calculations based on KNF data.

The simulations carried out in the NBP [71] show that in the coming year the risk to make supplementary payments may be of key importance for some pension fund management companies. At the end of September, similarly as in the previous settlement period, the spread between the lowest and the minimum required rate of return of open pension funds was relatively low (around 1.5 percentage points, see Figure 4.9). The simulations show that the spread between the lowest and minimum required rate of return at the end of March 2010 may be close to the value of the previous period (see Figure 4.10), and may increase by around 1 percentage point in the following settlement period.

[70] Non-compliance with the MRRR does not imply that PTE must use its equity to make supplementary payments. A shortfall is in the first place covered from the reserve account, where funds from fund's asset management fee premia are held. In the second place, a shortfall is covered with the so-called additional section of the Guarantee Fund. Should this mechanism be activated, a necessity may arise for a PTE to replenish funds in the Guarantee Fund's additional section once they fall below the legally required level. Subsequently, the remaining shortfall is covered with PTE's equity.

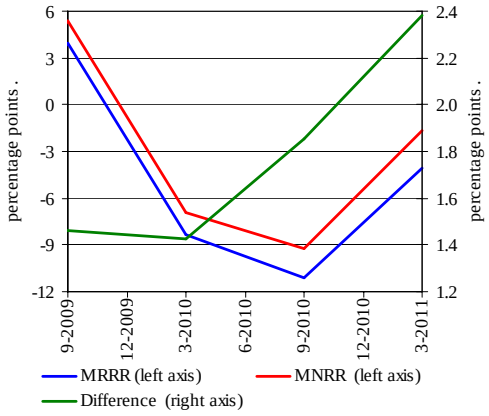
[71] Simulation of rates of return of open pension funds in 2010 assumes the value of OFE participation units in March and September 2010 will remain at the level of end of September 2009

Figure 4.9. Rates of return of open pension funds



Note: MRRR/WARR/MXRR/MNRR - minimum required/ weighted average/ - maximum/minimum rate of return of open pension funds.
Source: NBP calculations based on KNF data.

Figure 4.10. Simulation of rates of return of open pension funds

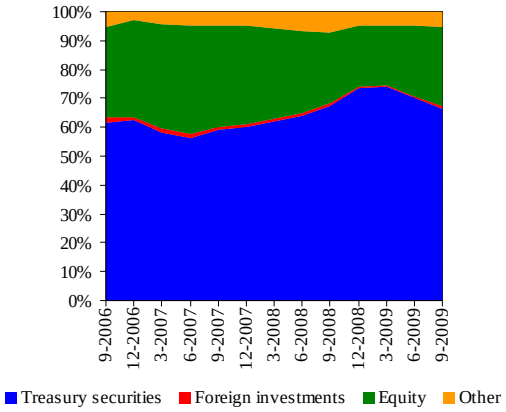


Note: MRRR/ MNRR/Difference - minimum required / minimum rate of return of open pension fund /difference between MNRR and MRRR.
Source: NBP calculations based on KNF data.

Composition of OFE assets

The stock prices, which have been strongly rising since March 2009, have contributed to a significant increase of their share in OFE portfolios (from 21.6% at the end of 2008 to 28.0% at the end of September 2009), mainly at the cost of a fall in the share of the largest component of the portfolio, i.e. Treasury debt securities (see Figure 4.11). However, the share of equities remains markedly lower compared with the average from 2004-2008 (33.5%). The share of the remaining financial instruments in the portfolio of open pension funds remains insignificant, but it is worth noting that the share of non-government debt securities increased in the last quarters (at the end of September they represented 2.7% of OFE investment portfolios, while at the end of 2008 their share stood at 2.1%).

Figure 4.11. Composition of investment portfolios of open pension funds



Source: NBP calculations based on KNF data.

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Reduction of the maximum fees which PTE may charge on contributions transferred by ZUS to open pension funds may contribute to a decrease in revenues of the PTE sector. In line with the

[72] The law amending the law on the organisation and operation of pension funds and of the law on the organisation and operation of pension funds and certain other laws (Journal of Laws, 2009, No. 127, item 1048).

new regulations [72], from 1 January 2010 the maximum fee may not exceed 3.5%. Due to an expected further increase of open pension funds' assets in the coming years, the decline in income of pension fund management companies resulting from the reduction of the maximum fees should be gradually reversed in line with rising income from management of OFE[73].

4.3. Investment fund management companies and investment funds

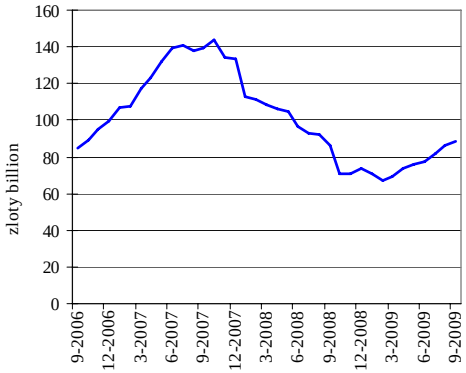
Changes in asset value and net inflow to investment funds

In the second and third quarter of 2009, the asset value of investment funds increased significantly (see Figure 4.12). The increase of investment funds' asset value that took place since the end of the first quarter of 2009 was due to a rise in prices in financial markets (increase in the valuation of assets comprised in funds' portfolios), which was mainly related to large price rises in the equity market. From May 2009 to September 2009, the increase in the value of funds' assets was also due to a positive net inflow of cash (see Figure 4.13). The net inflow was relatively large, among others, in the case of equity funds, which may be attributed to large rises in stock prices since March 2009 and high short-term rates of return on investment in participation units of equity funds. A significant inflow of cash in this period was also recorded by money market funds.

Earnings of investment fund management companies

In the first half of 2009, similarly as in 2008, there was a significant decrease in revenues and profits of investment fund management companies (see Table 4.4), mainly as a result of a decline in the value of funds' assets. The fall in the share of equity and balanced funds in total assets of the investment fund sector compared with the same period of previous year also had a negative impact on earnings[74]. These funds exhibit a higher level of management fees than the remaining types of funds. A reduction in personnel costs (by around 10%) and a low level of advertisement expenses had a positive impact on the earnings of investment fund management companies in the first half of 2009.

Figure 4.12. Net assets of investment funds



Source: Analizy Online.

[73] Two PTEs managing the largest open pension companies would benefit from the rise in assets only to a slight degree. In the coming quarters, the assets of these open pension funds may reach the maximum threshold of 45 billion zloty. If the threshold is exceeded (in line with the new regulation), the maximum fee for OFE management will be not more than 15.5 million zloty per month.

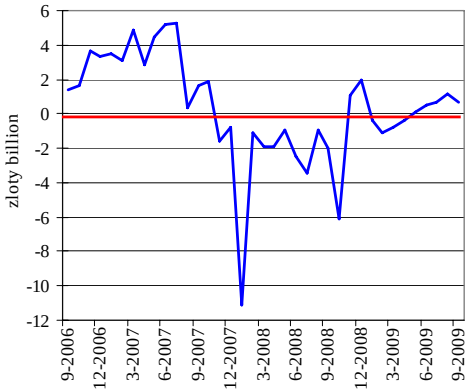
[74] Average share of equity and balanced funds in investment funds' assets declined form 58% in the first half of 2008 to 50% in the first half of 2009.

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

	6-2008 (mn zloty)	12-2008 (mn zloty)	6-2009 (mn zloty)	Change I half of 2009 / I half of 2008 (in %)
Revenues on operational activity, of which:	1 626.0	2 560.8	804.1	-50.5
- Management fees	1 556.0	2 462.3	773.0	-50.5
Costs of operational activity	1 179.3	1 895.5	642.2	-45.5
Pre-tax profit	483.9	722.9	210.4	-56.5
Net profit	390.3	579.7	170.7	-56.3
Average monthly value of net assets	110 435.9	96 982.9	72 690.4	-34.2
Pre-tax profit margin on operational activity (in %)	29.8	28.2	26.2	-3.6 pp.
ROE (in %)	75.1	44.1	32.0	-43.1 pp.

Note: ROE annualised.
Source: GUS, Analizy Online.

Figure 4.13. Net inflow of cash to investment funds in individual months



Source: Analizy Online.

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The increase in the value of funds' assets will have a positive impact on the earnings of investment fund management companies in the second half of 2009. However, throughout the whole 2009 profits generated by the sector of investment fund management companies will probably be markedly lower than in the previous year. In the second half of 2009, marketing costs, including advertisement and distribution costs of investment fund management companies are likely to increase. The increase will be connected with an improvement in the situation in the equity market in the second and third quarter of 2009, and a related improvement in returns earned by investment funds.

The earnings of investment fund management companies in the subsequent quarters will be determined to a great extent by the situation in financial markets, particularly in the equity market, as the situation in this market has a considerable influence on the value of investment funds' assets and the amount of cash inflow. On the other hand, the value of assets under management is the most important factor determining the amount of revenues and profits of the investment fund management companies sector owing to the large share of the management fee (usually calculated as a fixed percentage of the fund's net assets) in revenues on operational activity[75].

[75] In 2007 and 2008, the share of the management fee in revenues on operational activity of investment fund management companies amounted to 86% and 96%, respectively.

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 (resources) - average value of balance in a year

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 commercial and cooperative banks as well as subsidiaries 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.

Commercial banks – domestic commercial banks and subsidiaries of foreign credit institutions.

Comprehensive auto insurance (AC) policy – comprehensive auto insurance policy 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.

Consumer loans – inter alia, overdraft facility, credit card lending, instalment loans.

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

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 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.

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 – commercial banks and cooperative banks functioning in Poland (without subsidiaries of foreign financial institutions).

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.

Income buffer – 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 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.

Irregular loans – at banks applying Polish accounting standards: loans classified as substandard, doubtful, loss loans; at banks applying IFRS: impaired loans, as recognized by the bank on the base of objective circumstances.

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.

Net charges / Net movements in provisions and valuation allowances – net 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. (ang. *Net Interest Margin*).

Net percentage – measure aggregating the quality survey; 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 premium's provisions as at the end of the reporting period plus the balance of premium's provisions 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 amortization.

Overnight Index Swap (OIS) – transaction, under which two parties are obliged to exchange interest payments from given nominal amount for 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.

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

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.

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

Technical profit – 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.

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.

Abbreviations

BIK	Credit Information Bureau (Biuro Informacji Kredytowej)
CDS	Credit Default Swap
CIRS	Cross Currency Interest Rate Swap (see Glossary)
CTI	Cost-to-income ratio
DNG	Rating under review by agency for a possible downgrade
ECB	European Central Bank
FI	Investment funds
FRA	Forward Rate Agreement
GPW	Warsaw Stock Exchange
GUS	Central Statistical Office
IRS	Interest Rate Swap
KDPW	National Depository for Securities
KNB	Commission for Banking Supervision
KNF	Polish Financial Supervision Authority
LIBOR	London Interbank Offer Rate
LTV	Loan-to-value ratio
IFRS/IAS	International Financial Reporting Standards / International Accounting Standards
MRRR	Minimum required rate of return
NBP	National Bank of Poland
NEG	Negative rating outlook – expected downgrade
NBFI	Non-bank financial institutions
OFE	Open Pension Funds
OIS	Overnight Index Swap
POS	Positive rating outlook – expected upgrade.
PTE	Pension fund management companies
ROA	Return on assets
ROE	Return on equity
STA	Stable rating outlook
TFI	Investment fund management company
ufk	Insurance investment fund
UPG	Rating under review by agency for a possible upgrade
VaR	Value at Risk
WIBOR	Warsaw Interbank Offered Rate
WIG	Main index of the Warsaw Stock Exchange

WIG–Banki	Index of banks listed on the Warsaw Stock Exchange
ZU	Insurance companies
ZUS	Social Insurance Institution