January 2015

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

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

Financial system stability is of particular interest to the NBP due to its statutory tasks to contribute to the stability of the domestic financial system and to establish the necessary conditions for the development of the banking system (article 3 item 2 paragraphs 6a and 6 of the Law on NBP). Financial system stability is closely related to the primary task of the central bank, i.e. maintaining price stability. The financial system plays a key role in the transmission of monetary impulses to the real economy. Financial system instability may hamper the efficient implementation of the monetary policy. The analysis of the financial system stability also constitutes a necessary element of an efficient regulatory and supervisory policy, in the development of which the NBP plays an important role and which, together with the monetary policy, contribute to maintaining sustainable economic growth. Another reason for the involvement of the NBP 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 (article 3 item 2 paragraph 1 of the Law on NBP). The stable functioning of financial institutions that are integral components of payment systems is a necessary condition for the smooth operation of these systems.

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

The analysis conducted in this *Report* is based on data available up to 30 November 2014 (cut-off date). Some high-frequency data, especially relating to financial markets, and other particularly significant information go beyond the adopted cut-off date. The *Report* was approved by the Management Board of the Narodowy Bank Polski at a meeting on 22 January 2015.
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Executive summary

In the period under analysis\(^1\), Poland’s financial system was functioning in a stable manner, and the nature and intensity of risks to its stability have not changed substantially since the publication of the previous edition of the Report. The NBP gauges that resilience of Polish financial system to materialization of identified sources of risk, also unlikely ones, is high. One of these risk factors is the unexpected appreciation of the Swiss franc to all major currencies, including the Polish zloty. The influence of the appreciation on Polish banking system will depend on the duration and the scale of the exchange rate change. The NBP evaluates that it will not be a significant threat to the stability of the Polish financial system.

The economic environment of the Polish financial sector was not a significant source of risk although the improvement, expected in the previous edition of the Report, in the direct environment of the Polish economy has not materialised. The global economy was growing in the second and third quarters of 2014 at a relatively moderate rate. Current forecasts point to a further gradual, albeit slow recovery in the Polish economic environment. However, the improvement is more uncertain than in the past. Factors impeding a recovery in the Eurozone are, inter alia, structural problems, unsolved problems of high public and private debt and high budget deficits in some countries, low inflation rate, uncertainty concerning results of mutual sanctions between EU and Russia resulting from ongoing conflict between Russia and Ukraine.

The Polish economy continued to recover and its growth had a balanced nature. This has a beneficial influence on the resilience of the Polish economy to negative shocks from the world economy, which is important due to the increase in uncertainty in Poland’s economic environment. The lack of significant imbalances in the Polish economy supports the stability of the domestic financial system.

Growth of domestic demand was the main positive factor behind economic growth. Favourable trends in the labour market continued, especially rising employment and wages. The enterprise sector remained in good financial condition despite evidence of slowing growth trends and exposition of some industries to risk related to Russia-Ukraine conflict and resulting economic sanctions. The real sector debt to GDP ratio of both households and enterprises was stable and its level – moderate.

\(^1\)The Report focuses on analysing the information from the period between the cut-off date of the previous edition (31 May 2014) and the cut-off date of the current edition (30 November 2014. Some high-frequency data, especially relating to financial markets, and other particularly significant information go beyond the adopted cut-off date. In particular, an assessment of the impact of the appreciation of the Swiss franc after the Swiss National Bank decision on freeing the exchange rate on the stability of the domestic financial system.
The condition of the public finances improved. The budget deficit from January to November 2014 was markedly lower than in the corresponding period of 2013. According to Finance of Ministry estimates, the general government deficit under the ESA2010 will fall to 2.5% of GDP in 2015, which will allow to exit the excessive deficit procedure.

The valuation of financial instruments in the domestic market was largely affected by developments in international markets. Low volatility of prices on global markets at the turn of second and third quarter of 2014 was raising concerns whether market participants were pricing risk correctly.

The domestic money market functioned in a stable manner. Market risk perceived by banks was relatively low. Until early November 2014, participants in the domestic money market had expected NBP to cut its interest rates; however, the expectations weakened after 5 November when the Monetary Policy Council decided to keep the rates unchanged. Global and domestic factors (deflation, expectations of only slow inflation growth, low bond supply) resulted in the yields of the Polish government bonds achieving all-time lows along the whole yield curve. A highly diversified investor structure in the domestic government bond market has not changed substantially.

The zloty exchange rate against the euro was stable between June and November 2014 and its implied volatility remained lower than before the outbreak of the global financial crisis. In the second half of December 2014 the zloty depreciated against the euro. This was caused by depreciation of currencies of all developing countries, which in turn resulted from currency crisis in Russia. The decision of Swiss National Bank on 15 January 2015 to reintroduce a floating exchange rate of the franc to the euro caused a strong appreciation of the Swiss franc against the Polish zloty and the euro; however the PLN/EUR exchange rate did not change significantly.

The residential real estate market remained balanced. Transaction prices of dwellings in the primary markets posted a slight increase. At the same time, a rise in supply was seen in this segment. On commercial real estate market, especially among offices, the growing imbalance between demand and supply could be observed. This situation does no generate risk for national financial system, as the involvement of domestic banks in financing this sector is limited.

A growing imbalance between demand and rising supply was still observed in the commercial real es-
tate market, especially in the office real estate mar-
ket. This situation does not generate risks to domes-
tic financial stability due to the limited role of do-
mestic banks in funding of this segment.

Due to the nature of the Polish financial system, the
level of systemic risks is, to a decisive extent, deter-
mimed by the situation in the banking sector. This
happens because of the dominant share of banks
in the financial system and in funding of the econ-
omy, low interconnectedness between banks and
non-bank financial entities and the traditional na-
ture of financial services and products offered by Pol-
ish financial entities.

The banking sector was in good condition. The capi-
tal position of the domestic banking sector remained
good, which ensured high resilience to shocks. The
Polish banking sector exhibits low leverage, which
confirms its good capital position. The results of
simulations and macro stress tests confirm the sec-
tor’s high resilience to a potential deterioration of
operating conditions. The entry into force of reg-
ulatory changes arising from the provisions of the
CRDIV/CRR package did not bring about major
changes in the level of regulatory capital, capital re-
quirements and capital adequacy ratios.

Changes related to the entry into force of the
above mentioned European regulations will, how-
ever, have a significant bearing on the structure and
manner of operation of the cooperative banking sec-
tor – both banks themselves (capital adequacy), and
the affiliating banks (liquidity requirements). Meet-
ing these challenges requires an urgent and coordi-
nated action of the regulator, supervisory authority
and the sector itself. It is essential to rapidly enact
the law amending, inter alia, the act on the func-
tioning of cooperative banks, that contains regula-
tory solutions that will help the cooperative banking
sector to function under the new regulatory frame-
work, including the creation of an institutional pro-
tection scheme.

In the period under analysis, the earnings and prof-
itability ratios of the banking sector improved, and
the latter were high compared with those of other
EU countries. An increase in net interest margin
and a decrease in the burden of operational costs
on net income from banking activity contributed to
the sector’s improved profitability. The burden of
the cost of credit risk materialisation remained sta-
ble, whereas non-interest margin declined. The es-
estimated profitability of all analysed credit products
increased.

The growth rate of lending to the non-financial sec-
tor has been close to the nominal GDP growth rate
for around three years. Such a lending growth rate
should not give rise to the growth of imbalances
and is safe from the point of view of financial sta-
bility. The growth rate of main credit categories –
housing, consumer and corporate loans – did not
change substantially in the period. In the near fu-
ture, this situation should not change, and some ac-
celeration may be expected only in the area of con-
sumer loans. Banks may be expected to be willing to
increase the supply of such loans, as their profitabil-
ity is several times higher than that of other loan
types. Favourable changes consolidated in the loan
portfolio structure – primarily, the value of foreign
currency housing loans (expressed in the currency of
the loan) has continued to diminish.

The ratio of impaired loans in loans to the non-
financial sector was falling slowly. The fall was pri-
marily driven by the rising value of the loan portfo-
lio, as the value of impaired loans rose slightly. The
portfolio quality trends vary among specific portfo-
lios. The impaired loan ratio and the value of im-
paired loans continued to grow slowly in the case of
housing loans (due to portfolio ageing effect), and
decreased – for consumer loans (mainly on the back
of lending growth) and corporate loans (which is the
result of improvement of their financial condition) – both in the sector of small and medium-sized enterprises (SMEs) and large enterprises.

FX risk and interest rate risk in banks’ trading books is minor. For most banks, the net FX position is close to zero and insignificant in relation to capital. Interest rate risk in banks’ trading books, and risk associated with the securities portfolio in the banking book is also insignificant and limited mainly to fixed-rate government bonds.

Net interest income on the portfolio of zloty interest-bearing assets and liabilities is sensitive to market interest rate changes. In most banks, the interest on assets responds faster to changes in market interest rates than the interest on liabilities. As a result, a drop of market interest rates leads to a fall of banks’ net interest income. In the environment of low interest rates and the interest rate on some of liabilities being close to zero, the possibility of making further adjustments of interest expense to lower market interest rates may be limited.

The funding structure of Polish banks is favourable for banking sector stability. This is evidenced by a low funding gap, a big share of household deposits in liabilities and low reliance on the potentially less stable market funding. In the analysed period, the downward trend of the average funding gap continued, and the majority of commercial banks were gradually reducing the share of funding provided by foreign financial institutions. The importance of the domestic interbank market as a funding source remained minor and trades executed in the market mainly served to manage short-term liquidity. All banks complied with the supervisory liquidity standards, both short-term and long-term ones.

It may be expected that the profitability of the Polish banking sector will fall in the future. This may be driven by a falling net interest margin, stabilisation or a further fall of non-interest margin, a rise in banks’ deposit guarantee premiums and a possible rise in the burden of loan impairment provisions on earnings.

Losses on the portfolio of loans to the corporate sector may be expected to increase slightly. The expected slowdown in economic growth may contribute to this development. A possible intensification of the EU sanctions and Russia’s retaliation linked to its conflict with Ukraine could increase credit losses on the corporate loan portfolio. However, the NBP estimates indicate that even should an extremely negative scenario unfold, the impact on banks’ capital adequacy would be insignificant. According to NBP assessment the influence of the appreciation of the Swiss franc on foreign currency loans’ quality will be moderate. The moderate influence will result from the increase of wages, which occurred since the period when most of the loans were extended, as well as from currently observed decrease of prices of consumer goods and services (mostly originating from decline of prices of energy), which results in lower costs of living. As for other loans for households, stabilization of credit risk costs can be expected.

In contrast to the banking sector, the credit union sector needs to be promptly restructured. A number of credit unions post – as a result of high credit risk costs – capital adequacy ratios that are below the regulatory minimum, and some of them even report negative capital. The trends regarding the liquidity ratios are not positive either.

However, the size of the sector is small compared to the banking sector, and financial ties — insignificant. For this reason and also due to the fact that services provided by credit unions are substitutes for banking services, the problems of the credit unions sector do not pose a threat to the stability of the domestic financial sector.

Corrective measures for the credit union sector re-
Executive summary

quire involvement of financial resources being at disposal of institutions of financial safety net. The sector’s restructuring methods (bankruptcy, liquidation, take-over) involve the use of BFG’s funds, which reduces, *ceteris paribus*, the amount of funds that can be used in the event of problems the banking sector may face. Therefore, the weakening of one of the elements of the financial safety net may have a systemic dimension.

The impact of non-credit financial institutions (NIFs) – insurance companies, pension fund management companies, open pension funds, investment fund management companies and investment funds – on the banking sector through the ownership, credit and funding channels is limited. Also, the scope of ties of the insurance sector with the banking sector has been reduced by limiting, following the KNF action, the scale of distribution of insurance-wrapped deposits.

Given the traditional character of instruments traded on financial markets in Poland (e.g. lack of securitised instruments) and the specific nature of services offered, the existing NIFs did not generate risk to financial stability. In the case of Poland’s insurance sector, its traditional activities, i.e. life insurance, health insurance, accident insurance, third party liability insurance and property insurance, do not generate systemic risk. Also, the insurance sector did not offer to any significant extent financial instruments that could, in specific situations (e.g. low interest rates), generate systemic risk to this sector such as long-term insurance with a guaranteed value of benefits or guaranteed rate of return.

The potential impact of investment funds and pension funds on financial stability may be that of influencing financial instruments’ prices, particularly in the event of a collapse of the liquidity of markets. Following the regulatory changes introduced in the open pension funds sector, investment risk is now borne by participants in whole, as in the case of clients of investment funds. The clients’ behaviour in crisis situations may prompt a reduction of funds’ assets and have an influence on the supply of instruments and their prices. Under current market conditions, such an impact is minor.

Systemic risk may also arise if the individual NIF sectors cease to provide specific financial services at as a result of their difficult financial situation. However, the financial condition of investment fund management companies and pension fund management companies in the first half of 2014 was good and did not pose a threat to maintaining the continuity of the sector’s financial services. The domestic insurance sector was also stable, and its financial condition did not pose a risk. Life insurance and non-life insurance reported a rise in technical profit and earnings. In 2014, the average value of own capital in life insurance was three times higher, and in non-life insurance – four times higher than the minimum level required by law.

Overall, Poland’s financial system was functioning in the period analysed in a stable manner; however a number of sources of risk to its stability can be identified.

Risk factors having a cyclical character mostly concern the development of the situation in the environment of the Polish economy, primarily in countries being its main trade partners. Except for the scenario of serious geopolitical conflict, the materialization of the pessimistic scenario in the euro zone combined with a fall of financial assets’ prices and strong increase of risk aversion on developing markets is the biggest threat for the stability of the national financial system. Another scenario that may lead to a rise in market risk in the banking sector would involve a faster – than financial markets expect – abandonment of the expansionary monetary policy by major central banks. This could lead to in-
crease of volatility and outflow of capital from developing markets.

Although the materialisation of the risk factors discussed above should not jeopardise financial stability, it may, however, pose a major challenge for some financial institutions. The stress tests point to bank’s high resilience to macroeconomic, market and liquidity shocks. However, existing uncertainty about global developments implies that banks need to keep this resilience at a high level.

Possible impact of the situation of parent entities of Polish banks on their activity, structure, concentration of the market as well as the risk regarding portfolio of foreign currency loans can be classified as sources of risk with a structural character. The scale of threats regarding the portfolio of foreign currency loans is gradually declining along with the decline of the value of that portfolio. The influence of the depreciation of the Polish zloty to the Swiss franc on the quality of that portfolio will depend on the duration of that depreciation. Stress tests conducted by the NBP show that the depreciation of the observed scale should not threaten the functioning of the banking sector. A medium-term challenge with a structural nature is the necessity of changes in the model of cooperative banks.

The NBP points out also several important non-economic sources of risk, such as legal risk, including that of litigation. Depreciation of the Polish zloty resulting in an increase of the debt service burden related to foreign currency loan may intensify litigation regarding that loan portfolio. Another important non-economic risk factor is the operational risk, particularly in information and communication technology area. However, due to its non-economic character it is not a subject of analysis in this publication.

The NBP presents a number of recommendations aiming to further strengthen the stability of the Polish financial system. These recommendations are discussed in the last chapter and they concern the following:

- passing legislation creating a macroprudential authority
- passing legislation introducing the mechanism of corrective actions, recovery and resolution for banks
- acting towards a limitation of systemic risk which might be caused by the activity of CCPs, particularly towards creation of recovery and resolution mechanism for these entities
- changes of regulations and tightening of the integration of the sector of cooperative banks
- necessity of maintenance of high capital levels by banks
- limitation of risk concerning the banks’ financing structure, including its concentration
- particularly cautious loan policy of banks in the segment of commercial properties
- banks taking into consideration the risk regarding the portfolio of housing loans with high LTV in calculation of the cost of credit risk and capital policy
- banks conducting a lending policy assuring that borrowers who take long-term loans with floating interest rate have income buffers high enough for the case of an increase of interest rates
- continuation of the restructuring of the sector of credit unions.
Financial institutions’ economic environment

1.1. Macroeconomic developments

The global economy grew at a moderate pace in the second and third quarter of 2014, with an increase in the variation of growth trends across countries and regions. The euro area economies, including Germany, were stagnant while an economic upturn continued in the United States. According to most recent forecasts, the economic upturn may be expected to continue in the United States above the long-term trend amid improved labour market situation, positive enterprise sentiment with the continued support of monetary policy. In the longer term, the dispersion of GDP growth rates of highly developed economies can be expected to decrease. Major emerging economies grew slower than their long-term trends indicate and in some of them, including China and Russia, the growth rate continued to decline.

The improvement in the direct environment of the Polish economy, which was expected in the previous edition of the Report, did not materialise. The quarterly GDP growth rate of the euro area stabilised at a low level 0.3%, 0.1% and 0.2% in the first three quarters of 2014). In quarter-on-quarter terms, GDP declined in Italy in the third quarter, while in Germany, growth was slower than the average for the euro area. Economic activity in the euro area was hampered both by structural problems of some countries, high debt levels of the private and public sector and the Russian-Ukrainian conflict which negatively affected exports and economic agent sentiment. The decline in demand growth in the euro area was behind the GDP slowdown in Central and Eastern European countries.

Current forecasts point to a gradual upturn in the environment of the Polish economy, albeit slower than expected in the previous edition of the Report and below the GDP growth long-term average from

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2IMF forecasts presented in the October 2014 World Economic Outlook indicate that the growth rate of the euro area in 2015 will be 1.8 percentage points lower than that of the US economy, but the difference will decrease to 1 Percentage point in 2019.

3See also “Koniunktura międzynarodowa [International economic climate” (in Polish), NBP, no. 09/14 (October 2014).
the period prior to the crisis. In view of the worse-than-expected GDP figures in the euro area for the second quarter of 2014, including in Germany, and a worsening in the economic situation expected by consumers and manufacturers, the prospects for economic growth in the euro area should be viewed as worse compared to the macroeconomic picture available when the previous edition of the Report was being prepared. On the other hand, GDP growth in 2015-2016 will be relatively high in the United States and the United Kingdom.

The upturn continued in the Polish economy. In the third quarter of 2014, seasonally adjusted GDP grew by 3.4% year-on-year in real terms, which means acceleration from 0.7% to 0.9% in quarterly terms, as compared to the previous quarter.

The continued GDP growth, which exceeded market expectations, was driven by a substantial increase in domestic demand, both as regards investment and consumption. In the third quarter of 2014, gross capital formation continued to grow fast at an annual rate of 9.9%. Investment processes in the enterprise sector were particularly strong (gross capital formation posted a 13% increase in the second quarter of 2014 as compared to 15.8% in the first quarter of 2014, y/y, at constant prices). According to the NBP economic climate survey of the enterprise sector, investor optimism declined and a slowdown in the growth of gross capital formation of enterprises may be expected in the fourth quarter of 2014. One of the reasons behind the situation may be the halting of the several-quarter long growth of production capacity utilisation observed at the beginning of the third quarter of 2014. When compared with the previous quarter, the growth trends strengthened in housing investment. A marked increase, observed from early 2014, continued in public investments carried out mainly by local government units.

The yearly CPI growth rate in Poland fell below zero in July 2014 and continued to be slightly negative in the following months (-0.6% y/y in November 2014). The fall in inflation resulted mostly from a fall in food and energy prices, as well as a lack of demand pressure. The latter is indicated by a decrease in most measures of core inflation to historically lowest levels. The lack of cost pressure in the economy is confirmed by the growth rate of industrial production prices, which continues to be negative. The fall of inflation rate below zero was accompanied by a systematic fall in inflation expectations.

In recent quarters, favourable trends on the labour market have continued. According to LFS data, the number of people working in the economy grew markedly in the first half of 2014 (1.8% y/y in the first quarter and 1.7% y/y in the second quarter of 2014), and the third quarter saw a continuation of this trend. The trend of moderate employment growth in the corporate sector continued. Favourable trends in economic activity and employment had an influence on the pronounced decline in the seasonally adjusted LFS unemployment rate to 8.7% in the third quarter of 2014, from 9.2% and 9.8% in the previous two quarters. Favourable trends in the economy were conducive to wage growth, and the wage growth rate stabilised at around 3.5% in the second and third quarter of 2014. The most recent report on the economic climate in the enterprise sector shows that employment should continue to rise in the fourth quarter with weaker growth expectations. According to this report, the range and

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4See “Information on the condition of the enterprise sector, including the economic climate in 2014 Q3 and forecasts for 2014 Q4”, NBP, No. 04/14 (October)
6See “Information on the condition of the enterprise sector, including the economic climate in 2014 Q3 and forecasts for 2014 Q4”, NBP, No. 04/14 (October)
scale of wage rises will not change as compared to the previous quarter. The expected developments in the labour market, i.e. rising employment and wages, amid the continuing favourable consumer sentiment, will support a stable growth in consumer demand in the near future. Household debt was stable and its aggregate level moderate (36% of GDP against 61.5% in the euro area).

The financial condition of enterprises remained good despite signals confirming a weakening growth trend. Financial results on sales continued to grow, albeit somewhat slower (growth of 7.1% y/y in the second quarter of 2014 against 8.8% y/y in the first quarter of 2014) and the return on sales increased (4.7% in the second quarter of 2014 against 4.5% in the first quarter of 2014). The percentage of profitable companies grew (73.9% in the second quarter of 2014 against 67.6% in the first quarter of 2014), and the liquidity position of enterprises was good, which is evidenced by rising liquidity ratios and a reduction in the rate of enterprises reporting payment delays as a barrier to development. Aggregate gross and net financial results declined significantly in comparison with the second quarter of 2013, however, mainly on the back of a one-off recognised loss on revaluation of investment of one Poland’s largest industrial company. The debt of the enterprise sector was stable and remained moderate (44.6% of GDP compared to 99.5% in the euro area). According to the NBP survey on the condition of the enterprise sector, the present trend of the improving economic situation of enterprises will most probably weaken in the fourth quarter. This is particularly evidenced by worse-than-in-the-previous-quarter forecasts regarding demand, orders, production and investment.

The fiscal situation was good. The budget deficit in the period from January to November 2014 was markedly lower than in the corresponding period of the previous year, which was mainly driven by a decline in spending and lower, by 19% y/y, debt servicing costs. Budget revenues increased, which was an effect of a high growth of tax revenues in 2014. The ESA2010 general government sector deficit will decline to 3.3% of GDP in 2014 from 4.0% in 2013. For 2015, the Government plans in the “Budget Act for 2015”, a reduction in the negative balance of the public sector to 2.5% of GDP. According to the opinion of the Monetary Policy Council, despite significant risks to economic growth in 2015, bringing the public finance deficit in 2015 below 3% of GDP does not seem threatened, even should a macroeconomic scenario less favourable than the assumed one materialise.

The current account deficit in the third quarter of 2014 increased slightly in annual terms and its ratio to GDP stood at 1.3%. The positive balance of goods trade continued, as well as the surplus in trade in services, amid relatively low exports and imports growth. The current account deficit increase was associated with a higher primary income deficit, whose negative impact on the current account balance mitigated the secondary income surplus. The current account deficit was fully covered by a surplus on the capital account.

Poland’s gross foreign debt rose in the third quarter to 292.5 billion euros, from 277.9 billion euros in the first quarter, which was the result of an increase in liabilities of the government, corporate and household sectors as well as the liabilities of Narodowy Bank Polski towards foreign entities. The ratio of foreign debt to GDP stood at 71% and was slightly

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7 The financial result would have grown at a two-digit rate if the loss had not been accounted for (see “Financial situation of the enterprise sector in the second quarter of 2014”, NBP, No 03/14 (September 2014)).
8 Ministry of Finance estimates presented in the October fiscal notification.
10 See quarterly NBP reports on the balance of payments of Poland.
higher than at the end of 2013.

In the upcoming years, Poland’s economic growth rate is likely to fall and remain at a lower level than the long-term average. According to the central path of the projection showed in the November "Inflation Report", Poland’s real GDP growth in 2014-2016 will be 3.2%, 3.0% and 3.3%, respectively. The European Commission November forecast indicates that Poland’s GDP growth in 2014-2016 will be 3.0%, 2.8% and 3.3%, respectively. The economy will grow in the environment of strengthening internal equilibrium (a narrowing output gap, inflation rate returning to the band around the NBP inflation target, a low fiscal deficit) and external equilibrium (a minor current account deficit with a safe financing structure).

A sustainable nature of Poland’s economic growth path in the upcoming years will positively affect its resilience to negative shocks from the global economy, and will also foster development and stability of the domestic financial system.

1.2. Developments in financial markets

1.2.1. Global environment

At the beginning of the period analysed, the price volatility ratios of a number of financial market instruments were close or below levels prior to the outbreak of the global financial crisis, which raises concerns about the market participants’ risk pricing accuracy. However, beginning from July 2014, the marked upward trends of these ratios have been observed with changes occurring in developed and emerging markets alike (see Figure 1.1). Abrupt rises in volatility ratios of the capital market were observed on 15 October 2014, being a result of a liquidity shortage of US Treasury bond market, and on 16 December 2014, due to the strong depreciation of the rouble. Strong rises in volatility ratios of the currency market observed on 15 January 2015 were in turn triggered by the SNB decision to float the the Swiss franc exchange rate.

Figure 1.1. Volatility indices for selected segments of global financial markets

Note: data normalised to 100 points as of 30 May 2014. Indices refer to: VXEEM and VIX – equity markets, JPM G7 and JPM EM – foreign exchange markets, MOVE – bond markets.
Source: Bloomberg.

In the period from June 2014 to 15 January 2015, the situation in global financial markets was driven mainly by expectations related to the economic growth outlook in major world economies, their fiscal situation, the policy of the major central banks, the assessment of the banking sector condition and a significant fall in oil prices. The slowdown in GDP growth in the majority of developed countries and emerging markets was reflected in the October revision of IMF forecasts for the world economy (from 3.4% to 3.3% in 2014 and from 4.0% to 3.8% in 2015). The United States was an exception – the scale of the recovery was regarded by the Fed as satisfactory for the completion of the quantitative easing pro-

gramme in October 2014.

Figure 1.2. Selected stock market indices

Note: data normalised to 100 points as of 30 May 2014
Source: Thomson Reuters.

Figure 1.3. CDS premia on 5-year government bonds of selected countries

Note: data pertain to CDS premia on bonds denominated in the US dollar (United States) and the euro (other countries).
Source: Thomson Reuters.

The low growth rate and a poor growth outlook in the euro area, combined with deflationary trends, led the ECB to further ease its monetary policy. As a result of that on 15 January 2015 the interest rate on main refinancing operations in the euro area amounted to 0.05% and the interest rate on the deposit facility was negative (-0.20%). In September 2014, the ECB conducted the first of the series of targeted longer-term refinancing operations (TLTRO), designed to support bank lending to the non-financial private sector in euro area countries. In addition, as previously communicated, on 20 October 2014 the ECB started the covered bond purchase programme and on 21 November 2014 the asset-backed securities purchase programme.

Figure 1.4. Yields on 5-year government bonds of selected countries

Note: data pertain to bonds denominated in domestic currencies.
Source: Thomson Reuters.

The factors that reduced investor confidence as regards the euro area were, inter alia, the unsolved problems of high public and private debt and large budget deficits, relating mainly to peripheral countries. The level of perceived credit risk of these countries increased significantly, which was reflected in CDS premia (see Figure 1.3). At the same time, in the period from early June to mid-October 2014, a decline was observed in the yields of government debt securities of these countries to historic lows (see Figure 1.4), associated with the strengthening of market participants’ expectations of the ECB maintaining low interest rates for a longer time and of launching a quantitative easing programme (purchases of sovereign bonds of euro area countries). The situation in European financial markets was also affected by uncertainty over the economic effects of
Chapter 1.

EU and Russia mutual sanctions associated with the ongoing Russian-Ukrainian conflict, and concerns about the results of EU-wide stress tests and asset quality review prior to the start of the (Single Supervisory Mechanism on 4 November 2014). In December, market participants’ decisions were influenced by the currency crisis in Russia (strong rouble depreciation despite interventions of Russia’s central bank), associated with the significant decline in oil prices and the above-mentioned sanctions, as well as political crisis in Greece.

The differences in the economic situation and its growth prospects as well as the divergent directions of monetary policy of the Fed and the ECB led to the appreciation of the US dollar against the euro (a decline in the EUR/USD exchange rate to the eleven-year minimum). The unexpected SNB decision of 15 January 2015 to discontinue the minimum exchange rate of EUR/CHF at 1.20 significantly impacted global currency markets. SNB also lowered interest rates by 50 basis points (the target range for 3M LIBOR CHF was moved from -0.75%±0.25% to -1.25%±0.75%). The decision caused an abrupt rise in volatility of the EUR/CHF exchange rate, which amounted to 1.024 at the end of the day (i.e. the Swiss franc appreciated against the euro by about 18%).

High volatility was observed in the global equity markets. The largest declines in stock prices occurred at the turn of September and October 2014, resulting mainly from the intensification of deflationary processes, the fall in commodity prices – mainly oil – as well as the concerns about the pace of global economic growth, and in mid-December 2014, which was caused by the currency crisis in Russia. Unlike in European and developing markets, declines in the US stock market were quickly followed by rebounds and US stock market indices, including S&P500, reached their all-time highs on a number of occasions (see Figure 1.2).

1.2.2. Domestic markets

Money market

For most of the period analysed, clear expectations of NBP interest rate cuts persisted among domestic market participants (see Figure 1.5). They gradually intensified from July to September 2014 with the release of worse-than-expected macroeconomic data on domestic industrial output and retail sales, as well as data on deflation. The possible weakening of economic activity and an increase in the risk of the inflation rate persisting below the medium-term target were underlying the decision to lower the reference rate (by 0.5 percentage points) and the Lombard rate (by 1 percentage point) to their all-time lows. According to market participants, the scale of the cuts was large but they expected a further monetary policy easing by the MPC. The expectations were being considerably reduced in November and December 2014, when the MPC decided to keep the NBP interest rates unchanged. Consequently, on 15 January 2015, FRA rates reflected expectations of interest rate cuts by more than 40 basis points in subsequent three months.

The functioning of the domestic money market was stable. Perceived credit risk of banks, reflected in the WIBOR 3M/OIS 3M spread, was relatively low (20-40 basis points) and stable. Average daily net turnover in the unsecured interbank deposits market was close to that observed in the previous period. Despite a relatively large number of transactions with maturities exceeding 1 month concluded

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12Information from the meeting of the Monetary Policy Council held on 7-8 October 2014 is available at the http://nbp.pl/polityka_pieniezna/dokumenty/files/rpp_2014_10_08.pdf.
in the third quarter of 2014 mainly due to some market participants’ strong expectations of NBP interest rate cuts, O/N deposits (an over 90% share) still prevailed in the term structure of turnover in this market. From June to December 2014 the cost of hedging foreign exchange positions with swap transactions remained relatively low. A decline in premiums in the CIRS basis market was observed. However, the SNB decision of 15 January 2015 led to an increase in the cost of hedging against foreign exchange risk with swap transactions. Premiums on the CIRS basis market rose to the levels observed in mid-2014.

Figure 1.5. Current and expected 3M WIBOR rate

Source: Thomson Reuters.

Foreign exchange market

From June 2014 to November 2014, the zloty exchange rate against the euro was stable and amounted to approximately 4.2 zloty per euro (see Figure 1.6), and its implied volatility remained at a lower level than prior to the outbreak of the global financial crisis. This was primarily associated with the generally low volatility of the exchange rates of currencies in the world and a stable macroeconomic situation in Poland, positive trends in public finance sector as well as high liquidity of the zloty market. A temporary appreciation of the zloty in the first half of June 2014 was primarily related to the ECB monetary policy easing. In turn, minor falls in the value of the zloty against the euro in August and October 2014 resulted mainly from market participants’ growing expectations of NBP interest rate cuts. A strong depreciation of the zloty against the US dollar observed from July to mid-November 2014 followed the depreciation of the euro against the US dollar. A significant weakening of the zloty against the euro and the US dollar in the second half of December 2014, resulted from a depreciation of emerging market currencies, due to currency crisis in Russia, during the period of lower market liquidity. A strong depreciation of the euro against the Swiss franc due to the SNB decision of 15 January 2015 automatically translated to an increase of CHF/PLN exchange rate to 4.25 at the end of the day (i.e. the Swiss franc appreciated against the Polish zloty by nearly 20%). The EUR/PLN exchange rate, which is the main rate on the Polish zloty market, recorded no significant change on that day.

Figure 1.6. Zloty exchange rate and its volatility

Source: Thomson Reuters.

Bond market

The yields of Poland’s government bonds reached their all-time lows along the whole yield curve (see Figure 1.7). This was associated, inter alia, with
Chapter 1.

declines in yields on bonds of euro area countries, strong expectations of NBP interest rate cuts and maintaining the rates at a low level for a longer time, as well as with demand exceeding supply of the instruments. The difference in the yields on 10-year Polish and German bonds shrank. At the same time, the relative disparity between these yields widened significantly. The market for domestic government bonds remained the most liquid in the region and the profitability of those instruments in relation to their credit risk remained attractive. The increase in demand for Poland's government bonds was accompanied by a limited supply of these instruments in the primary market, which stemmed mainly from a lower-than-assumed actual budget deficit (after 11 months, 52.1% of the annual plan was executed) and financing all of the State Treasury's 2014 borrowing needs already in October 2014.13

Figure 1.7. Yields on domestic government bonds and the spread between yields on Polish and German government bonds

Investor structure in the domestic government bond market was very diversified and did not change significantly. At the end of November 2014, domestic banks had the largest, i.e. 31%, share in this structure (see Figure 1.8). Non-residents’ exposure rose by nearly PLN 7 billion and at the end of November 2014 amounted to PLN 197 billion (40% of the value of domestic government bonds outstanding). The largest category of foreign investors were investment and hedge funds (see Figure 1.9), which held about PLN 80 billion worth of Poland’s government bonds in their portfolios. Nearly 25% of non-residents’ exposure to those instruments was attributable to investors with long-term investment strategies (central banks, insurance companies and pension funds). A large share of non-residents in this market generates a risk of shock transmission

13The Ministry of Finance pre-financed by the end of 2014 about 30% of borrowing needs for 2015.
Financial institutions’ economic environment

from global financial markets. However, the scale of this influence should be limited by the diversified investor base and by the significant role of long-term investors in this market.

Figure 1.9. Structure of foreign investors in the domestic government bond market

![Graph showing the structure of foreign investors in the domestic government bond market.](image)

Source: Ministry of Finance.

Equity market

From early June 2014 to 15 January 2015, stock prices in Poland fell (WIG index declined by 2.8%), as those in euro area countries (EURO STOXX 50 index declined by 2.7%) and emerging markets (MSCI EM index was down by 6.6%) (see Figure 1.2). Domestic stock market indices followed the trends observed in global markets but their responses to political developments and macroeconomic data releases differed in strength. The high volatility of the domestic equity market indices was periodically driven by developments in Ukraine and the EU-Russia relations, the situation in US stock market, deflationary trends and the related concerns about the growth rate of global economy as well as currency crisis in Russia, affecting equity prices in the emerging markets. Investments of non-residents increased. Starting from the beginning of June to the end of October 2014, their net purchases of shares of domestic companies listed on the Warsaw Stock Exchange amounted to PLN 6.1 billion. Consequently, non-residents’ share in the market capitalisation increased to 46.4% and in the period analysed became the largest since May 2009. The mentioned increase of CHF/PLN exchange rate in mid-January 2015 led to a significant decline in stock prices of banks listed on the WSE.

1.3. Situation in the real estate market

In the analysed period, the residential real estate sector remained balanced. At the same time, the commercial real estate market, especially the office property market, continued to show a growing imbalance between demand for space and rising space supply resulting from the completion of new investment projects.

Residential real estate market

Transaction prices per square metre of housing in the primary markets observed in 16 largest cities posted a slight increase.

The observed increases in home prices may be driven by a certain natural mismatch of the housing offer with buyers’ expectations and insufficient competition in the primary market. This is confirmed by a rise in the number of pending home sales and extension of home selling time. Yet, given their minor scale, these developments should not be interpreted as signs of a mounting structural imbalance posing a threat of a significant correction of prices.

14 A more detailed description of developments in the residential and commercial real estate market may be found in the 2014 quarterly reports and in the annual publication "Report on the situation in the residential and commercial real estate market in Poland in 2013."
Figure 1.10. Transaction prices in the primary market (PHM) and secondary (SHM) housing market in Poland

![Graph showing transaction prices in the primary and secondary housing markets in Poland.](image)

Source: NBP.

Figure 1.11. Average (offer and transaction) rent rates in Poland’s selected cities

![Graph showing average rent rates in Poland’s selected cities.](image)

Source: NBP.

Figure 1.12. Available housing loans and the accumulated index of changes in banks’ credit standards with regard to housing loans

![Graph showing available housing loans and the accumulated index of changes in banks’ credit standards.](image)

Note: Definition of available housing loan in Glossary.
Source: NBP, GUS.

Figure 1.13. ROE on investment projects in 6 cities and the real rate of return of large real estate development companies

![Graph showing ROE on investment projects and the real rate of return of large real estate development companies.](image)

Source: NBP, Sekocenbud, GUS.

At the same time, prices per square metre of housing in the secondary markets were stable. These trends are reflected in a minor rise in hedonic prices\(^\text{15}\) in the Warsaw secondary market and their stabilisation in other markets. In previous years, the decline in hedonic prices in Warsaw was slower than a decline in average transaction prices, which means that the price decline was driven by the sale of a large number of lower quality dwellings (e.g. housing in poorer location, in worse technical condition). Rents

\(^{15}\) The hedonic home price index is described in an article by M. Widłak (2010) “Metody wyznaczania hedonicznych indeksów cen jako sposób kontroli zmian jakości dóbr”, Wiadomości Statystyczne No 9.
Financial institutions’ economic environment showed a slight increase.

Market demand did not see any considerable changes in the analysed period. The estimated housing loan availability practically did not change, whereas the availability of housing and availability of loan-financed housing declined slightly. This was driven by slight increases in real estate prices, stable nominal interest rates on mortgage loans and an increase in nominal income. At the end of the third quarter of 2014, the average availability of housing in the largest cities remained at the level of 0.82 square metre per average monthly wage in the corporate sector, and thus was by 0.33 square metre higher as compared to the third quarter of 2007. Housing demand was supported by the government-subsidised housing scheme Housing for the Young.

At the same time, the analysed period saw a rise in supply in the residential real estate market. The number of applications for new building permits and issued permits is rising. Also the number of dwellings whose construction is in progress is on the rise, which is a consequence of the previously launched housing projects. Part of this production finds buyers. The rising supply is supported by persistently high returns on residential development projects, which is related to the still relatively high dwellings’ prices amidst the declining costs of materials and construction works observed in the past few years. The estimated return on residential development projects has been on a steady rise since the second half of 2012. At the end of the third quarter of 2014, the annual rate of return on those investments in the largest cities was estimated at 18 — 20 %.

During 2014, home sales in the six largest cities stabilised at a higher level than in the previous 3 years (approximately 10 thousand of dwellings per quarter as compared to 7-8 thousand recorded previously). Yet, the growth of housing supply exceeded that of housing demand and consequently the supply of unsold homes began to increase again. So far, the scale of the mismatch does not pose a threat to the market balance, yet, it should be monitored. The real estate development sector is well organized and shows high operating flexibility, which should help to adjust the growth rate of housing supply. This would limit further build-up of unsold housing stock and help to maintain the balance in the housing market.

Figure 1.14. The number of homes put on the market, sold and remaining listed in Poland’s six largest markets

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Launched in quarter</th>
<th>Sold in quarter</th>
<th>Offer at the end of quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2007</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9-2007</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3-2008</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9-2008</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3-2009</td>
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<td></td>
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<tr>
<td>9-2009</td>
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<td>3-2010</td>
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<td>9-2010</td>
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<tr>
<td>3-2011</td>
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<tr>
<td>9-2011</td>
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<tr>
<td>3-2012</td>
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<td>9-2012</td>
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<tr>
<td>3-2013</td>
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<td>9-2013</td>
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<tr>
<td>3-2014</td>
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<td></td>
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<tr>
<td>9-2014</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The six largest markets include: Kraków, Łódź, Poznań, Gdańsk-Sopot-Gdynia Tricity, Warsaw, Wrocław.
Source: REAS.

Figure 1.15. The housing production indicator in Poland

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Housing production index</th>
<th>Permits granted for housing production</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-2006</td>
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<td></td>
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<tr>
<td>9-2006</td>
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<td>3-2007</td>
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<td>9-2013</td>
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<td>3-2014</td>
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<tr>
<td>9-2014</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Definition of the housing production indicator in Glossary.
Source: GUS.
Chapter 1.

The commercial rental space market

As in the previous period, the office and retail space markets experienced growing imbalances resulting from the oversupply of rental space. In these segments, the inflow of foreign capital continued to fuel rapid growth in supply. This phenomenon can be, to a large extent, attributed to low interest rates in the global markets. Real estate developers plan to offer more commercial space. The growing supply of commercial space boosts competition, which translates into increasing vacancy rates and falling rents. This is reflected in the falling valuation of participation units of closed-end investment funds investing in commercial real estate. This situation does not generate risk to financial stability due to the limited exposure of domestic banks to this market and diversification of banks’ loan portfolios.

Transactions involving commercial property

The commercial real estate market saw a strong investor activity, mainly international ones. In the first three quarters, the majority of new investments concerned sales and purchases of office buildings. Investments in the warehousing space reached a historically high level.

Transaction prices of commercial real estate in the entire market in Poland showed a downward trend. Price growth in 2012 was mainly driven by a one-off large transaction involving a very highly priced shopping centre in Warsaw.

Figure 1.16. Performance indicators of closed-end investment funds on the commercial real estate market

Note: 2008 Q2 = 100.
Source: NBP calculations based on data from websites of investment funds.

Figure 1.17. Value of investment transactions in the commercial property market

Source: Comparables.pl
Chapter 2.

Banking sector

The structure and features of the financial system in Poland cause that the level of risk to financial system stability is dominantly determined by the situation in the banking sector. Credit risk, in turn, can be deemed the most significant risk borne by the banking sector in Poland (see Figure 2.49).

2.1. Lending

The growth rate of lending to the non-financial sector does not cause imbalances that jeopardise financial stability and at the same time is not a barrier to economic growth. For around three years, the credit growth has been close to the nominal GDP growth (4.9% y/y at the end of September 2014) (see Figure 2.1). Current credit growth rate enables banks to report high earnings which are a significant source of capital increase (see Chapter 2.5). Banks that operate in Poland were not forced to curb lending to improve their capital adequacy ratios, as was the case in some European Union countries (see Figure 2.2).

Figure 2.1. Growth rate of nominal GDP and loans to the non-financial sector, y/y

Note: loans* – three-period moving average; loans** – growth rate after excluding the impact of foreign exchange rate changes. Source: Own calculations based on GUS and NBP data.

Changes favorable for financial system stability consolidated in the structure of the loan portfolio. They include shifts in the currency structure of housing loans – the value of foreign currency housing loans has been declining and the value of zloty housing loans has been rising. However, the share of loans

18 Changes in loan values referred to in Chapter 2.1, apply to data after excluding the impact of foreign exchange rate changes. Unless otherwise indicated, the period analysed in 2. covers the period from 31 March to 30 September 2014.
to enterprises in loans to the non-financial sector remains fairly low and is not increasing (see Figure 2.3). A higher diversification of the banks’ loan portfolio would be beneficial for the stability of long-term economic growth.

Figure 2.2. Growth of loans to the non-financial sector in the period December 2008 – September 2014

Source: Own calculations based on ECB data.

Figure 2.3. Structure of loans to the non-financial sector

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

Source: NBP.

Loans to households

Loans to households account for around 69% of the banks’ loan portfolio, of which 41% are housing loans.

The annual growth rate of housing loans has not changed significantly since the beginning of 2013 and it amounted to 4.4% at the end of September 2014 (see Figure 2.4, left-hand panel). This was due to a rapid growth in zloty loans and a steady decline – from early 2012 – of foreign currency loans (by 15.5% and -5.9% y/y, respectively). The Polish Bank Association (ZBP) data for the first half of 2014 on the number and value of new housing loan agreements indicate an increase compared with the first half of 2013 (see Figure 2.5) and, at the same time, slowdown as compared to the second half of 2013. In the second half of 2014, the increase in the value of new loans most probably slowed down compared to corresponding period of 2013.

The government aid scheme “Home for the Young” providing subsidies for home purchase for a selected group of borrowers, which entered into force in 2014 supported the demand for housing loans to a limited extent. By the end of September 2014, less than 4% of 3.5 billion zlotys earmarked for the implementation of the programme in the years 2014—2018 was utilised.

In the near future, housing loans may be expected to grow at a rate similar to the current one. Besides expected improvements in the labour market (including wage growth), stable prices in the residential real estate market should support credit growth. Stable house prices coupled with low interest rates, will increase the availability of flats, now

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19The scheme provides for budget subsidies for loans for first-time home purchase, taken by persons under 35 years of age: 10% of the replacement value of a home, where the borrower is a single person or a childless family and 15% for a single child family and additionally 5% after the birth of a third or subsequent child. See the Act of 27 September 2013 on State aid in first-time home purchase by the young (Journal of Laws of 2013, item 1304).

at its highest level since 2007. A gradual lowering of the maximum LtV ratio to 80% in 2017 will decrease the availability of loans in the long-term, but till 2017 it may result in a rise in demand of clients with insufficient levels of savings, especially at the end of calendar years, when respective transitional phases for the maximum level of LtV come to an end.\(^{21}\)

The growth rate of consumer loans is gradually increasing, and at the end of September 2014 it amounted to 4.5% (see Figure 2.4, middle panel). The reversal of the downward trend of the households’ consumer loan debt may be associated with the easing of the requirements of Recommendation T\(^{22}\), which translated into a gradual easing of the standards of granting consumer loans from the second quarter of 2013 (see Figure 2.6, left-hand panel). The pick-up on the consumer loan market is confirmed by BIK data on the number and value of new loan agreements.\(^{23}\) The nominal values of loans extended in the first half of 2014 keep up with the values from the credit boom of 2008—2009. However, the banks’ survey responses show that the standards of granting loans currently in place (on average in the banking sector) may be tighter than in the mentioned period.

Figure 2.5. New housing loans in the half-years of 2009–2014

\(^{21}\)The amendment to Recommendation S tightened, as of January 2014, the supervisory requirements regarding certain terms on housing loans, inter alia the maximum level of LtV for new housing loans. See Resolution No. 148/2013 of the Polish Financial Supervision Authority (KNF) of 18 June 2013 on issuing of Recommendation S on good practices with regard to management of credit exposures that finance property and are mortgage-secured (Official Journal of KNF of 2013, item 23).

\(^{22}\)See Resolution No. 59/2013 of KNF of 26 February 2013 on issuing of Recommendation T on good practices with regard to risk management of retail credit exposures (Official Journal of KNF of 2013, item 11).

The consumer lending growth rate may be expected to accelerate in the coming quarters. The acceleration should be driven by the improving situation in the labour market and the restoring consumer optimism (consumer indices are at the highest level since mid-2010)\(^{24}\) as well as the decrease of the NBP Lombard rate. It is possible than banks will continue to ease the standards of granting loans as hitherto changes have not yielded expected demand growth.

Following the October 2014 interest rates cuts, it may be expected that banks will be willing to increase credit supply to keep profits and return on equity at the existing level. It seems that this may, to the greatest extent, apply to consumer loans whose profitability is several times higher than that of other loan types (see Figures 2.44 and 2.46).

**Corporate loans**

Corporate loans grew at the rate of around 4.5—5.5% y/y (see Figure 2.4, right-hand panel). Unlike the situation described in the July edition of the Report, the value of both investment loan and working capital loan debt rose (by 9.9% and 3.9% y/y, respectively at the end of September 2014).

The *de minimis* Portfolio Guarantee Facility, launched in March 2013\(^{25}\), was favourable for the supply of working capital loans to small and medium-sized enterprises (SMEs) and micro enterprises. It is difficult to accurately assess the scale of the impact of this instrument. However, it obviously contributed to the growth of the loans. This is indirectly implied by the differences in debt development at banks that joined the facility and other banks. During the 18-month term of the facility, the total working capital loan debt of the sector of SMEs and micro enterprises increased by around 9.5 billion zlotys at banks participating in the programme, of which the SME debt increased by 3.5 bn zlotys (which represents an increase of around 8.5% and 6% y/y at the end of September 2014, respectively). The debt at other banks decreased. The BGK data show than in this period enterprises took out around

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\(^{25}\)See the Act of 25 January 2013 on amending the Act on warranties and guarantees granted by the State Treasury and particular legal persons (Journal of Laws of 2013, item 198) and the Regulation of the Minister of Finance of 18 February 2013 on *de minimis* aid granted by Bank Gospodarstwa Krajowego in the form of loan repayment guarantee (Journal of Laws of 2013, item 239).
25 billion zlotys of working capital loans with the *de minimis* guarantee.26

The growth rate of corporate loans should stabilise or slightly accelerate over a one-year horizon. The corporate loan growth outlook deteriorated on the back of worse GDP growth forecasts compared with the July NBP projection.27 However, given that since 2004 a rise in enterprises needs for bank loan financing has occurred, on average, after four quarters of economic climate improvement, a certain rise in demand may be expected. Rise in demand for investment loans will be supported by a relatively high production capacity utilization (the ratio is above the long-term average28). However, the expected restrictions on sales of Polish goods, arising, inter alia, from weaker foreign demand, may diminish the relevance of this factor.

### 2.2. Credit risk

The impaired loan ratio for the non-financial sector has been gradually falling for several quarters (see Figure 2.7). In the period analysed, the ratio resulted mainly from a rise in the value of the loan portfolio as the value of impaired loans increased slightly (see Figure 2.8). The ratio of credit losses29 to net loans, illustrating the burden of credit risk materialization costs on the working part of the loan portfolio, did not change significantly.

The average coverage of impaired loans with provisions is relatively high compared with other EU countries and it rose slightly to 56% at the end of September 2014. In the coming months, this ratio may somewhat change following an asset quality review (AQR), conducted by the Office of the Polish Financial Supervision Authority (UKNF) in accordance with the ECB methodology and the reclassification of a portion of credit suggested by the supervisory authority. The reclassifications do not need, in principle, to be fully reflected in banks’ financial statements as they were carried out on the basis of the specifically defined prudential criteria and not the accounting rules mandatory for banks. Nevertheless, part of additional provisions may be expected to be shown in banks’ financial statements. Some banks could have recognised the provisions earlier, in the course of the asset quality review.

#### Figure 2.7. Impaired loan ratio for the non-financial sector

![Impaired loan ratio for the non-financial sector](image)

Note: Unless otherwise indicated, dispersion plots in Chapter 2 related to commercial banks.

Source: NBP.

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29 Credit losses are defined as net charges to provisions for impaired loans.
2.2.1. Credit risk of loans to households

Housing loans

The level of the impaired loan ratio and the value of impaired housing loans continued to grow slowly (see Figure 2.9). This growth was an effect of the ageing of the housing loan portfolio (see Figure 2.10). Impaired housing loans are rarely traded in debt sale transactions. On this account and due to a long process of the liquidation of the loans’ collateral, they accumulate on the balance sheet, which results in an increase in impaired housing loans in the portfolio (see Figures 2.11 and 2.12).

The value of credit losses and their ratio to the value of loans stabilised (see Figures 2.13 and 2.14). This was supported by improved economic sentiment and a better situation in the labour market (lower unemployment, rise in employment, real wage growth). Over the recent quarters, the coverage of impaired housing loans by provisions has not changed significantly either (see Figure 2.15). A lower coverage is reported mainly by several small and medium-sized banks.

Figure 2.8. The value of impaired loans for the non-financial sector

Source: NBP.

Figure 2.9. Impaired loan rations for main types of loans to households

Note: The value of particular loan categories at the end of September 2014 amounted to (PLN billion): Credit card lending – 12.6, Other consumer loans – 118.2, Housing loans – 347.6, Other loans – 101.7. Source: NBP.

Figure 2.10. Structure of the housing loan portfolio by loan age range (period from loan origination)

Note: the figure presents all residential real estate loans to the non-financial sector. At the end of September 2014, housing loans to households were a predominant part (95%) of this category. Source: NBP.

30 A gradual increase in the average age (time from the origination date) of housing loans in banks’ portfolios.
Figure 2.11. Share of the number of housing loans in arrears of more than 90 days in the total number of loans extended in a given year

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

Figure 2.12. Share of impaired loans in the housing loan portfolio in particular loan age ranges, as at the end of September 2014

Note: the Figure presents all residential real estate loans to the non-financial sector. At the end of September 2014, housing loans to households accounted for 95% of this category and 77% of impaired loans. The diagram’s time history for loan age > 20 years may be not typical as loans were extended in the initial stage of housing loan market development and are of low value.
Source: NBP.

Figure 2.13. Net quarterly charges to provisions for impaired housing loans

Source: NBP.

Figure 2.14. Ratio of net charges to provisions for impaired loans to households to net value of the loans

Note: Annualised data.
Source: NBP.
Figure 2.15. Coverage of impaired loans by provisions for main types of loans to households

![Diagram showing coverage of impaired loans by provisions for main types of loans to households.]

Source: NBP.

Figure 2.16. The ratio of current loan instalment to instalment at loan origination against estimated values of Swiss-denominated housing loans

![Diagram showing the ratio of current loan instalment to instalment at loan origination against estimated values of Swiss-denominated housing loans.]

Assumptions: A Swiss franc-denominated housing loan with maturity of 25 years, repaid in constant total instalments or in constant principal instalments; a current instalment calculated on the basis of the Swiss franc exchange rate and the LIBOR 3M rates of 31 October 2014 and of 15 January 2015 and average spread on Swiss franc-denominated loans at loan origination. Points on a horizontal line mark the month of loan origination.

Note: Bars present the value in the zloty of Swiss franc-denominated housing loans (as of 31 October 2014) taken out in a given month marked on the horizontal axis.

Source: NBP, BIK.

The growth of instalments of Swiss-denominated loans – stemming from the zloty exchange rate remaining at a lower level than at the time of originating most foreign currency loans, including the appreciation of Swiss franc in January 2015, should not, basically, jeopardise loan repayment performance, which is driven by the reduction of market interest rates in the Swiss franc (including slightly negative market interest rates from 18 December 2014 and substantial wage growth in the Polish economy, with the developments taking place since the time when most of the loans were extended (see Boxes 1 and 4). The estimated average increase in instalments of Swiss franc-denominated loans granted in the successive months of 2005–2010 as at the end of October 2014 amounted to approx. 21%, while the maximum increase was 30% (see Figure 2.16). Compared to the average of the years 2005–2008, when

Note: 31SNB decision on negative deposit rates i.e. -0.25% and change in LIBOR CHF 3M target range to (-0.75%;+0.25%). On 15 January 2015 the target range was changed to (-1.25%;-0.25%) (see: http://www.snb.ch).

Note: 32The estimates for equal instalment loans.
around 90% of Swiss franc-denominated loans were extended, the level of average salary was higher by around 42% in the third quarter of 2014. Loans with high LtV ratios still have a big share in banks’ loan portfolios, although their value has gradually diminished as principal instalments of these loans are repaid. Swiss franc-denominated loans, extended in the years 2007–2008, i.e. the period when the exchange rate of the zloty against the Swiss franc and property prices were high, constitute the majority of high LtV loans (see Figure 2.17).

Box 1. Impact of market variables on debt service costs for foreign currency loans

Foreign currency housing loans constitute an important part (19%) of the loan portfolio for the non-financial sector and of the housing loan portfolio (47%). Their weight in the bank balance sheet and their features make them cause potential risk for the stability of the banking sector. One of the main risk factors associated with foreign currency loans is the credit risk resulting from the exposure of borrowers to changes in foreign exchange rates and foreign interest rates.

This box presents conclusions of the analysis of loan repayment burden on borrowers who have taken foreign currency housing loans and the impact of changes in foreign exchange rates and interest rates on its level. The analysis was performed for three hypothetical foreign currency loans equivalent to 300,000 zlotys taken in July 2006, 2007 and 2008, i.e. when the zloty exchange rate was strong and the growth of loans taken by households reached the highest level. During these years, foreign currency loans were mostly denominated in Swiss franc, with maturity longer than 20 years, with a fixed instalment (annuity) and interest rate based on the LIBOR CHF rate. For the three loans analysed, it was additionally assumed that the average spread above the LIBOR CHF rate was equal to the average interest margin in the whole sector applicable at loan origination. The analysis includes the effects of the appreciation of the Swiss franc on January 15, 2015 after the decision of the Swiss National Bank to abandon the franc to euro currency peg.

Figure 1. Value in zloty of instalments for examples of housing loans denominated in Swiss franc and in zloty, extended in July 2006 (left-hand panel), 2007 (middle panel) and 2008 (right-hand panel)

Note: loan maturity of 30 years in the amount of 300,000 zlotys, disbursed in a single tranche, commencement of repayment – 15 August, interest rate of the foreign currency (zloty) loan: LIBOR CHF 3M (WIBOR 3M) + average spread for the foreign currency loan in the sector at loan origination; the foreign currency spread, fees and commission, insurance costs have not been taken into account. The adjustment of changes in the loan interest rate to the LIBOR rate takes place in the same month. Source: NBP.

33The average wages in the economy according to GUS data.
The most important conclusions of the analysis are as follows:

- The level of instalments of foreign currency loans, irrespective of loan origination, is currently higher than at loan origination, whereas for zloty-denominated loans - it is lower. The ratio in the values expressed in zlotys of instalments of foreign currency- and zloty-denominated housing loans developed differently in various periods of their servicing (see Figure 1).

- Despite the rise in CHF/PLN exchange rate since the loan origination, the borrowers who took CHF loans in 2006 and 2007 have suffered, on average, lower servicing costs than borrowers who took zloty denominated loans that time. The cumulated instalments of a foreign currency loan exceeded cumulated instalments of a zloty loan only in the case of loans taken in summer 2008 (see Figure 2). At the same time there was a significant rise of the zloty value of the amount outstanding. The impact of the appreciation of the Swiss franc in January 2015 on the cumulative cost of loan and the loan amount outstanding will depend on the scale and persistence of this change of fx rate.

- The impact of changes in the foreign exchange rate and interest rate on the servicing costs of foreign currency housing loans was very strong in some months, but most frequently - it was multi-directional (see Figure 3). The decline in interest rates neutralised the impact of zloty depreciation, which has considerably reduced the increase of the borrowers’ burden and, consequently, the credit risk. At the same time as the decision to release franc, Swiss National Bank cut interest rates by 50 basis points, setting a target range for the rate LIBOR CHF3M to (-1.25%;-0.25%), which should reduce the increase in loan servicing cost. However, it is possible that the neutralising impact of the decline in interest rates was not immediate. The lagged adjustment of loan interest rate in response to the LIBOR rate change arising from the provisions of the loan agreement could have significantly increased, however, only at a short-term, the loan servicing costs at the turn of 2008 and 2009 (see Figure 4). This effect has mostly affected borrowers who took a loan in 2008.

- Despite the nominal growth of the foreign currency loan instalments as a result of zloty depreciation as compared to loan origination, the resulting burden of households has not increased significantly. The growth of wages in 2012-2014 decreased the real value of loan instalments. Since the beginning of 2012 till the end of 2014, the ratio of the foreign currency loan instalment to the average gross salary has been falling systemati-
cally (see Figure 5). It can be estimated that the appreciation of the franc in January 2015 increased the loan cost relation to the average wage rate to a similar level as in 2012.

- Income buffers associated with the growth in wages in recent years cause that present Swiss franc appreciation should not be a significant threat to the situation of households and the banking system. Moreover, the financial situation of households repaying foreign currency housing loans is, on average, better than the situation of borrowers repaying housing loans in zloty.4

Figure 3. Decomposition of changes in loan instalments for examples of housing loans denominated in Swiss franc and in zloty, extended in July 2006 (left-hand panel), 2007 (middle panel) and 2008 (right-hand panel)

Note: loan maturity of 30 years in the amount of 300,000 zlotys, disbursed in a single tranche, commencement of repayment – 15 August, interest rate of the foreign currency (zloty) loan: LIBOR CHF 3M (WIBOR 3M) + average spread for the foreign currency loan in the sector at loan origination; the foreign currency spread, fees and commission, insurance costs have not been taken into account. The adjustment of changes in the loan interest rate to the LIBOR rate takes place in the same month. Decomposition of changes in instalment on the effect of the foreign exchange rate and the interest rate performed with the use of derivatives calculus for the fixed instalment (annuity) formula. The last observation at the figure for January 2015 did not fully reflect the effect of interest rate cuts by Swiss National Bank, as on January 15 it has not been yet taken into account in determining the rate of LIBOR CHF3M by market participants (it was around -0.12% compared to (-1.25%; -0.25%) target range.)

Source: NBP.

Figure 4. Impact of lagged adjustment of the loan interest rate to changes in the LIBOR CHF rate on the level of loan instalment

Note: calculations for the lack of lagged adjustments of interest rate to the LIBOR CHF rate and for lags of 1, 2 and 3 months.

Source: NBP.
Figure 5. Ratio of instalment of a Swiss franc-denominated loan expressed in zloty to the average gross salary in the enterprise sector

Source: NBP.

1 Corresponding assumptions were adopted for zloty loans (with the interest margin above the WIBOR 3M rate), to which the foreign currency loans were compared.

2 Calculations for the average market spread as at the day of loan origination. The level of housing loan spreads in 2006–2008 was discrepant. In some banks, the spread for foreign currency loans was lower than 1 percentage point.

3 Some banks use clauses of non-negative LIBOR rate in the loan agreements. Mentioned effect will not occur in case of the customers of these banks.

Consumer loans

The impaired loan ratio for the consumer loan portfolio continued to diminish (see Figure 2.9) mainly on the back of a rise in value of consumer loans as the value of impaired loans did not change substantially.\textsuperscript{x34}

In line with the expectations contained in the previous edition of the Report, credit losses and their ratio to the value of consumer loans rose slightly in the last two quarters (see Figure 2.13 and 2.14). A slight increase in the share of banks with higher provisions, from the range of 4-5% of the value of loans, is observed (see Figure 2.18). Due to the current interest rate spread on this product, such a scale of provisions does not pose a threat to the portfolio’s profitability (see Figure 2.44).

Figure 2.18. Share of banks with a given ratio of net provisions for impaired loans to net value of loans in consumer loans extended by the banking sector

Although credit losses have increased over the recent quarters, the share of loans in arrears in new consumer loans remains relatively low has (see Figure 2.19 and 2.20).

Figure 2.19. Percentage of consumer loans in arrears of more than 30 days after 6 months from loan origination

Figure 2.20. Share of the number of consumer loans in arrears of more than 90 days in total number of loans extended in a given year

\textsuperscript{x34}It should be noted that debt sales have significantly influenced the changes in the value of impaired loans. According to KRUK SA estimates the nominal value of consumer unsecured loans (other than mortgages) amounted to 3.5 zloty billion in the first half of 2014. Thus, analyzing reasons for changes in the quality of consumer loans, one should take into account changes in the value of indicators on which debt sales have little effect e.g. based on credit losses. As consumer loan sales apply mainly to the loans with significant impairment (the average price of unsecured retail loan sales amounted to 11.5% in the first half of 2014), the majority of credit losses on sold loans was included earlier in P&L accounts.
The average coverage of impaired consumer loans by provisions dropped slightly and now stands at around 74% (see Figure 2.15). Similarly to housing loans, the coverage is low mainly in the case of individual small and medium-sized banks.

Other loans to households

Loans to entrepreneurs are currently the main source of credit risk in the category of other loans to households. The loans are prevalent in this segment (see Figure 2.21) and generate most credit losses (see Figure 2.22). Loans of the other large group, i.e. individual farmers, are characterized by a much better quality. It applies particularly to subsidised loans, which form substantial part of loans for agriculture (54% at the end of September, 2014). The quality of these loans is positively influenced by interest rate subsidies paid by the Agency for Restructuring and Modernisation of Agriculture and by the condition that subsidies are paid only if loan is timely repaid. More than a half of loans to individual farmers was extended by cooperative banks (58% of total loans for individual farmers at the end of September, 2014). The quality of these loans is significantly better than in other banks, probably due to better understanding of the local market.

The impaired loan ratio and the ratio of credit losses to the value of other loans to households stabilised (see Figures 2.9 and 2.14). The stabilisation was driven by a better general economic situation and an improved situation of micro enterprises seen in economic climate surveys\(^35\), although the latter is still worse than in the case of larger enterprises.

Outlook

The foreseeable macroeconomic developments allow to expect that the value of credit losses in the segment of loans to households will stabilise in the coming quarters. Although the economic forecasts in the coming quarters deteriorated, the situation in the labour market is still expected to continue

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\(^35\)The surveys show that the assessment of the economic situation of micro enterprises has improved in the last few quarters. The percentage of micro businesses reporting no liquidity problems also increased (see “NBP Quick Monitoring. Information on the condition of the enterprise sector, including the economic climate in 2014 Q3 and forecasts for 2014 Q4", 2014, NBP.).
to improve. The decrease in credit losses should be supported by falling interest rates that help reduce loan repayment burden on households. On the other hand, the easing of lending policy observed in the consumer loan segment in previous quarters may contribute to the increase in the value of provisions. As it was said earlier in the text, the results of an asset quality review may also be an additional factor influencing the growth in the value of the provisions.

In the longer term, too low income buffers required by banks during creditworthiness assessment in the event of a future interest rate increase may be a risk factor. The survey on housing loans conducted by UKNF in 2014 shows that at some banks the minimum requirement regarding the borrowers’ resilience to interest rate rise is that they should be able to repay a loan when its interest rate is by 1—1.5 pp higher than the current rate. Thereby, after interest rates increase to levels prior to the last cycle of their reductions, the borrowers that took loans in the period of low interest rates, for whom income met only the above-mentioned specific minimum requirement, may find it difficult to repay the loan from current income in a timely manner.

At currently low interest rates, banks should use more conservative minimum requirements for borrower’s housing loan servicing capacity in the event of interest rate increases. For example, according to the Bank of England’s recommendation, when assessing affordability, banks in the United Kingdom should in each case assess whether borrowers could still afford their loans if bank rate were to be 3 percentage points higher than the rate at origination.36

2.2.2. Credit risk of corporate loans

Corporate loan quality

The corporate loan quality improving trend continued, which was driven by a rise in GDP growth rate and an improved situation of enterprises (see Chapter 2.1). The impaired loan ratio and the value of impaired loans fell both in the SME sector and the large enterprises sector (see Figures 2.23). In the last few quarters, the share of loans in arrears in short past due categories has also dropped.

Figure 2.23. Impaired loan ratios for SMEs and large enterprises

![Graph showing impaired loan ratios for SMEs and large enterprises]

Note: At the end of September 2014, the value of loans to large enterprises amounted to 127 bn zlotys, and to SMEs – 175.4 bn zlotys.

Source: NBP.

Following the fall of the impaired loan ratio, the value of credit losses and the ratio of credit losses to the value of loans also dropped (see Figures 2.25 and 2.26). However, in the case of loans for SMEs the falls were from relatively high levels.

Over the last two years, the coverage of impaired corporate loans by provisions has been rising, most notably in the SME sector. Impaired loans to SMEs exhibit lower average coverage by provisions than loans to large enterprises. This difference is an effect of both the loan portfolio structure and a lower coverage of specific types of loans to the enterprises (see Figure 2.27). As in the case of loans to house-

37Real estate loans have a bigger share in loans to SMEs, because due to better collateral their coverage is usually lower in the case of loan impairment. The share of operating credits is smaller due to lower quality collateral, and therefore these loans have, in principle, higher coverage.
holds, the coverage is mostly lower at some small and medium-sized banks.

Figure 2.27. Coverage of impaired loans by provisions for main types of loans to enterprises

<table>
<thead>
<tr>
<th>Year</th>
<th>SMEs - operating loans</th>
<th>SMEs - investment loans</th>
<th>SMEs - real estate loans</th>
<th>SMEs - total loans</th>
<th>LEs - operating loans</th>
<th>LEs - investment loans</th>
<th>LEs - real estate loans</th>
<th>LEs - total loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td>2011</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td>2012</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td>2013</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Note: LEs – large enterprises
Source: NBP.

Figure 2.28. The value of loans for office property purchase and development and value of the impaired loan ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>Value of loans</th>
<th>Impaired loan ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>250 billion</td>
<td>0.3%</td>
</tr>
<tr>
<td>2011</td>
<td>300 billion</td>
<td>0.5%</td>
</tr>
<tr>
<td>2012</td>
<td>350 billion</td>
<td>0.7%</td>
</tr>
<tr>
<td>2013</td>
<td>400 billion</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

Note: The data do not include BGK.
Source: NBP.

A growing imbalance in the commercial property market (see Chapter 2.3) justifies drawing attention to bank financing of this segment. At the end of September 2014, loans for office property purchase or construction accounted for 3.6% of the portfolio of corporate loans. Their quality slightly deteriorated in the last two quarters (see Figure 2.28), however the impaired loan ratio and the ratio of credit losses to the value of loans (see Figure 2.29) are still much lower than in the case of other loans to enterprises.

Figure 2.29. Quarterly net charges to provisions for impaired loans for office property purchase and development and their ratio to the net value of loans

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Net charges to provisions for impaired loans</th>
<th>Ratio to net value of loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>-0.3%</td>
<td>0.2%</td>
</tr>
<tr>
<td>2011</td>
<td>-0.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>2012</td>
<td>-0.1%</td>
<td>0.6%</td>
</tr>
<tr>
<td>2013</td>
<td>0.0%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

Notes: Ratio – annualized data do not include BGK.
Source: NBP.

Corporate loan quality by sections of the national economy

Loans that finance “Construction” display lowest credit quality and have a relatively big share in banks’ portfolios (see Table 2.1). The fact that the impaired loan ratio in this section has begun to decline is a positive sign. The construction industry is still in a difficult situation, but financial data and results of economic climate surveys point to some symptoms of improvement from the second half of 2013, which may contribute to lower credit losses at banks.

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38 Analysis based on the so-called large exposures.
39 Inter alia, rise in revenue, higher percentage of profitable businesses, improvement of assessments of the economic situation of businesses, and an increase in the percentage of businesses that report timely bank debt servicing. See the periodical quarterly publications of NBP: “Financial condition of the enterprise sector” and “NBP Quick Monitoring. Information on the condition of the enterprise sector”, including the economic climate in 2013 and 2014.
Table 2.1. Quality of claims to non-financial enterprises by sections of the economy at the end of September 2014 (%)

<table>
<thead>
<tr>
<th>Section</th>
<th>Structure of total loans by section</th>
<th>Structure of impaired loans by section</th>
<th>Impaired loan ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Agriculture</td>
<td>3.7 (3.7)</td>
<td>2.1 (2.3)</td>
<td>6.0 (6.8)</td>
</tr>
<tr>
<td>B – Mining</td>
<td>2.6 (2.0)</td>
<td>2.8 (2.8)</td>
<td>11.4 (15.8)</td>
</tr>
<tr>
<td>C – Manufacturing</td>
<td>23.0 (23.4)</td>
<td>23.4 (22.8)</td>
<td>10.4 (10.4)</td>
</tr>
<tr>
<td>- Food processing</td>
<td>4.8 (4.8)</td>
<td>4.0 (4.2)</td>
<td>8.7 (8.5)</td>
</tr>
<tr>
<td>- Manufacture of coke and refined petroleum products</td>
<td>1.3 (1.5)</td>
<td>0.4 (0.5)</td>
<td>3.0 (3.5)</td>
</tr>
<tr>
<td>- Manufacture of rubber and plastic products</td>
<td>1.8 (1.8)</td>
<td>1.4 (1.3)</td>
<td>8.0 (7.9)</td>
</tr>
<tr>
<td>- Manufacture of other non-metallic products</td>
<td>1.3 (1.3)</td>
<td>2.3 (2.5)</td>
<td>18.2 (20.7)</td>
</tr>
<tr>
<td>- Manufacture of metal products (excluding machinery and equipment)</td>
<td>2.1 (2.2)</td>
<td>2.4 (2.3)</td>
<td>12.1 (11.8)</td>
</tr>
<tr>
<td>D – Electricity, gas and steam supply</td>
<td>4.6 (4.1)</td>
<td>0.4 (0.3)</td>
<td>0.7 (1.1)</td>
</tr>
<tr>
<td>E – Water supply, sewerage, waste management</td>
<td>1.1 (1.0)</td>
<td>0.4 (0.5)</td>
<td>4.7 (4.6)</td>
</tr>
<tr>
<td>F – Construction</td>
<td>10.9 (11.2)</td>
<td>24.1 (24.5)</td>
<td>23.5 (23.6)</td>
</tr>
<tr>
<td>G – Retail trade and repairs</td>
<td>19.9 (19.5)</td>
<td>15.6 (15.5)</td>
<td>8.1 (8.7)</td>
</tr>
<tr>
<td>H – Transportation and storage</td>
<td>3.7 (3.7)</td>
<td>1.9 (1.8)</td>
<td>5.1 (5.6)</td>
</tr>
<tr>
<td>I – Hotels and restaurants</td>
<td>2.9 (3.0)</td>
<td>5.9 (6.8)</td>
<td>24.4 (21.2)</td>
</tr>
<tr>
<td>J – Information and communication</td>
<td>3.4 (3.3)</td>
<td>0.7 (0.6)</td>
<td>2.0 (2.3)</td>
</tr>
<tr>
<td>L – Real estate activities</td>
<td>14.0 (14.9)</td>
<td>14.2 (14.0)</td>
<td>10.4 (10.4)</td>
</tr>
<tr>
<td>M – Professional, scientific and technical activities</td>
<td>3.8 (4.0)</td>
<td>5.2 (5.1)</td>
<td>13.8 (14.2)</td>
</tr>
<tr>
<td>N – Administrative activities</td>
<td>3.7 (3.4)</td>
<td>0.8 (0.7)</td>
<td>2.1 (2.4)</td>
</tr>
<tr>
<td>P – Education</td>
<td>0.4 (0.4)</td>
<td>0.3 (0.4)</td>
<td>9.7 (9.3)</td>
</tr>
<tr>
<td>Q – Health care</td>
<td>1.5 (1.6)</td>
<td>1.1 (1.2)</td>
<td>7.4 (7.7)</td>
</tr>
<tr>
<td>R – Arts. entertainment and recreation</td>
<td>0.5 (0.5)</td>
<td>0.3 (0.3)</td>
<td>6.5 (6.3)</td>
</tr>
<tr>
<td>S – Other services</td>
<td>0.3 (0.3)</td>
<td>0.5 (0.5)</td>
<td>16.7 (16.8)</td>
</tr>
<tr>
<td>Razem</td>
<td>100.0</td>
<td>100.0</td>
<td>10.4</td>
</tr>
</tbody>
</table>

Notes:
In brackets, data at the end of March 2014
Claims include the following balance-sheet positions: loans and other receivables, debt and equity instruments and remaining receivables.
Data is based on the so-called large exposures reporting, i.e. for a bank that is a joint-stock company, state-run bank and a non-associated cooperative bank – they mean exposures towards one enterprise in excess of 500,000 zlotys, and for an associated cooperative bank – exposures towards one client in excess of 100,000 zlotys.
Source: NBP.
 Debt in coal mining, whose financial condition is deteriorating, increased. The magnitude of potential losses of banks is limited by a very low (approx. 1%) share of loans to coal mining enterprises in the large exposures portfolio. The impaired loan ratio of the section “Mining and quarrying” improved substantially over the last year (see Table 2.1), however, this was mainly due to a rise in value of loans.

Adverse developments regarding the situation of borrowers, arising from the Ukraine-Russia conflict, may be an additional factor affecting the quality of the bank’s loan portfolio. Direct exposures to Russian entities are insignificant (around 0.9 billion zlotys) and for no bank they are above 0.5% of their assets. However, if the economic situation of enterprises of domestic industries particularly exposed to the consequences of the conflict deteriorate, this may have a significant impact on the quality of the whole portfolio and lead to potential credit losses of banks. At the end of September 2014, the value of loans granted to industries with a substantial share of exports to Russia40 or enterprises that invest in Russia41 amounted to 43.0 bn zlotys and 42.5 bn zlotys, respectively, which accounted for 13.6% and 13.4% of the large exposures portfolio. These exposures were of better quality than exposures to non-financial enterprises. The impaired loan ratio at the end of September 2014 was 7.9% for industries with a substantial share of exports to Russia and 5.8% for enterprises investing in Russia, with the average of 10.4% for the whole portfolio of large exposures.

The deterioration in loan quality related to Russian embargo on imports of food and subsequent fall in prices of agriculture products may take place particularly in agriculture and food industry. At the end of September 2014 total share of borrowers from these two industries in large exposures amounted to 8.5%. The quality of loans both in agriculture and food industry is better than average for the whole enterprise sector and improved in the period covered by the Report. However, in the third quarter of 2014 some signs of deterioration took place in food industry (decline in sales and profits and increase in the percentage of unprofitable firms42). The adverse effect of embargo on the situation of enterprises can be mitigated by the recent zloty depreciation in the fourth quarter of 2014 r., if it persist (positive impact on profitability of export to other markets).

**Outlook**

A slight increase in losses in the portfolio of corporate loans is likely. It will be driven by the forecasted economic growth slowdown. Credit loss growth will be driven by additional impaired loan provisions, created in connection with the outcome of Asset Quality Review (AQR). The impact of AQR may be higher than in case of households. Some decrease in the rate of economy growth may took place in the coming quarters and, according to economic climate surveys, enterprises no longer expect their economic situation to improve. This means that improve in economic situation of enterprises will probably no longer be a factor contributing to the decline in credit losses.

A potential intensification of EU sanctions and Russia’s retaliations related to the conflict in Ukraine is a risk factor for the quality of loan to enterprises. However, the NBP estimates show that even if the extremely negative scenario were to unfold, the impact on bank’s capital adequacy would be small.

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40 The analysis includes the sections of industry with highest exports to Russia and Ukraine (with per unit share in total exports above 7%) and sections most reliant on exports to Russia (above 9% of exports of a given section).

41 According to end-of-June 2014 data, investments of Polish enterprises in Russia (in the form of direct investment, portfolio investment etc.) stood at 7.3 billion zlotys. On the basis of data available, it is not possible to assess the significance of the investment relative to the size of operations of the enterprises.

42 See “Financial condition of the enterprise sector in Q3 2014”, December 2014, NBP.
2.3. Market risk

The structure of zloty interest-bearing assets and liabilities in banks’ banking books (accounting for 78% and 77% of interest-bearing assets and liabilities, respectively), makes their net interest income sensitive to changes in market interest rates. FX risk and interest rate risk on banks’ trading books (constituting a small part of their balance-sheets\(^43\)) are small.

With falling value of the portfolio of foreign currency housing loans, the long FX balance-sheet position of the banking sector has decreased from mid-2012. Although FX foreign liabilities and foreign currency housing loans were declining to a comparable degree, but at the same time the portfolio of foreign currency loans also decreased at banks that did not obtain foreign funding.

At the majority of banks, the net FX position is close to zero and insignificant in relation to capital.\(^44\) Therefore, the risk of substantial losses stemming from changes in the valuation of the FX position is low. The median of VaR for FX risk at commercial banks does not exceed 0.05% of their regulatory capital (see Figure 2.30).

Banks that hold an open FX balance sheet position may be exposed to other types of risk related to the need to hedge this position, i.e.:

- liquidity risk – a depreciation of the zloty increases the value of zloty funds needed to roll over contracts that hedge FX position. Depreciation may also entail the need to use liquid funds for the margin calls associated with the contracts. The risk was accounted for in the shock scenario of stress tests (see Figure 2.7.2.).

- risk of a rise in transaction cost – a rise in the margins on hedging transactions may pose a threat to the profitability of FX assets. The risk is particularly significant for some banks that extended foreign currency housing loans at very low spreads, when market competition was most intense. Hedging costs declined slightly from June till December 2014 along with a fall in margins on fx swap and CIRS basis transactions (see Chapter 1.2.), however this decrease was leveled following the decision of the SNB on discontinuing the minimum Swiss franc exchange rate against euro. In second and third quarter of 2014 r. there was a marked decrease in the share of banks with a negative estimated profitability of the portfolio of housing loans (see Figure 2.45).

- counterparty default risk – materialisation of the risk would be particularly significant in the case of banks for which there is a high concentration of counterparties of the transactions. Data on large exposures indicate that in the case of some banks a vast majority of fx swap and CIRS basis transactions is concluded with one or just a few counterparties,

- the risk of the incapability of rolling over maturing hedges – this risk emerges during crisis situation, particularly when interbank markets stop functioning.

Interest rate risk in banks’ trading books is insignificant. The value of Treasury securities classified as

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\(^43\)On the basis of data available, it is not possible to accurately specify the size of trading book held by domestic banks. The share of assets classified as “held for trading”, where most of the assets from trading book should be classified into is however small and amounts to 3.8%. For comparison, the average for banking sectors of the euro area and the whole EU based on consolidated data for banks applying IFRS amounts to 16% and 22%, respectively.

\(^44\)For three commercial banks only, net FX position is above 2% of their regulatory capital.
Banking sector

held for trading has risen recently, but is still low (see Table 2.2). Consequently, the median of VaR for interest rate risk of banks’ trading book does not exceed 1% of their regulatory capital (see Figure 2.31).

Figure 2.30. Median of Value at Risk for FX risk

<table>
<thead>
<tr>
<th></th>
<th>Interquartile range</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-2011</td>
<td>0.00%</td>
<td>0.10%</td>
</tr>
<tr>
<td>12-2011</td>
<td>0.02%</td>
<td>0.12%</td>
</tr>
<tr>
<td>3-2012</td>
<td>0.04%</td>
<td>0.14%</td>
</tr>
<tr>
<td>6-2012</td>
<td>0.06%</td>
<td>0.16%</td>
</tr>
<tr>
<td>9-2012</td>
<td>0.08%</td>
<td>0.18%</td>
</tr>
<tr>
<td>12-2012</td>
<td>0.10%</td>
<td>0.20%</td>
</tr>
<tr>
<td>3-2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9-2014</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: VaR at confidence level of 95% and a 10-day horizon, calculated for commercial banks and expressed as percentage of regulatory capital; from April 2014, for months that are not quarter-ending months, data on regulatory capital as of the end of the last quarter-ending month were used. Source: NBP.

Table 2.2. Debt instruments issued by central government institutions in banks’ assets

<table>
<thead>
<tr>
<th>Portfolio type</th>
<th>9-2013</th>
<th>3-2014</th>
<th>9-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available for sale</td>
<td>78.1%</td>
<td>79.4%</td>
<td>79.1%</td>
</tr>
<tr>
<td>Held for trading</td>
<td>10.5%</td>
<td>9.6%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Held to maturity</td>
<td>6.5%</td>
<td>7.1%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Loans and other receivables</td>
<td>2.5%</td>
<td>2.3%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Fair value through profit &amp;</td>
<td>2.4%</td>
<td>1.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>loss</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Data include instruments issued by residents and non-residents. Source: NBP.

Risk associated with the portfolio of securities in the banking book is also insignificant and limited mainly to fixed-rate government bonds. The average duration of the whole bond portfolio is relatively short and amounts to approximately 2 years. Moreover, it may be estimated that the risk of changes in government bond prices is mostly hedged with derivatives. Banks may be exposed to risk arising from volatility of the spread between bond yields and the interest rate swaps used for hedging. The results of macro stress tests under the shock scenario (see Chapter 2.7.2.) indicate that this risk is not big.

Figure 2.31. Median of Value at Risk for interest rate risk in trading book

Notes: VaR at confidence risk of 95% and a 10-day horizon, calculated for commercial banks and expressed as % of regulatory capital; from April 2014, for months that are not quarter-ending months, data on regulatory capital as of the end of the last quarter-ending month.

Source: NBP.

A significant source of interest rate risk in the banking book stems from the repricing mismatch of zloty interest-bearing assets and liabilities. At the majority of banks (see Figure 2.32), interest on assets responds faster to market interest rate changes than interest on liabilities. As a result, a decrease of market interest rates contributes ceteris paribus to a fall of net interest income of banks.

In an environment of low interest rates, a negative gap between managed rate assets and liabilities does not help banks to offset the fall of net income on items with variable interest. As shown in Chapter 2.4., the interest on the liabilities with managed interest rate, current accounts in particular, was already close to zero in the period analysed.

The results of the simulation of impact of a substantial fall in market interest rates show that it would significantly decrease banks’ profitability, but would not jeopardise the stability of the whole sector. The assumptions and details of the simulation results are presented in Box 2.
Box 2. Impact of a fall of zloty interest rates on the situation of banks

The aim of the analysis presented in the box is to assess the impact of cuts in NBP interest rates on the earnings of the banking sector. The analysis comprises the impact of cuts in interest rates already performed since September 2014 till the cut-off date of the Report (50 basis points cut in October 2014) as well as the potential further cuts, up to the decline in the reference rate to the level of 0% inclusive, i.e. by maximum further 200 basis points.\(^1\)

A simulation was performed to assess the isolated impact of interest rate reduction on the earnings of banks through changes in the interest rate of interest-bearing assets and liabilities, assuming the fixed balance sheet of banks. Therefore, the results of the simulation illustrate the sensitivity arising from the current structure of banks’ assets and liabilities on changes in interest rates, whereas they do not take into account possible measures which could be undertaken by banks if the scenario of interest rate decline was to unfold.\(^2\) The simulation also does not take into account the impact of interest rate cuts on the valuation of financial instruments, the macroeconomic situation, including the situation of borrowers and loan demand, etc.

The analysis of the impact of a decline in interest rates was performed on the basis of data on the period to the date of repricing of zloty-denominated assets and liabilities of individual commercial and cooperative banks.\(^3\) Such data enable to define how fast the assets and liabilities respond to changes in market interest rates. Other most important assumptions of the simulation are presented below:

- the assumed interest rate cut takes place at the beginning of the simulation period and the level of interest rates after the reduction remains at an unchanged level throughout the year,
- the corridor of interest rates, in accordance with the Monetary Policy Council decision in October 2014, amounts to 200 basis points,
- a parallel shift of the yield curve takes place (rates for all tenors decrease evenly by the adopted value),
- interest rates for currencies other than zloty and all other market parameters remain unchanged,
- the interest rate of assets and liabilities with variable interest rates decreases exactly by the value of the interest rate decline (assumption of fixed margins), provided that the interest rate of liabilities cannot be negative,
the interest rate of assets and liabilities with the interest rate managed by the bank remains unchanged,\textsuperscript{4}

the average effective interest rate of consumer loans cannot be higher than four NBP Lombard rates.\textsuperscript{5}

Adopting those assumptions, the earnings and capital adequacy ratios of banks were estimated for each variant of an interest rate decline. The level of capital shortfalls was determined for banks which, as a result of a decline in interest rates would not meet the currently applicable minimum levels of capital adequacy (8% for the total capital ratio, 6% for the Tier 1 ratio and 4% for the Common Equity Tier 1 ratio).

The results of the simulation showed that the earnings of banks are significantly sensitive to the decline in interest rates. This dependence is not linear and it is growing parallel to the scale of decline in interest rates (see Figure 1). However, even in the case of a decline of the NBP reference rate to zero, in total, commercial banks would be \textit{ceteris paribus} still profitable. On the other hand, the total financial result of cooperative banks would become negative, with the decline of interest rates by 200 basis points. In both groups of banks, the share of loss-recording institutions (on an annual basis) would start to grow significantly from the decline of interest rates by 100 basis points (see Figure 2). In an extreme case of an interest rate decline to zero, the negative result would be shown by almost 30% of commercial banks and 70% of cooperative banks (by assets). However, the decline in interest rates would not translate into a significant deterioration of the capital position of banks. The share of banks which do not meet the minimum regulatory levels for capital adequacy ratios, even in the extreme variant, would be low (see Figure 2).

Figure 1. Pre-tax earnings depending on the scale of an interest rate decline from September 2014 in commercial banks (left-hand panel) and cooperative banks (right-hand panel)

<table>
<thead>
<tr>
<th>Decrease in interest rates since 9-2014 (basis points)</th>
<th>Pre-tax earnings</th>
<th>Percentage change (right axis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>-10%</td>
<td>-10%</td>
<td>-10%</td>
</tr>
<tr>
<td>-20%</td>
<td>-20%</td>
<td>-20%</td>
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<tr>
<td>-30%</td>
<td>-30%</td>
<td>-30%</td>
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<tr>
<td>-40%</td>
<td>-40%</td>
<td>-40%</td>
</tr>
<tr>
<td>-50%</td>
<td>-50%</td>
<td>-50%</td>
</tr>
<tr>
<td>-60%</td>
<td>-60%</td>
<td>-60%</td>
</tr>
<tr>
<td>-70%</td>
<td>-70%</td>
<td>-70%</td>
</tr>
<tr>
<td>-80%</td>
<td>-80%</td>
<td>-80%</td>
</tr>
<tr>
<td>-90%</td>
<td>-90%</td>
<td>-90%</td>
</tr>
<tr>
<td>-100%</td>
<td>-100%</td>
<td>-100%</td>
</tr>
</tbody>
</table>

Note: Annualised data; “9-2014” indicates annualized pre-tax earnings as of end of September 2014; the decline in interest rates by 50 comprises October 2014 interest rate cut.

Source: NBP.

The results of the simulation indicate that within the annual horizon, the decline in interest rates would, \textit{ceteris paribus}, significantly decrease banks’ profitability, but it would not generate the risk to the capital adequacy and stability of the whole sector. However, at the same time, cooperative banks are more sensitive to the decline in interest rates and their considerable decline would probably have a systemic importance for this part of the banking sector.
2.4. Funding structure and liquidity risk

Poland’s banking system displays a favourable funding structure from the point of view of its stability. This is evidenced by a low funding gap, a big share of household deposits in liabilities and a small scale of reliance on less stable market sources of funding (see Figure 2.33).

The average funding gap in the banking sector continued to decrease (see Figure 2.34). A strong growth in deposits of the non-financial sector (8.4% y/y at the end of September 2014), observed in the majority of banks helped continue the trend.

As a consequence, the share of funding provided by foreign financial institutions gradually declined (see Figure 2.35). This was largely associated with a fall of the value of the portfolio of foreign currency housing loans and, consequently, lower demand for foreign currency funding. Foreign liabilities of branches of credit institutions were highly volatile.
Figure 2.33. Share of selected funding sources in the liabilities of the banking sectors of EU countries

Note: Monetary data as at the end of September 2014; in the case of euro area countries, counterparties from euro area are regarded as domestic counterparties; EU – weighted average for EU countries.

Source: Own calculations based on ECB data.

Figure 2.34. Funding gap

Source: NBP.

Funding from domestic financial institutions remained low. Funds obtained from banks play a significant role mainly in the associating banks, where cooperative banks deposit their liquidity surpluses. The relevance of the interbank market as a source of funding for other banks is small, and transactions entered into in this market mainly serve to manage short-term liquidity. Liabilities towards non-bank financial institutions accounted for around 6% of the banks’ balance-sheet total, and were strongly concentrated at some banks. However, in the case of most of them, they involved transactions with entities from the same capital group.45

In the period analysed, the cost of financing slightly

Chapter 2.

decreased (on a somewhat larger scale than interbank market rates) (see Figure 2.36). Therefore, banks continued to adjust to an environment of low interest rates, which resulted in net interest margin growth (see Chapter 2.5).

Figure 2.36. Effective interest on liabilities

In the subsequent quarters, the possibility of a further adjustment of interest expense to lower market interest rates may be limited. Data on the interest on new term deposits indicate that spread between WIBOR rates and their interest fell markedly (see Figure 2.37). Moreover, the possibility of further lowering the interest on current deposits will be limited because their interest is already often close to zero.

The short-term liquidity position of banks did not change significantly. For over 95% of banks, the portfolio of liquid assets fully covered the adjusted gap.

Figure 2.37. Spread between the average WIBOR rate and interest rate of new zloty term deposits

Banks continued to vary substantially in terms of the value of liquid assets. Sizable portfolios of government bonds were most frequently held by the largest banks, and in the period analysed these banks were
mainly buying these instruments (see Figure 2.38).

The good liquidity situation of domestic commercial banks is confirmed by the levels of supervisory liquidity ratios\(^\text{46}\) (see Figure 2.39). Liquidity reserves were above the level of unstable external funds at all commercial banks (M2 liquidity ratio was higher than the regulatory minimum of 1.00). For all banks, stable external funds and own funds were also higher than illiquid assets and assets of limited liquidity (M4 liquidity ratio was higher than the regulatory minimum of 1.00).

### 2.5. Earnings

In Poland, positive earnings are the main source of new capital for banks. For this reason, the current and future level of earnings is a significant input for assessment of the banking system's resilience to materialization of risks.

The earnings and profitability ratios of the banking sector increased (see Table 2.3) and were high compared with the banking systems of the majority of EU countries (see Figure 2.40). Large institutions were primarily responsible for the sector's profitability growth (see Figure 2.41). At the same time, the share of banks with negative profitability in the sector's assets decreased to 1.7% (from 2.5%).\(^\text{47}\) Their total losses were low (see Figure 2.42), also when compared with the scale of their operations and the value of regulatory capital.

The improvement of the banking sector's profitability was primarily driven by: an increase in net interest margin and a decrease in the burden of operating costs on net income from banking activity. The burden of credit risk materialisation costs remained stable, and net non-interest margin declined, inter alia, as a result of the regulatory reduction in the interchange fee effective from 1 July 2014.\(^\text{48}\) The growth rate of net interest margin dropped, which may attest to the subsiding impact of the banks’ adjustment to falling interest rates on the back of the

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\(^\text{47}\) At the end of the period analysed, negative profitability ratios were shown by two commercial banks (a 1.4% share in the sector’s assets), eight branches of credit institutions (a 0.3% share) and nine cooperative banks (a 0.05% share), against two, ten and fifteen at the end of March 2014.

Table 2.3. Selected operating indicators and items of profit and loss account of the banking sector

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th></th>
<th></th>
<th></th>
<th>2014</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
</tr>
<tr>
<td>As % of average assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net interest income</td>
<td>2.59</td>
<td>2.50</td>
<td>2.44</td>
<td>2.49</td>
<td>2.53</td>
<td>2.59</td>
<td>2.61</td>
</tr>
<tr>
<td>Net non-interest income</td>
<td>1.73</td>
<td>1.69</td>
<td>1.62</td>
<td>1.49</td>
<td>1.43</td>
<td>1.39</td>
<td>1.37</td>
</tr>
<tr>
<td>Net income from banking activity</td>
<td>4.32</td>
<td>4.20</td>
<td>4.06</td>
<td>3.98</td>
<td>3.96</td>
<td>3.98</td>
<td>3.98</td>
</tr>
<tr>
<td>Operating costs</td>
<td>2.26</td>
<td>2.23</td>
<td>2.19</td>
<td>2.16</td>
<td>2.14</td>
<td>2.12</td>
<td>2.08</td>
</tr>
<tr>
<td>Net charges to provisions for impaired loans</td>
<td>0.61</td>
<td>0.56</td>
<td>0.54</td>
<td>0.55</td>
<td>0.56</td>
<td>0.57</td>
<td>0.55</td>
</tr>
<tr>
<td>Pre-tax earnings</td>
<td>1.41</td>
<td>1.42</td>
<td>1.36</td>
<td>1.34</td>
<td>1.32</td>
<td>1.35</td>
<td>1.40</td>
</tr>
<tr>
<td>Net earnings (ROA)</td>
<td>1.14</td>
<td>1.15</td>
<td>1.10</td>
<td>1.09</td>
<td>1.07</td>
<td>1.09</td>
<td>1.12</td>
</tr>
<tr>
<td>As % of net income from banking activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net interest income</td>
<td>60.0</td>
<td>59.7</td>
<td>60.0</td>
<td>62.5</td>
<td>63.9</td>
<td>65.1</td>
<td>65.6</td>
</tr>
<tr>
<td>Net non-interest income</td>
<td>40.0</td>
<td>40.3</td>
<td>40.0</td>
<td>37.5</td>
<td>36.1</td>
<td>34.9</td>
<td>34.4</td>
</tr>
<tr>
<td>Net income from banking activity</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Operating costs</td>
<td>52.3</td>
<td>53.0</td>
<td>54.0</td>
<td>54.4</td>
<td>54.1</td>
<td>53.3</td>
<td>52.1</td>
</tr>
<tr>
<td>Net charges to provisions for impaired loans</td>
<td>14.2</td>
<td>13.2</td>
<td>13.3</td>
<td>13.9</td>
<td>14.1</td>
<td>14.3</td>
<td>13.9</td>
</tr>
<tr>
<td>Pre-tax earnings</td>
<td>32.7</td>
<td>33.7</td>
<td>33.4</td>
<td>33.8</td>
<td>33.3</td>
<td>34.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Net earnings</td>
<td>26.4</td>
<td>27.3</td>
<td>27.1</td>
<td>27.3</td>
<td>26.9</td>
<td>27.4</td>
<td>28.2</td>
</tr>
<tr>
<td>As % of Tier 1 capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-tax earnings</td>
<td>15.2</td>
<td>15.3</td>
<td>14.7</td>
<td>14.5</td>
<td>14.4</td>
<td>14.9</td>
<td>15.5</td>
</tr>
<tr>
<td>Net earnings (ROE)</td>
<td>12.3</td>
<td>12.4</td>
<td>11.9</td>
<td>11.8</td>
<td>11.5</td>
<td>11.8</td>
<td>12.2</td>
</tr>
<tr>
<td>Amounts (zloty billion)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net interest income</td>
<td>8.2</td>
<td>8.1</td>
<td>8.6</td>
<td>9.8</td>
<td>9.2</td>
<td>9.5</td>
<td>9.6</td>
</tr>
<tr>
<td>Net non-interest income</td>
<td>5.5</td>
<td>6.0</td>
<td>5.0</td>
<td>4.3</td>
<td>4.9</td>
<td>5.8</td>
<td>5.0</td>
</tr>
<tr>
<td>Net income from banking activity</td>
<td>13.7</td>
<td>14.1</td>
<td>13.6</td>
<td>14.0</td>
<td>14.1</td>
<td>15.2</td>
<td>14.8</td>
</tr>
<tr>
<td>Operating costs</td>
<td>7.3</td>
<td>7.6</td>
<td>7.5</td>
<td>7.7</td>
<td>7.4</td>
<td>7.7</td>
<td>7.4</td>
</tr>
<tr>
<td>Net charges to provisions for impaired loans</td>
<td>1.7</td>
<td>1.8</td>
<td>2.0</td>
<td>2.2</td>
<td>1.8</td>
<td>2.1</td>
<td>1.9</td>
</tr>
<tr>
<td>Pre-tax earnings</td>
<td>5.1</td>
<td>5.0</td>
<td>4.4</td>
<td>4.2</td>
<td>5.0</td>
<td>5.7</td>
<td>5.5</td>
</tr>
<tr>
<td>Net earnings</td>
<td>4.1</td>
<td>4.1</td>
<td>3.6</td>
<td>3.3</td>
<td>4.0</td>
<td>4.7</td>
<td>4.3</td>
</tr>
</tbody>
</table>

1 Annualised data.
2 Operating costs = general expense and depreciation.
3 Tier 1 capital without deductions by the shortfall of specific provisions and other so-called regulatory deductions.
4 Profits of branches of credit institutions have been subtracted.
5 Quarterly data.
Source: NBP.

previous cycle of interest rate cuts by the Monetary Policy Council (the cycle ended in July 2013).

The estimated profitability of all analysed credit products rose (see Figure 2.44–2.47). Additionally, the share of banks with low profitability of these products in the banking sector decreased. In most cases, it was the effect of a fall in funding costs. In the case of loans to enterprises, the rise in profitability was also driven by lower burden of impairment provisions. This burden increased in the case of consumer loans (for more details on the subject, see Chapter 2.2.), which, however, was largely offset by an increase in their effective interest.

49 A period till the revaluation date of most of zloty interest-bearing assets (over 80%) is shorter than 6 months, and of most of zloty interest-bearing liabilities – shorter than a year.
Figure 2.40. ROE in the banking sectors of EU countries

Note: data consolidated as at the end of June 2014; EU – weighted average for EU countries; due to the consolidated data used, ROE for Poland differs from indicators on an individual basis analysed in this Chapter.
Source: ECB.

Figure 2.41. Return on assets at domestic commercial banks

Note: annualised data.
Source: NBP.

Figure 2.42. Quarterly net earnings of the banking sector

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

Figure 2.43. Sources and allocation of net income from banking activity

Note: quarterly data.
Source: NBP.
Chapter 2.

Figure 2.44. Estimated profitability of consumer loans (left-hand panel), housing loans (middle panel) and other loans to households (right-hand panel)

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

Source: NBP.

Figure 2.45. The share of banks with a specified estimated profitability of loans in consumer loans (left-hand panel), housing loans (middle panel) and other loans to households (right-hand panel) extended by the banking sector

Note: for description of estimated profitability measurement, see Notes to Figure 2.44.

Source: NBP.
Figure 2.46. Estimated profitability of loans to large enterprises (left-hand panel) and loans to SMEs (right-hand panel)

Note: for description of estimated profitability measurement, see Notes to Figure 2.44.
Source: NBP.

Figure 2.47. The share of banks with a specified estimated profitability of loans in loans to enterprises (left-hand panel) and loans to SMEs (right-hand panel) extended by the banking sector

Note: for description of estimated profitability, see Notes to Figure 2.44.
Source: NBP.
Outlook

The following changes affecting the profitability of the Polish banking sector can be expected in the upcoming quarters:

- **A fall of net interest margin.** A fall of market interest rates triggered by the Monetary Policy Council decision of 8 October 2014 and their possible further falls, expected by financial market players, will initially have a stronger influence on the interest on assets than liabilities (see Chapter 2.3). Additionally, the banks’ freedom to lower the interest on managed rate liabilities is limited, because the interest on current accounts is close to zero. Moreover, interest on loans cannot exceed the four-fold of the NBP Lombard rate. The estimated impact of a fall of interest rates on banks’ earnings is presented in Box 2. The magnitude of the fall of interest margin may be reduced by a potential increase in the share of consumer loans in banks’ portfolios (see Chapter 2.1).

- **Stabilisation or a further fall of non-interest margin.** Banks have announced that they will raise fees and commissions in response to a fall of interest rates, however in the past such measures were insufficient to increase non-interest margin. Some banks may improve their net non-interest income by taking profits on bonds from the “available for sale” portfolio.

- **A possible decrease in profits on insurance sales.** Recommendation U may limit the opportunities of earning on such activities. Depending on the way of recording these profits in financial reports, this may affect either interest income (insurance bound with loan contracts) or non-interest income.

- **An increase in contributions paid by banks to the Bank Guarantee Fund** related to the raising of the rates of an annual contribution and a prudential fee for 2015, and, in the longer term, to the proposal for establishing a resolution fund.

- **A possible rise in the burden of loan impairment provisions on earnings** resulting from the creation of additional provisions following the asset quality review by the UKNF and reclassifications of some loans, suggested by the supervision authority (for more information on the issue, see Box 2). The influence of Swiss franc appreciation on charges to provisions for FX housing loans should be moderate.

These changes may lead to a fall in the profitability of banking activity measured by ROA and ROE. However, these ratios will remain high, and a vast majority of banks will be still profitable. Potential losses sustained by some banks will not, in most cases, jeopardise their capital adequacy. The capital position of the majority of banks also allows them to dampen the decline of ROE by increasing leverage.

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50. The former was raised from 0.1% to 0.189% of 12.5 times of the sum of capital requirements, and the latter – from 0.037% to 0.05% of 12.5 times of the sum of capital requirements. See Resolution No. 28/2014 of the BFG Council of 19 November 2014 on determining the amount of the rate of a mandatory annual contribution for 2015 paid by entities covered by the obligatory guarantee scheme to the Bank Guarantee Fund and Resolution No. 29/2014 of the BFG Council of 19 November 2014 on determining the amount of the rate of a prudential fee for 2015 paid by entities covered by the obligatory guarantee scheme to the Bank Guarantee Fund.

2.6. Banks’ capital position

Good capital levels and a low leverage ratio ensure that the domestic banking sector is highly resilient to shocks. Since March 2014, capital has increased by 6.3% (see Figure 2.48), mainly due to the retention of previous year’s earnings and an increase in share capital. The value of capital requirements also increased (by 4.2%), which was primarily related to lending growth (see Figure 2.49). The average total capital ratio in the banking sector amounted to 14.9%. Banks with the total capital ratio above 12% represented a 96% share in the domestic banks’ assets (see Figure 2.50).

![Figure 2.48. Main components of regulatory capital and selected capital adequacy ratios in the domestic banking sector](image)

Note: Tier 2 capital by the end of 2013 calculated as the difference between capital for the needs of capital adequacy ratio and core capital.

Source: NBP.

Entry into force of regulatory changes arising from the provisions of the CRDIV/CRR package did not result in major changes of the level of banks’ regulatory capital, capital requirements and capital adequacy ratios (see Table 2.4). The existing category of core capital, accounting for over 90% of the sector’s regulatory capital, reflected, to a large extent, the category of Tier 1 capital, effective from 2014. Thus, all banks more than met the new capital adequacy standards without the need to raise top quality capital. These standards include: Common Equity Tier 1 capital ratio, Tier 1 capital ratio and total capital ratio corresponding to the hitherto capital adequacy ratio.

![Figure 2.49. Capital requirements in the domestic banking sector](image)

Note: The value of the capital requirement for counterparty credit risk by the end of 2013 shown jointly with the capital requirement for credit risk.

Source: NBP.

52The analysis includes commercial banks with their foreign branches and cooperative banks. Three domestic banks have foreign branches, but the scale of their operations is very small (the foreign branches’ assets account for less than 1% of the three banks’ assets). BGK was excluded from the analysis because it is not subject to the CRDIV/CRR regulatory package.


54In March 2014, banks were bound to report data on capital adequacy compliant with old domestic regulations and CRDIV/CRR. This helps to compare the changes introduced by the new regulations.

55Common Equity Tier 1 capital ratio is set using top quality capital, i.e. Common Equity Tier 1. The minimum level of Common Equity Tier 1 capital ratio in force in 2014 is not less than 4.0%. Tier 1 capital ratio is set using Common Equity Tier 1 and additional Tier 1 capital. Its minimum level in 2014 amounts to 5.5%. Total capital ratio is set using all regulatory capital comprising Tier 1 and Tier 2 capital. The minimum level of total capital ratio is 8%.
Table 2.4. Changes in selected parameters and capital adequacy ratios in the domestic banking sector stemming from entry into force of the provisions of the CRDIV/CRR package, as at the end of March 2014

<table>
<thead>
<tr>
<th>Parameter</th>
<th>National regulations</th>
<th>CRDIV/ CRR</th>
<th>difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own funds</td>
<td>132.82</td>
<td>130.73</td>
<td>-1.6</td>
</tr>
<tr>
<td>Tier 1 capital</td>
<td>119.58</td>
<td>118.86</td>
<td>-0.6</td>
</tr>
<tr>
<td>Tier 2 capital</td>
<td>13.25</td>
<td>11.87</td>
<td>-10.4</td>
</tr>
<tr>
<td>Total capital ratio</td>
<td>15.0%</td>
<td>14.6%</td>
<td>-0.4 pp</td>
</tr>
<tr>
<td>Tier 1 capital ratio</td>
<td>13.5%</td>
<td>13.3%</td>
<td>-0.2 pp</td>
</tr>
<tr>
<td>Common Equity Tier 1 capital ratio</td>
<td>—</td>
<td>13.3%</td>
<td>—</td>
</tr>
<tr>
<td>Total capital requirements, including:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- capital requirement for credit risk (including counterparty credit risk)</td>
<td>70.93</td>
<td>71.47</td>
<td>0.8</td>
</tr>
<tr>
<td>- capital requirement for operational risk</td>
<td>6.77</td>
<td>6.76</td>
<td>0.0</td>
</tr>
<tr>
<td>- capital requirement for market risk</td>
<td>0.34</td>
<td>1.11</td>
<td>226.5</td>
</tr>
<tr>
<td>- capital requirements for other risk</td>
<td>0.75</td>
<td>0.61</td>
<td>-19.1</td>
</tr>
</tbody>
</table>

Notes: Data in PLN billion. The “capital requirements for market risk” category include position risk, currency risk and commodity price risk.
Source: NBP.

Figure 2.50. Distribution of assets of domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel) by the total capital ratio

Note: The capital adequacy ratio was presented for December 2013.
Source: NBP.

Most banks, except eleven cooperative banks would also meet the capital standards, if today they had to deduct regulatory capital by the items, which according to the provisions, are to be gradually excluded from this capital. The deductions concern, inter alia, a gradual amortisation of the paid-up members share fund at cooperative banks and the matur-

ing of other instruments grandfathered as capital instruments. Should these items be excluded, cooperative banks’ funds would decrease by around 729 million zlotys (i.e. by 7.1%).

Poland’s banking sector benefited insignificantly from changes in parameters for the calculation of the capital requirements, introduced by the

56The CRDIV/CRR regulatory package introduces the so-called supporting factor, by which the value of the capital requirement arising from exposures to SMEs should be multiplied. The supporting factor amounts to 0.7619.
CDRIV/CRR package. Enabling preferential treatment of some credit exposures of SMEs\(^{56}\) caused the capital requirement for credit risk, calculated in compliance with the CDRIV/CRR package, to be lower at the end of March 2014 by 1.9% compared to former provisions. Cooperative banks in particular benefitted from this change, where the share of such exposures in assets is relatively high – the capital requirement for credit risk at cooperative banks fell by 10.3%. In turn, introducing the requirement for credit valuation adjustment risk (CVA) led to a slight increase in the capital requirement by 0.8%.

The ratio of risk-weighted assets to total assets in the domestic banking sector was high (approx. 68% at the end of September 2014). This resulted from the fact that most banks applied simple methods for calculating the capital requirements\(^{57}\) that produce, in principle, more conservative estimates of capital requirements than advanced methods permitted in the CDRIV/CRR package. Six banks, with a 47.9% share in the sector’s assets, calculated their capital requirements using advanced methods. On account of a transitional phase they could not lower the requirements below the reference amount arising from the application of the standardised method or Basel I methodology. Nevertheless the magnitude of decrease of the capital requirement at the banks can be assessed as substantial.

The Polish banking sector is characterised by a low level of leverage, which confirms a positive assessment of its capital position. At the end of June 2014, the leverage ratio, i.e. the ratio of bank’s assets to Tier 1 capital, amounted to 9.5; the average for the EU was 17.5.\(^{58}\) The current EU standard for the leverage ratio is yet to be set\(^{59}\) and the so-called observation period runs when banks report all items necessary for the calculation of the ratio. The Basel Committee submitted its proposal of the minimum value of the ratio.\(^{60}\) The Basel Committee-proposed leverage ratio standard of 3% is met by all domestic banks. At the end of September 2014, the average ratio for the banking sector amounted to 8.49% (see Figure 2.51), and only one bank had the ratio lower than 4%.

Figure 2.51. Leverage ratio at domestic commercial banks

Two approaches, namely simulations and macroeconomic stress tests, have been applied to determine the resilience of the banking sector to shocks.

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\(^{56}\) The methods are: standardised approach for credit risk, basic indicator approach or standardised approach for operational risk and the simplest methods under market risk. The latter category includes position risk, currency risk and commodity price risk for which the methods for calculating the capital requirements are set forth in the provisions of the CRR Regulation are used.

\(^{57}\) Relevant calculations based on consolidated reports of banks at the end of June 2014 published by the ECB.

\(^{58}\) The leverage ratio defined in the CDRIV/CRR regulatory package basically differs from the traditional leverage ratio. According to CDRIV/CRR, the leverage ratio is calculated as expressed in percentage quotient of Tier 1 capital to the exposure measure that includes both on- and off-balance-sheet exposures.

\(^{60}\) See “Basel III leverage ratio framework and disclosure requirements”, Basel Committee, January 2014.
Assumptions of the simulation:
1. Deterioration in loan quality means that 50% impairment is recorded for the loans. 2. Hypothetical charges to impairment provisions decrease, firstly, the bank’s current profit not recognized as regulatory capital, and then the bank’s regulatory capital. 3. Impaired loans carry risk weight equal to the average risk weight for the portfolio of the bank. 4. No release of impairment provisions.

Source: NBP.

The first of these approaches investigate the impact of standardized shocks that are not assigned to the macroeconomic scenario, but comparable over time. The second of these approaches considers a specific, consistent macroeconomic shock scenario and test resistance of banks for its materialization.

2.7.1. Simulations of credit loss absorption capacity

In order to determine whether banks’ capital would be sufficient to absorb potential losses stemming from credit risk materialization, simulation was performed\(^{61}\) the results of which indicate the scale of a deterioration in the quality of performing loans that individual banks may absorb without breaching any of the capital adequacy standards (see Figure 2.52). The results of this simulation allow to rank the banks by the resilience to a deterioration in the quality of their loan portfolios. The share of banks – in the banking sector’s assets – that would be able to absorb only a minor (10%) deterioration in their loan portfolio quality is analysed in the simulation as the measure of their sensitivity. The simulation performed on September 2014 data indicates that the banks’ resilience has improved. For domestic commercial banks, a deterioration in the quality of 10% of loans would result in a breach of capital adequacy standards at banks with a 7.8% share in assets. In March 2014, an identical shock would have triggered a breach of capital standards at banks with a 10.7% share in assets of domestic commercial banks. For cooperative banks, the assumed shock would have caused the capital ratios to fall below applicable minimum at banks with a 10.8% share in assets of all cooperative banks, compared to 14.5% in March 2014.

The vast majority of banks hold sufficient capital to absorb the impact of a deterioration in loan portfolio quality and their resilience have increased. However, there is a group of several medium-sized and

\(^{61}\) The simulation was performed on data on domestic commercial banks including their foreign branches and cooperative banks. Branches of credit institutions and Bank Gospodarstwa Krajowego were not included in the simulations.
small banks that are less resilient to potential shocks and should seek to increase their regulatory capital.

2.7.2. Stress tests

Stress tests that take into account a macroeconomic shock, a market shock and a liquidity shock were used to assess the resilience of banks to negative shocks. The central path of the NBP macroeconomic projection from "Inflation Report. November 2014", developed under the assumption of fixed interest rates, served as a reference scenario. The analysis aimed at quantifying the effects of hypothetical shocks on banks in the period from the fourth quarter of 2014 to the end of 2016. The outcome of the simulation for the reference scenario and results of other simulations included in this section should not be regarded as a forecast of the condition of the banking sector.

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

The hypothetical capital needs of banks under both scenarios were calculated, assuming that banks had to hold sufficient regulatory capital to keep their total capital ratio at 12.5%, and Common Equity Tier 1 ratio at 9.0%. The criteria for capital adequacy ratios assumed in the analysis are compliant with the criteria adopted by the KNF in its recommendations regarding banks’ dividend policy and are higher than applicable regulatory requirements and the criteria assumed for EBA and ECB stress tests in 2014.

For banks complying with the above mentioned criteria at the end of a given quarter of the simulation period, it was assumed that in a subsequent quarter they would increase their loan and securities portfolios and other assets at the quarterly growth rate of nominal GDP. The balance-sheet value of the loan portfolio was also affected by loan impairment provisions, and the value of the portfolio of debt securities – by the market shock. A constant relation to assets was assumed for the unmodelled items of the profit and loss account, and higher rates of the annual contribution and prudential fee to BFG were taken into account. Banks complying with the minimum capital adequacy ratios were also allowed to pay out dividends from profits earned in the simulation period. The dividend rate depended on the excess of capital adequacy ratios above the assumed minimum. Changes in bank assets were balanced by changes in liabilities.

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62 Stress tests were performed for domestic commercial banks. Bank Gospodarstwa Krajowego was excluded from the simulation.
63 In the vast majority of the banks analysed, Tier 1 capital is composed exclusively of core capital; therefore no separate criterion was assumed for Tier 1 capital ratio.
65 As long as the GDP growth rate was positive; if it was otherwise, a connection between bank assets and GDP was excluded. In addition, the growth rates for particular banks were limited by their excess of capital adequacy ratios above the assumed criteria.
66 It was assumed that the rates would be maintained in 2016.
Table 2.5. Major economic indicators in macroeconomic scenarios (%)

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GDP growth y/y</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference scenario</td>
<td>3.2</td>
<td>3.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Shock scenario</td>
<td>3.2</td>
<td>1.6</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>LFS unemployment rate, annual average</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference scenario</td>
<td>9.4</td>
<td>8.9</td>
<td>8.3</td>
</tr>
<tr>
<td>Shock scenario</td>
<td>9.4</td>
<td>9.3</td>
<td>10.3</td>
</tr>
<tr>
<td><strong>CPI inflation y/y</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference scenario</td>
<td>0.1</td>
<td>1.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Shock scenario</td>
<td>0.1</td>
<td>1.8</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>WIBOR3M</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference scenario</td>
<td>2.5</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Shock scenario</td>
<td>2.4</td>
<td>1.7</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Source: NBP.

The following assumptions were made for the macroeconomic shock scenario:

- A shock in financial markets and rising geopolitical uncertainty that leads to the dampening of the growth rate of emerging economies and a deterioration of the situation of banking sectors in developed countries would be the main factor behind a slowdown in the economy.

- Deflation in the euro area and the resulting increase in the real value of debts of governments and private sector and postponement of consumption would worsen the economic situation.

- Additionally, Poland’s economic situation would be adversely affected by the intensification of the Russia-Ukraine conflict and a rise in prices of imported energy resources.

Given these assumptions, Poland would see a substantial slowdown in the pace of economic growth (see Table 2.5). The likelihood of such a scenario and such a long slowdown in Poland’s GDP growth as the one arising from the shock scenario can be assessed as minor (see Figure 2.53).

A market shock was added to the macroeconomic shock scenario in order to assess the impact of a potential rise in foreign investors’ risk aversion towards emerging markets and the region (resulting in capital outflow from Poland) on the capital position of banks. This outflow would be reflected in an increase in the yield of Polish Treasury debt securities and a depreciation of the zloty. The depreciation of the zloty would also bring about an increase in the capital requirements and a deterioration in the quality of banks’ loan portfolios due to the growth of the value (expressed in the zloty) of foreign currency loans and the related rise in loan repayment burden on borrowers. The simulation assumed a 300 basis point rise in bond yields and a 30% depreciation of the zloty against the euro.\(^{67}\)

The impact of a market shock and additional liquidity turmoil on the liquidity position of banks was also analysed. The aim of the simulation was to test...
Table 2.6. The results of macro stress tests

<table>
<thead>
<tr>
<th>On average per year (as % of assets)</th>
<th>Historical data for the period Q4 2013 – Q3 2014</th>
<th>Simulation results for the period Q4 2014 – Q4 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charges to loan impairment provisions</td>
<td>-0.6</td>
<td>-0.6</td>
</tr>
<tr>
<td>Net interest income(^2)</td>
<td>2.45</td>
<td>2.43</td>
</tr>
<tr>
<td>Net earnings</td>
<td>1.2</td>
<td>1.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capital needs(^3) (zloty billion)</th>
<th>reference scenario(^1)</th>
<th>shock scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macroeconomic and market shocks</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Domino effect</td>
<td>n/d</td>
<td>n/d</td>
</tr>
</tbody>
</table>

**Additional information – market shock in the simulation period (zloty billion)**

| Change in bond value recognized in the profit and loss account | n/d |
| Change in bond value recognized in capital                    | n/d |
| Zloty depreciation impact (impairment charges to FX loans to households) recognized in the profit and loss account | n/d |

1 Scenario based on the central path of the NBP macroeconomic projection from “Inflation Report. November 2014 ”.
2 “Net interest income” includes fees and commissions on extended loans, but does not include interest income on debt securities.
3 The value of capital injection necessary to ensure that total capital ratios remain above 12.5% and Common Equity Tier 1 ratios above 9%.
4 At the end of September 2014, all banks complied with the regulatory capital standards. The share in the banking sector’s assets of banks, that did not comply with the tightened capital standards assumed for stress tests, amounted to 1.3%.

Note: The results of the simulation for the reference scenario and other simulations in this section should not be regarded as forecasts of the condition of the banking sector.
Source: NBP.

Figure 2.54. Cumulated changes in the total capital ratio under the shock scenario (% of risk-weighted assets)

Notes: Blue bars mark the total capital ratio of the banks analysed in the beginning and at the end of the simulation period under the shock scenario. Factors with a positive influence on the average total capital ratio in the simulation period are marked with green bars, and those with an adverse influence – with red bars. The influence of these factors is expressed in percentage points.

“Earnings before charges to impairment provisions” is equivalent to net income from banking activity deceased, inter alia, by operating costs.

The simulation assumed that banks with positive net earnings that comply with the assumed minimum capital adequacy levels would pay out dividends. The dividend rate would depend on the excess of capital ratios over the criteria.
Source: NBP.
whether banks had an adequate buffer of liquid assets in the event of zloty depreciation and a rise in Polish government bond yields assumed in the shock scenario and, additionally, an outflow of a portion of foreign funding and falling confidence from both domestic financial institutions and real sector entities, resulting in a withdrawal of a part of their deposits.\footnote{The following, inter alia, were assumed: a withdrawal of 100% of deposits, 10% of loans and 25% of other liabilities towards foreign financial institutions and an outflow of an unstable (not classified as core deposits) part of deposits of households, non-financial enterprises and the general government sector, and additionally, 5%, 10% and 10% of other deposits.}

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

The majority of banks would keep a regulatory capital surplus allowing them to meet the adopted capital adequacy criteria and expand business under both the reference and shock scenario. The estimated value of a hypothetical increase in banks’ regulatory capital required, if the shock scenario were to unfold, would amount to 1.9 billion zlotys at the end of the simulation period (see Table 2.6). Losses arising from interbank exposures would not push up banks’ capital needs (the domino effect would not occur). The share of banks, which would have to raise the level of regulatory capital to meet the criteria adopted for the analysis, in the banking sector’s assets would be 18.3% under the shock scenario, and 2.5% under the reference scenario. It worth pointing out that for around 1/3 of banks (both in terms of the number of banks, and a share in assets) a shortfall of capital under the shock scenario would not exceed 2% of their Common Equity Tier 1 capital.

The simulation of risk liquidity has shown that, should a very restrictive shock scenario materialise, a group of banks with an around 10% share in the sector’s assets would not have sufficiently high buffers of liquid assets to cover liabilities associated with foreign capital outflow, zloty depreciation and falling customer confidence (see Figure 2.55). The majority of these banks are largely financed with foreign funds or hold substantial foreign currency loan portfolios. A shortfall of liquid funds at the banks would total approximately 24 billion zlotys. When compared with the results of the simulation performed in the previous edition of the Report, the proportion of banks with insufficient liquidity buffers grew slightly, and the size of the liquid funds deficit declined slightly.

Figure 2.55. Assets of domestic commercial banks by coverage of funds outflow with a buffer of liquid funds in the shock scenario

![Graph of Figure 2.55](image)

Source: NBP.

The results of the stress tests and loss absorption capacity simulations indicate that banks’ resilience to shocks is high. The majority of banks would be able to operate safely and absorb the effects of the materialisation of the restrictive scenario of a substantial slowdown in economic growth. At the same time, capital buffers are discrepant among banks, and several banks are characterised by relatively low resilience. These banks should seek to increase the capital buffers to reduce the sensitivity to potential...
Banking sector

shocks. In addition, banks that play a particularly important role in the financial system should exhibit – in line with the Financial Stability Board (FSB) recommendations – an increased capacity to absorb potential losses.

It is important that banks with sufficient capital buffers shall not reduce them excessively in the coming periods. In particular, the growth of lending should not lead to an excessive increase of leverage. Adequate capital surpluses above the current regulatory requirements will be necessary in view of a gradual increase in the requirements stemming from the timetable of imposition of particular buffers set forth in CRDIV/CRR. Sustaining capital adequacy buffers should result, inter alia, from an appropriate dividend policy.

The results of the liquidity shock simulation have shown that the resilience of the banking sector has stabilized and is good, but there is a group of banks with an elevated liquidity risk profile. To ensure a stable operation of the domestic financial system, it is desirable that banks run a diversified funding structure, and do not rely too heavily on funding provided by their foreign parent entities.

Box 3. Results of the comprehensive assessment of European banks

In October 2013, the European Central Bank (ECB) decided to conduct the so-called comprehensive assessment of European banks. The adopted goal of the assessment has been to create “the opening balance” prior to taking over the supervision of banks participating in the Single Supervisory Mechanism (SSM), but also to improve the quality and transparency of the available financial information and, as a consequence, to enhance the confidence in the European banking sector.

The comprehensive assessment has been conducted by the ECB jointly with the European Banking Authority (EBA) and in cooperation with national supervisory authorities of the states participating in the SSM. 130 European banks participated in the exercise, including 10 parent entities of Polish banks.

The Polish Financial Supervision Authority – as the only supervisor coming from the country outside the euro area – has undertaken the task of conducting the comprehensive assessment of selected Polish banks, in order to compare the Polish banking sector against the European banks. Besides subsidiaries of the European banks covered by the assessment, banks meeting at least one of the criteria determined by the KNF participated in the Polish exercise. In total, 15 Polish banks took part in the assessment, whose assets constituted approx. 72% of banking sector assets.

The bank assessment process comprised three mutually complementary pillars: the supervisory review of main risk areas under the Risk Assessment Systems (RAS) enabling the selection of asset portfolios for the assessment; Asset Quality Review (AQR) and stress tests. The Asset Quality Review consisted of 10 blocks, the most important of which included: credit file review, collateral valuation, projections of findings of credit file review and collective provisioning.

Both the ECB and the UKNF stressed that the asset valuation criteria had been created only for the needs of the exercise and their nature was typically supervisory and prudential. In order to ensure the comparability of the results, the ECB introduced, among others, harmonised definitions of non-performing exposures (NPE). As a consequence, the classification and valuation of the loan portfolio, performed in accordance with the ECB criteria, was more conservative than in the case of applying the methodology of the International Financial Reporting Standards

The KNF stance on the dividend policy of financial institutions of 2 December 2014 recommends that banks with “significant share” (above 5%) in the market of deposits of the non-financial sector should make dividend pay-out dependent on the “systemic risk buffer” (3 percentage points above the capital adequacy ratios recommended to other banks).
(IFRS), in particular, the IAS39. Accordingly, the use of the ECB criteria had an impact on the level of impaired exposures and the adjustment of collateral valuation, which consequently resulted in prudential calculation of charges to provisions.

The results of the credit file review were used for the extrapolation of the level of charges for those parts of the loan portfolio that were not covered by the assessment. At the next stage, internal models used by banks for the portfolio assessment of loans were subject to verification. For that purpose, simple statistical models were built, using the relevant risk parameters, generating theoretical values of charges to provisions for various types of loan portfolios, i.e. the challenger model approach. Despite their simplified nature, the challenger models enabled the supervisors to perform the quantitative verification of the model used by the bank and its calibration.

The charges to provisions estimated as a result of the asset quality review adjusted the Common Equity Tier 1 (CET1), which was recognised as the baseline level of equity for conducting of the stress tests.

The aim of the stress tests was to estimate the resilience of banks measured by the CET1 ratio level to the materialisation of two macroeconomic scenarios, i.e. the baseline and adverse scenario. The analysis covered the three-year test horizon from 2014 to 2016. For both scenarios, various levels of the minimum CET1 ratio were determined (8% for the baseline scenario, 5.5% for the adverse scenario), below which it would be required to estimate the hypothetical capital needs. The baseline scenario was established on the basis of the economic forecast of the European Commission for 2014-2016 presented in February 2014. On the other hand, the assumptions of the adverse scenario were developed by the European Systemic Risk Board (ESRB) in agreement with the local supervisors, central banks, the ECB and the EBA. The adverse scenario reflected the most probable threats for the stability of the European banking system, including Poland (see Table 1).

The asset quality review comprised an essential part of the risk-weighted assets (RWAs) of both Polish banks and their parent entities as well as two most essential types of loans - retail and corporate loans (see Figure 1).

### Table 1. Major economic indicators and assumptions in scenarios used for the stress test

<table>
<thead>
<tr>
<th></th>
<th>baseline scenario</th>
<th>adverse scenario</th>
<th>baseline scenario</th>
<th>adverse scenario</th>
</tr>
</thead>
<tbody>
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<td>GDP growth rate y/y in %</td>
<td></td>
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<td></td>
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<td>2.9</td>
<td>3.1</td>
<td>3.5</td>
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<td>2.0</td>
<td>1.8</td>
<td>-0.7</td>
</tr>
<tr>
<td>Unemployment rate in %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>10.3</td>
<td>10.1</td>
<td>9.1</td>
<td>11.2</td>
</tr>
<tr>
<td>European Union</td>
<td>10.7</td>
<td>10.4</td>
<td>10.1</td>
<td>11.3</td>
</tr>
<tr>
<td>CPI inflation y/y in %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>1.4</td>
<td>2.0</td>
<td>2.4</td>
<td>0.9</td>
</tr>
<tr>
<td>European Union</td>
<td>1.2</td>
<td>1.5</td>
<td>1.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Government bond yield in %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>4.6</td>
<td>4.8</td>
<td>4.9</td>
<td>6.1</td>
</tr>
<tr>
<td>European Union</td>
<td>2.9</td>
<td>3.2</td>
<td>3.3</td>
<td>4.4</td>
</tr>
<tr>
<td>Residential property price y/y in %</td>
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<td></td>
<td></td>
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<tr>
<td>Poland</td>
<td>2.3</td>
<td>3.3</td>
<td>4.1</td>
<td>-3.5</td>
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<tr>
<td>European Union</td>
<td>0.9</td>
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<tr>
<td>Currency depreciation (PLN)</td>
<td></td>
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</tr>
</tbody>
</table>

Source: ECB, EBA.
Figure 1. Structure and value of the asset portfolios assessed: Polish banks – left-hand panel, parent entity banks – right-hand panel

Source: NBP, ECB.

The portfolios assessed in parent entities also included the so-called level 3 fair value positions which do not occur in Polish banks. Level 3 includes assets valued at fair value for which the marked-to-market valuations are not available.

The results of the assessment announced by the ECB and the KNF on 26 October 2014 indicated a limited impact of the asset quality review on the capital situation of both Polish banks and their parent entities. The average adjustment of the CET1 ratio (after accounting for the tax effect) amounted to 74 basis points for Polish banks and 21 basis points for parent entities (see Figure 2).

Considering the AQR results in the capital account would not cause the decline in the CET1 ratio below 8% in any of the banks and no necessity to adjust the financial statements of the banks for 2013 occurred. The limited negative effect of the exercise points to a proper valuation of assets in the banks assessed even if very strict supervisory criteria were imposed.

Figure 2. AQR effects on CET1 ratio: Polish banks – left-hand panel, parent entity banks – right-hand panel

Source: NBP, ECB.

As a result of applying the conservative ECB criteria for the needs of AQR, the total value of charges arising from the review of loan portfolios, application of the projection of assessment results to the remaining part of the portfolio and the challenger, was estimated at a level of 6.02 billion zlotys for Polish banks, and 8.56 billion euros for parent...
entities (the equivalent of approx. 36.6 billion zlotys). The adverse effect of factors not occurring in the Polish assessment, i.e. underestimation of credit valuation adjustment (CVA) and the valuation of level 3 assets against fair value amounted to 1.12 billion euros in parent entities. The dominating part of the charges, both in Polish banks and in parent entities, was estimated for the corporate loan portfolio (see Figure 3). In both assessments, approximately a half of the charges to provisions for corporate loans came from the credit file review. In Polish banks, higher share of charges for impaired loans in the retail loan portfolio attracts attention. Estimation of charges to provisions for retail loans of this type, contrary to the corporate loan portfolio which is valued by individual method, is performed according to the group model. The detailed analysis of the AQR results in this area indicates that there is a group of banks, where the value of charges to provisions determined on the basis of model used in the assessment (in particular, mortgage-secured housing loans) was substantially higher than determined on the basis of banks internal models.

Figure 3. Structure of charges to provisions arising from the asset quality review: Polish banks – left-hand panel, parent entity banks – right-hand panel

Note: In each panel, the left-hand figure illustrates the distribution of charges to provisions between the retail portfolio and the corporate portfolio, whereas the right-hand panel illustrates the structure of charges to provisions for enterprises. Source: NBP, ECB.

The stress tests have shown that Polish banks participating in the assessment are resilient to the occurrence of external stress, and the potential impact of the materialisation of the adopted scenarios on capital adequacy is limited (see Figure 4). The results of the stress tests indicated the deficit of CET1 funds in two banks in the total amount of 0.4 billion zlotys, which makes approx. 0.35% of the CET1 funds of the Polish banking sector. After taking into account the increasing of capital by one of the banks, until the exercise results release date the deficit decreased to 0.26 billion zlotys, i.e. approx. 0.23% of the sector’s CET1 funds. The other bank supplemented capital following the cut-off date of the exercise after acquiring the KNF approval to recognise the profit of the current year in the capital.

Positive results of the stress tests have also been achieved by the European parent entities of domestic banks. The materialisation of the baseline scenario would not result in the decline of the CET1 ratio below the assumed minimum level (8%) in any of the parent entities banks, and the value of this ratio would increase by 49 basis points on average (see Figure 5). The increase of the capital adequacy in the baseline scenario results from the profit achieved by banks. The fulfilment of the assumptions adopted in the adverse scenario would result in the decline of the CET1 ratio of parent entities by 2.94 percentage points (this change for all European banks would amount to approx. 2.9 percentage points). The ratio below the assumed minimum level of 5.5% would be recorded for one of the banks only, the value of the capital shortfall for this bank was estimated at 1.14 billion euros. The total surplus of the capital in other parent entities amounted to 108.4 billion euros.
Figure 4. Impact of materialisation of the scenarios on CET1 changes in Polish banks

Source: NBP, ECB.

Figure 5. Impact of materialisation of the scenarios on CET1 changes in parent entities banks

Source: NBP, ECB.

2 BCP, BNP Paribas, Commerzbank, Credit Agricole, Deutsche Bank, ING, Raiffeisen Zentralbank, Santander, Societe Generale, Unicredit.
3 A systemically significant bank or a listed bank, or a bank quoting WIBOR/WIBID rates.
4 See the list of banks from Poland covered by the asset quality review at https://www.knf.gov.pl/o_nas/komunikaty/knf_aqr.html
5 The EBA recommended the minimum level of 50%.
7 The ECB used a simplified version of the EBA definition, see https://www.eba.europa.eu/documents/10180/449824/EBA-ITS-2013-03-Final+draft+ITS+on+Forbearance+and+Non-performing+exposures.pdf
9 The aggregate average decline of the CET1 ratio among all European banks amounted to approx. 40 basis points.
10 Prior to considering the tax effect which limits the level of all adjustments by 2.75 billion euros.
11 Getin Noble Bank SA and BNP Paribas Bank Polska SA.
12 BCP.
2.8. **Market assessment of Polish banks and their parent banks**

The share prices of Polish banks (see Figure 2.56) indicate that the assessment of their investors is positive. The KNF release of the results of an asset quality review of Polish banks sparked a short-lived rise of their prices.

![Figure 2.56. Index prices of Polish and European banks](image)

Note: Index prices rescaled to 100 at the start of September 2011. Source: NBP calculations based on Thomson Reuters.

Market investors’ and analysts’ assessment of the profitability and growth prospects of banks operating in Poland is good. This is confirmed by the share prices of most Polish banks remaining over two times higher than their book value and market analysts’ expectations about banks’ continued earnings growth in 2014–2016 (see Figure 2.57 and 2.58).

The deposit ratings and deposit rating outlook for domestic banks that are part of foreign banking groups remained affected by the assessment of their parent banks. In June 2014, Fitch upgraded Bank Zachodni WBK’s deposit ratings following the upgrade of the rating of its majority shareholder, Banco Santander. In November 2014, Moody’s cut the deposit ratings and the rating outlook to negative for Bank BPH on the back of the plan to sell the bank announced by its majority shareholder, General Electric Company (see Table 2.7).

![Figure 2.57. P/BV (price-to-book value) ratio of Polish and European banks](image)

Source: Thomson Reuters.

![Figure 2.58. Historical and forecasted earnings per share of selected banks](image)

Note: Earnings per share forecasts for 2014—2016 calculated as median of all market forecasts for a given bank, normalized at the start of 2011. Source: NBP calculations based on Thomson Reuters.

In October 2014, Moody’s maintained the negative rating outlook for the Polish banking sector, at the same time confirming its positive assessment of the sector’s solid capital levels and the improving quality of the loan portfolio. The negative rating outlook decision was justified by the need to transpose the
Bank Recovery and Resolution Directive (BRRD) in the national legal order. According to the agency, the regulations will reduce the state’s possibilities of supporting banks that are likely to fail and will increase the risk for holders of uncovered bank bonds. Moody’s said that the need to implement the BRRD was behind its decision to cut to negative or maintain the negative rating outlook of the banking sectors of most EU countries it had rated in 2014.

CDS premia on debt instruments of the parent entities of Polish banks (see Figure 2.59) currently remain at a stable, historically low level. Perception of credit risk of these institutions is significantly better than during the debt crisis of the euro area peripheral countries or after the outbreak of the sub-prime crisis. Uncertainty associated with expectations about release of the results of the ECB comprehensive assessment did not change the trend, observed over the last few years, of a steady fall of the cost of hedging against risk related to investing in debt instruments issued by this group of institutions.

Although the perception of parent banks with respect to financial instrument valuation has improved, the deposit ratings assigned by the leading agencies persist on a historically low level (see Figure 2.60). The outlook for the deposit ratings is predominantly negative, which has to be tied with the growing risk of passing part of potential costs of resolving onto creditors, and concerns over future economic developments in Europe and their impact on the profitability of European banks.

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71 Credit ratings for some banks are tied with the level of ratings assigned to the sovereign debt of home countries, and changes in perception of country risk are translated into changes in risk assessment of banks coming from specific markets. Despite this, the ratings of some banks characterised by a significant geographical diversification of operations (Santander, Unicredit) are higher than the ratings assigned to the sovereign debt of the home country.
Table 2.7. Ratings of Polish banks by Moody’s, Fitch and S&P

<table>
<thead>
<tr>
<th>Moody’s</th>
<th>Financial strength rating</th>
<th>Long-term deposit rating</th>
<th>Short-term deposit rating</th>
<th>Outlook</th>
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<td>A2 (A2)</td>
<td>P-1 (P-1)</td>
<td>NEG (NEG)</td>
</tr>
<tr>
<td>Pekao</td>
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<td>A2 (A2)</td>
<td>P-1 (P-1)</td>
<td>STA (STA)</td>
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<tr>
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<td>P-3 (P-3)</td>
<td>NEG (NEG)</td>
</tr>
<tr>
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<td>Baa1 (Baa1)</td>
<td>P-2 (P-2)</td>
<td>NEG (NEG)</td>
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<tr>
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<td>Baa2 (Baa2)</td>
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<tr>
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<td>BGŻ</td>
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<th>Short-term rating</th>
<th>Outlook</th>
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<td>F2 (F3)</td>
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<td>F1 (F1)</td>
<td>NEG (NEG)</td>
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<tr>
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<td>A (A)</td>
<td>F1 (F1)</td>
<td>NEG (NEG)</td>
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<td>BB (BB)</td>
<td>B (B)</td>
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<td>A-2 (A-2)</td>
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Notes: In brackets – as of the end of May 2014. For definitions of ratings, see Glossary. The banks are listed according to total assets. Ratings assigned by Standard and Poor’s only on the basis of publicly available data are not included in the Table. SACP – stand-alone credit profile.


In addition to the rating upgrade for Banco Santander, in July 2014 the long-term credit rating for Deutsche Bank was downgraded. The Moody’s downgrade was prompted by the bank’s earnings growth potential constraints stemming from its participation in litigation, restructuring costs as well as substantial dependence of earnings on developments in capital markets.
### 2.9. Selected indicators of banking sector’s condition

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<td>Q4</td>
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<tr>
<td>Return on assets (ROA) (^1)</td>
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<tr>
<td>Return on Tier 1 capital (ROE) (^1,2)</td>
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<tr>
<td>Net interest margin (NIM) (^1,3)</td>
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<td>2.49</td>
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<td>Operating costs (^5) to net income from banking activity (^2) (C/I)(^3)</td>
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<td>54.4</td>
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<td>Burden of charges to provisions for impaired loans (^3) on net income from banking activity (^4)</td>
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<td>13.9</td>
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<td>consumer loans</td>
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<td>14.6</td>
</tr>
<tr>
<td>housing loans</td>
<td>3.0</td>
<td>3.1</td>
</tr>
<tr>
<td>enterprises</td>
<td>11.5</td>
<td>11.6</td>
</tr>
<tr>
<td>large enterprises</td>
<td>9.1</td>
<td>9.6</td>
</tr>
<tr>
<td>SMEs</td>
<td>13.1</td>
<td>13.0</td>
</tr>
<tr>
<td>Charges to provisions for impaired loans (^3) to net value of loans (^1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nonfinancial sector</td>
<td>0.98</td>
<td>1.11</td>
</tr>
<tr>
<td>households</td>
<td>0.74</td>
<td>0.80</td>
</tr>
<tr>
<td>consumer loans</td>
<td>1.56</td>
<td>1.46</td>
</tr>
<tr>
<td>housing loans</td>
<td>0.29</td>
<td>0.34</td>
</tr>
<tr>
<td>enterprises</td>
<td>1.45</td>
<td>1.72</td>
</tr>
<tr>
<td>large enterprises</td>
<td>1.39</td>
<td>1.37</td>
</tr>
<tr>
<td>SMEs</td>
<td>1.25</td>
<td>1.10</td>
</tr>
<tr>
<td>Funding gap (^7)</td>
<td>9.4</td>
<td>10.1</td>
</tr>
<tr>
<td>Short-term liquidity standard M2 (^1,5)</td>
<td>1.45</td>
<td>1.45</td>
</tr>
<tr>
<td>Long-term liquidity standard M4 (^1,5)</td>
<td>1.19</td>
<td>1.20</td>
</tr>
<tr>
<td>Total capital ratio (^2)</td>
<td>15.7</td>
<td>15.7</td>
</tr>
<tr>
<td>Tier 1 capital ratio (^2)</td>
<td>14.2</td>
<td>14.1</td>
</tr>
<tr>
<td>Common Equity Tier 1 capital ratio (^2)</td>
<td>13.3</td>
<td>13.6</td>
</tr>
<tr>
<td>Financial leverage (multiple) (^2,3)</td>
<td>10.78</td>
<td>10.73</td>
</tr>
</tbody>
</table>

---

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

Credit unions sector

The situation in the credit unions (SKOK) sector remains difficult. Large-scale restructuring and recovery measures have been started with regard to a number of the sector’s entities. At the end of September 2014, operational activities were carried out by 53 credit unions. At the end of September 2014, 43 credit unions were subject to the recovery proceedings, but as of 19 December 2014 only in 7 cases the programme was accepted by KNF. Out of 5 credit unions run by administrators established since July 2013, in December 2014 only one continued to carry out operational activities on its own.

The role of credit unions in the Polish financial system remains minor. Their assets represented around 1% of the banking sector’s assets. At the end of September 2014, loans and deposits of the non-financial sector at credit unions accounted for, respectively, 1.0% of loans and 1.6% of deposits of non-financial entities in the banking sector.

The scale of direct interconnectedness between credit unions along with the National Association and the banking sector is insignificant. Credit unions’ receivables due to deposits and current accounts at banks amounted to 0.9 billion zlotys at the end of September 2014, whereas their liabilities to banks were around 0.004 billion zlotys. The National Association’s receivables due to deposits and funds on current accounts at banks were 1.5 billion zlotys. The deposit guarantee scheme is an essential indirect channel through which the credit unions sector has an impact on the banking sector. The restructuring of the credit unions sector, including payout of guaranteed deposits if credit unions fail, is funded by the Bank Guarantee Fund, whose funds are mostly

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72 Data from the Office of the Polish Financial Supervision Authority “Information on the Condition of Credit Unions in the third quarter of 2014”, December 2014, UKNF, was used for the preparation of Chapter 3. The report is based on reporting data as of 30 September 2014 (they include two credit unions that ceased their operations in the fourth quarter of 2014). Analysis of the financial situation of the credit unions sector needs to take account of both reporting data and corrections arising from on-site inspections carried out by UKNF. According to UKNF, the reporting data of some credit unions still do not take account of the corrections. Therefore, key data arising from reports and after corrections are given in this Chapter.

73 In the third quarter of 2014, one credit union was taken over by a bank, and a court declared bankruptcy of one of the credit unions. In October, two credit unions merged, and in December 2014 another credit union was taken over by a bank. Also, in December KNF suspended the operations of SKOK Wołomin, the sector’s second largest entity, and lodged a motion to declare it bankrupt. In case of two mentioned credit unions affected by bankruptcy Bank Guarantee Fund made payment of guaranteed deposits.

74 The Credit unions’ guarantee fund comprising contributions of credit unions is used in the first place. After its resources are exhausted, if it is not replenished with free funds from the National Association’s stabilisation fund, BFG’s own funds are used, including the assistance fund, which were predominantly established from premiums levied on banks.
obtained from banks due to premiums.\textsuperscript{25}

The sector displays a high level of concentration. Out of 53 credit unions operating at the end of September 2014, three largest entities, with assets exceeding 1 billion zlotys, accounted for almost 2/3 of the sector – both in terms of assets, loans and deposits.

The capital position of credit unions

The capital position of credit unions remained difficult. The value of regulatory capital is still inadequate to their operations for some credit unions. According to reporting data provided by credit unions, the sector’s regulatory capital rose by 568 million zlotys in the course of 2014 and stood at 337 million zlotys at the end of the third quarter of the year (see Figure 3.1), however this growth was statistical and largely stemmed from the fact that a credit union with the largest capital shortfall (negative capital) ceased to carry on business.\textsuperscript{26} After accounting for the corrections resulting from findings by the UKNF on-site inspections at 13 credit unions, the level of the sector’s regulatory capital should be decreased by 588 million zlotys, and would amount to -251 million zlotys at the end of September 2014. According to end-of-September-2014 reporting data, the capital adequacy ratio of the sector of credit unions was 2.1%, however if fully adjusted for the inspection corrections, it would drop to -1.6%. To achieve the supervisory capital adequacy target of min 5%, the credit unions sector would need an additional amount of 475 million zloty, and after taking into account the adjustments of UKNF inspectors – 1063 million zlotys in total.

Despite the adverse capital position of the credit unions sectors as a whole, some credit unions complied with the regulatory requirements (see Figure 3.2). At the end of September 2014, according to reporting data by credit unions, 23 credit unions with a 74.5% share in the sector’s assets met the minimum capital adequacy requirement of 5%, and 43 credit unions (with a 91.7% share in the sector’s assets) reported a positive capital adequacy ratio. After taking into account adjustments arising from the UKNF inspections, 20 credit unions with a 24.4% share in the sector’s assets would meet the minimum capital adequacy requirement of 5% and 38 credit unions with a total share in the sector’s assets at the level of 73.4% would post a positive capital adequacy ratio.

The earnings of credit unions

Credit unions reported a total net loss of 12.7 million zlotys for the first three quarters of 2014 (see Figure 3.3). However, in accordance with the UKNF inspection findings, the earnings of 13 credit unions

\textsuperscript{25}Such a situation creates a significant impulse for (moral hazard) from the credit unions sector – if risky activities are successful, all the benefits are left in the sector, and if they fail – the costs are borne by BFG, which means mostly banks and their clients.

\textsuperscript{26}A change in the level of regulatory capital at credit unions which carried on business during the full three quarters of 2014 was lower approximately by half.
Figure 3.2. Distribution of credit union's assets by the capital adequacy ratio: according to reporting data – left-hand panel, after taking into account the inspectors' adjustments – right-hand panel

Source: UKNF.

The profitability of some credit unions was positive. At the end of September 2014, 36 credit unions posted a profit totalling 87.4 million zlotys, and their share in the sector's assets amounted to 83%. The improving profitability of some credit unions, being the result of the restructuring process, had a positive influence on the sector's earnings.

The deteriorating quality of the loan portfolio and operating costs were crucial for the sector's earnings. At the end of September 2014, the credit unions' provisions due to asset revaluation accounted for over 100% of net income from core activity, and operating costs – almost 250% of this figure.

Lending and credit risk at credit unions

Loans and lending facilities were the largest item of the credit unions’ assets. At the end of September 2014, the value of the portfolio amounted to 10.3 billion zlotys, which accounted for around 59% of the assets. The value of this loan portfolio did not change substantially throughout 2014.

\[77\] The data cited here contain information on all credit unions operating at the end of September 2014, including SKOK Wołomin, whose activities were suspended by KNF in December 2014. Including SKOK Wołomin's data in the credit unions sector's reporting data causes a substantial distortion of the picture of the sector's condition (as at the analysis date, the credit union posted a high profit and a positive regulatory capital figure).
Consumer loans prevailed in the loan portfolio structure. At the end of the third quarter of 2014, they represented around 64% of the portfolio value. Real estate loans were the second largest (around 34%) portfolio (see Figure 3.4).

Figure 3.4. The structure of credit unions’ loan portfolio

Source: UKNF.

Loans with value of above 100,000 zlotys constituted an essential portion of the loan portfolio. Their share in all loans at the end of September was 30%, including loans with the value over 1 million zlotys, which accounted for 15.4%.

The quality of the loan portfolio remained low and deteriorated substantially. At the end of the third quarter of 2014, 26.3% of the portfolio of loans and lending facilities (3.5 billion zlotys) were overdue (arrears in repayment of over 3 months). Since the start of 2014, the value of these loans had grown by 0.45 billion zlotys (by 14.8%). Among loans overdue, around 80% were loans with arrears in repayment of more than 12 months. The share of real estate loans in overdue loans (44.8%) was higher than its share in total loans, which shows low quality of this portfolio. Consumer loans constituted 49.5% of overdue loans.

Around 12.5% of the value of the loan portfolio were subject to restructuring, of which as many as 57% were loans with a value exceeding 1 million zlotys. In order to hedge credit risk, credit unions created provisions of approximately 2.9 billion zlotys, which covered 83% of overdue receivables (see Figure 3.5).

Figure 3.5. Overdue loans at credit unions – structure, share in loan portfolio and level of coverage by provisions.

Source: UKNF.

Following the review of credit union’s 2013 financial statements by auditors, the valuation of debt securities was substantially updated. At the end of September 2014, credit unions were in the possession of debt securities worth 921 million zlotys, for which they created provisions worth 559 million zlotys. Around 50% of the provisions (267 million zlotys) were created in line with the recommendations of auditors issued after the audit of credit unions’ financial statements for 2013.

Liquidity risk at credit unions

The level of liquid assets of credit unions declined considerably in the first three quarters of 2014. At the end of September 2014, credit unions reported around 3.8 billion zlotys in liquid assets, which was

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78 After taking into account overdue loans sold in 2012-2013 in exchange for debt securities, the ratio would be higher by around 2 percentage points.
21.8% of their total assets. However, compared with the end of 2013, their level was down by 1 billion zlotys, which was associated with the need to activate financial resources for the payout of deposits. Over 50% of liquid assets were mandatory and non-mandatory deposits at the National Association. The remaining liquid assets consisted of current bank accounts, participation units of money market funds, bank deposits and Treasury bonds (see Figure 3.6).

**Figure 3.6.** The structure of liquid assets and their share in credit unions’ assets

*This item also includes debt instruments guaranteed by the State Treasury.
**Participation units of money market funds.
Source: UKNF.

The activities of credit unions were mainly financed by members’ deposits, but their value fell substantially in 2014 (decrease of 1.5 billion zlotys, i.e. 8.7%). At the end of September 2014, the value of the deposits amounted to 16.1 billion zlotys, which accounted for 91.7% of the balance-sheet total. The decrease in value of the sector’s deposits was mostly driven by the bankruptcy of a large credit union and a take-over of the other credit union by a bank. Deposits at other credit unions dropped by around 0.5 billion zlotys.

Term deposits, with a substantial share of deposits with the value over 100,000 zlotys, prevailed in the structure of deposits. Term deposits, with maturity of up to 12 months, accounted for 84% of total deposits (see Figure 3.7). Among term deposits, deposits with the value of over 100,000 zlotys accounted for over 32.9% of deposits’ total value, whereas the number of deposits with the value of over 100,000 zlotys accounted for 4.2% of the number of term deposits.

**Figure 3.7.** The structure of credit unions’ deposits and quarterly rate of changes in the balance of deposits

Source: UKNF.

The National Association’s mandate is to ensure financial stability of credit unions, and most notably, to provide them with financial support from the stabilisation fund, and to exercise oversight of credit unions in order to ensure security of savings accumulated by credit unions and compliance of their activities with the provisions of law. At the end of September 2014, the National Association’s assets did not change substantially and amounted to 3.6 billion zlotys. They were invested mainly in debt instruments (around 0.9 billion zlotys in Treasury bonds), kept at current bank accounts and term deposit accounts (see Figure 3.8).

The composition of liquid assets changed signifi-
The value of funds at current bank accounts rose twofold and amounted to 1.7 billion zlotys. The balance of liquid funds kept at deposit accounts decreased from 0.8 billion zlotys to approx. 0.3 billion zlotys.

The activities of the National Association were primarily funded with credit unions’ funds, as its own funds amounted to only 1.6 million zlotys. Funds from credit unions in the form of mandatory and non-mandatory deposits were the most significant source of funding for the Association (around 2.4 billion zlotys, 67% of liabilities). The National Association gathered and deposited funds from the reserve requirement on its own and due from credit unions to an account in NBP Due to the liquid reserve maintained by credit unions, the National Association accumulated over 1.3 billion zlotys. These funds may be used to extend liquidity loans to credit unions; however such an event did not take place in 2014.

The National Association ran a stabilisation fund, which was its major tool for restructuring the credit unions sector. The balance-sheet value of the stabilisation fund shown at the end of September 2014 amounted to 326 million zlotys. A significant part of the fund was used to support the activities of credit unions. The National Association extended loans to credit unions in the form of subordinated debt and took up optional shares. Funds to the stabilisation fund come from contributions by credit unions and profit from the National Association. The value of the fund in relation to the capital needs of credit unions and the difficult situation of the credit unions sector can be regarded as low. Despite this, the National Association did not take the decision to increase credit unions’ contribution to the stabilisation fund (such a possibility is provided for in Article 55 of the Act on Credit Unions).

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79 Act of 5 November 2009 on Credit Unions (consolidated text: Journal of Laws of 2013, item 1450, as amended).
Chapter 4.

Non-credit financial institutions sector

Assets of non-credit financial institutions have decreased as compared with the December 2013 balance (see Table 4.1), as a result of a considerable reduction in open pension fund (OFE) assets in February 2014. The reduction was the result of regulatory changes relating to the pension system in Poland.

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

<table>
<thead>
<tr>
<th>Year</th>
<th>NIF</th>
<th>ZU</th>
<th>FI</th>
<th>NIF Banks</th>
<th>NIF / Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>269.6</td>
<td>162.7</td>
<td>151.3</td>
<td>583.6</td>
<td>1349.5</td>
</tr>
<tr>
<td>2013</td>
<td>299.3</td>
<td>167.6</td>
<td>195.0</td>
<td>661.9</td>
<td>1404.7</td>
</tr>
<tr>
<td>2014</td>
<td>159.0</td>
<td>173.1</td>
<td>218.2</td>
<td>550.3</td>
<td>1535.3</td>
</tr>
</tbody>
</table>

Note: Data for OFEs and FIs correspond to net assets. For ZUs, data as at the end of June 2014, for OFEs, FIs and banks – as at the end of September 2014. Due to adjustments made, the data may differ from those presented in the previous editions of the Report. Source: UKNF, NBP.

The impact of non-credit financial institutions sector (NFI) on systemic risk is mainly analyzed in three dimensions:

- capacity of each sector to maintain continuity of its specific financial services in the real economy. It depends on its resilience to distortions in the economic environment which is connected with its equity capital and ability to complete it (by profitability),
- capacity of NIF investment behavior to influence asset prices. It depends on the value and structure of their assets, but also on their liabilities characteristics,
- the extent and type of linkages with banking sector (ownership, credit and financing).

Additionally risk specific to each sector is analyzed.

4.1. Investment fund management companies and investment funds

Given the traditional character of instruments traded on financial markets in Poland and the specific nature of services offered, domestic investment funds do not generate risk to financial system stability. Funds do not guarantee attaining the investment target set, and the risk related to their operations is borne by their participants in whole. The potential impact of investment funds on financial
system stability may only be that of influencing financial instruments' prices, particularly in a situation of a collapse of market liquidity. When market distortions arise, the supply of financial instruments investment funds deliver is determined by the behavior of their investors. In case of open-end investment funds, investors can withdraw their capital relatively fast (the time when participation units are redeemed cannot exceed 7 days). This is guaranteed by the provisions of the Act on Investment Funds. In case of closed-end investment funds, the withdrawal of capital may take longer – the conditions are defined in funds’ statutes.

As at the end of June 2014, net assets of investment funds reached an all-time high, i.e. 210.8 billion zlotys. In the first half of 2014, they increased by 15.8 billion zlotys, which was mainly the result of net inflow. In net terms, the amount of 11.6 billion zlotys was paid to the funds. Similarly to 2013, the largest amount of funds, in net terms, was paid to funds classified as ‘other funds’ and to debt security funds. The largest amount of funds was paid to investment funds by enterprises (7.3 billion zlotys) and households (3.1 billion zlotys).

The asset structure of investment funds

The structure of investment funds assets did not change significantly (see Figure 4.1). As compared with the end of 2013, the share of domestic government bonds slightly diminished while the importance of other debt securities increased. Domestic government bonds continued to account for the largest portion of investment funds assets. The second most important position of assets were other equity financial instruments, which included mainly unquoted shares. Debt securities issued by enterprises and monetary financial institutions were also of major importance.

The structure of investment funds assets largely results from the structure of the operating funds. At the end of June 2014, funds classified as other funds, which mainly included non-public asset funds, prevailed. Some of these funds were designed as individual investment solutions addressed to specific investors. In addition, other domestic debt securities funds held a big share.

Financial results of investment fund management companies

In the first half of 2014, the financial condition of investment fund management companies was good and did not pose a threat to maintaining the continuity of financial services by the sector (see Table 4.2). Due to the increase in investment funds’ net assets there was an increase in the sum of management fee charged by TFIs and in their revenues and earnings. Profit was posted by 46 TFIs and loss – 10 TFIs.

*Other funds are funds other than equity funds, balanced funds, stable growth funds and debt security funds.
*Other equity financial instruments are instruments other than those quoted on the Warsaw Stock Exchange Main List and NewConnect and participation units of investment funds.
*The fee for investment fund management is the main source of TFI revenues. In the first half of 2014, these revenues accounted for 92.9% of the sector’s total revenues.
### Table 4.2. Financial results and basic indicators for the TFI sector vs. average monthly net asset value of investment funds

<table>
<thead>
<tr>
<th></th>
<th>6-2012 (zloty million)</th>
<th>6-2013 (zloty million)</th>
<th>6-2014 (zloty million)</th>
<th>Change 6-2014/6-2013 (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total revenues:</td>
<td>1 073</td>
<td>1 161</td>
<td>1 353</td>
<td>16.5</td>
</tr>
<tr>
<td>- management fee</td>
<td>972</td>
<td>1 057</td>
<td>1 257</td>
<td>19.0</td>
</tr>
<tr>
<td>Total costs</td>
<td>866</td>
<td>945</td>
<td>1 080</td>
<td>14.3</td>
</tr>
<tr>
<td>Pre-tax profit</td>
<td>207</td>
<td>216</td>
<td>273</td>
<td>26.1</td>
</tr>
<tr>
<td>Net profit</td>
<td>168</td>
<td>176</td>
<td>224</td>
<td>27.3</td>
</tr>
<tr>
<td>Equity capital</td>
<td>1 022</td>
<td>880</td>
<td>1 056</td>
<td>20.0</td>
</tr>
<tr>
<td>Equity capital requirement</td>
<td>229</td>
<td>241</td>
<td>276</td>
<td>14.4</td>
</tr>
<tr>
<td>Average value of investment funds net assets</td>
<td>132 001</td>
<td>166 475</td>
<td>205 394</td>
<td>23.4</td>
</tr>
<tr>
<td>Equity capital coverage ratio</td>
<td>4.5</td>
<td>3.6</td>
<td>3.8</td>
<td>0.2</td>
</tr>
<tr>
<td>Pre-tax profit margin (%)</td>
<td>19.3</td>
<td>18.6</td>
<td>20.2</td>
<td>1.5 pp.</td>
</tr>
<tr>
<td>ROE (%)</td>
<td>29.2</td>
<td>34.8</td>
<td>43.6</td>
<td>8.8 pp.</td>
</tr>
</tbody>
</table>

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

A potential deterioration in the financial condition or capital position of a TFI or the revocation of its licence should not impact the assets accumulated in investment funds it manages. Investment fund management companies and the funds they manage are separate legal persons and funds’ assets are separated from the assets of TFIs. Holders of participation units are also unlikely to suffer the consequences of a potential bankruptcy of custodians entrusted with keeping investment funds’ assets, as these funds are separated from their bankruptcy estate.

The case of Inventum TFI (former Idea TFI) provides an example of such a situation.\(^{83}\) The scale of Inventum TFI’s operations was relatively small. At the end of June 2014, the share of net assets of investment funds it managed in the sector’s assets did not exceed 1%.

#### Equity capital of investment fund management companies

The aggregate equity capital of TFIs was almost four times higher than the capital requirement for the whole sector.\(^{84}\) The sector’s equity capital relative to the sum of investment funds’ net assets was low and did not exceed 1%. The increase in equity capital as compared with June 2013 was associated with higher level of TFIs’ other reserve capital and better

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\(^{83}\)In October 2014, KNF withdrew its authorisation for Inventum TFI to conduct activities consisting in establishing investment funds and managing them, representing them in contacts with third parties and managing the collective portfolio of securities. The rationale for the first decision of this kind in the history of the sector was a material breach of the interests of investment funds’ participants and of law and funds’ statutes, in particular, Inventum TFI’s failure to pay investors funds they were entitled to due to the execution of orders to redeem participation units. The loss of the licence by Inventum TFI did not significantly affect the situation in the sector. The cases of breaching the interests of participants by investment fund management institutions and situations, where investors cannot withdraw funds deposited as participation units may, however, negatively impact the image of entities operating in the investment funds market.

\(^{84}\)As provided for in Articles 49 and 50 of the Act of 27 May 2004 on Investment Funds, an investment fund management company is obliged to keep its shareholder’s equity at a level not lower than 25% of the difference between the value of overall costs and the value of variable distribution costs incurred in the preceding financial year, and, at the same time, at a level not lower than the zloty equivalent of euro 125 thousand, or euro 730 thousand if the object of its activities is extended to include managing portfolios including one or more financial instruments. Moreover, from the time when the value of assets of investment funds and the value of assets of collective portfolios of securities managed by a management company exceeds the zloty equivalent of euro 250 million such management company is obliged to increase the level of its shareholders’ equity by an additional amount, equal to 0.02% of the difference between the sum of the value of assets of the investment funds and the value of assets of collective portfolios of securities, and the zloty equivalent of euro 250 million. A TFI is not obliged to increase its shareholders’ equity if the sum of the initial capital of such management company and the additional amount exceeds the zloty equivalent of euro 10 million.
financial results. The aggregate ROE also increased.

### 4.2. Pension fund management companies and open pension funds

In Poland, there are 12\(^{85}\) pension fund management companies whose current character and the way they potentially impact systemic risk does not significantly differ from that in the TFI sector. As a result of changes in legal regulations relating to pension fund management companies and open pension funds they manage\(^{86}\) the investment limits were changed and the obligation of possible additional payments from PTE resulting from non-achievement of a defined rate of return (the minimum required rate of return) was lifted. This means that investment risk is entirely borne by participants (future pensioners), as in the case of investment funds.

OFE members, as distinct from investors of participation units of investment funds, cannot freely decide about the value of assets being invested at the moment of market disruption. With respect to this, OFE can reallocate assets into categories of assets within their portfolio. Only to this extent they can influence the supply of financial instruments on given markets and thereby on their prices. Regulatory changes and changes in the structure of OFE investments resulted that current OFEs’ investment behavior can mainly influence shares’ prices.

#### Structure of OFE investments

There have been major changes in the structure of OFE investment portfolios as compared with the end of 2013. The investment policy of open pension funds has also changed.

**Figure 4.2. Structure of investment portfolios of open pension funds**

![Structure of OFE investments](image)

Source: UKNF.

The most significant consequence was the transfer of Treasury securities by OFE to the Social Insurance Institution (ZUS) and the introduction of the prohibition to invest in these instruments.\(^{87}\) Nevertheless, some OFEs that held more State Treasury securities than the value of funds they were required to transfer to ZUS, may still hold these securities in their assets.\(^{88}\)

Following the entry into force of these regulations, shares prevailed in the OFE investment portfolios and the share of Treasury securities decreased from

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\(^{85}\) On 19 September 2014, the liquidation of the WARTA Open Pension Fund was completed and Powszechne Towarzystwo Emerytalne Allianz Polska S.A took over Powszechne Towarzystwo Emerytalne WARTA SA.

\(^{86}\) The amendments were implemented in accordance with the Act of 6 December 2013 on Amending Certain Acts in Connection with the Determination of Principles for Old-age Pension Payments from Funds Collected in Open Pension Funds.

\(^{87}\) Assets were redeemed in the following order: bonds and bills issued by the State Treasury, the State Treasury-guaranteed bonds issued by Bank Gospodarstwa Krajowego, other securities with cash flows from coupons, guaranteed by the State Treasury, and funds denominated in the Polish currency.

\(^{88}\) In accordance with Article 32 of the Act of 6 December 2013 on Amending Certain Acts in Connection with the Determination of Principles for Old-age Pension Payments from Funds Collected in Open Pension Funds until 4 February 2016 if they had been purchased by 4 February 2014 and have not been transferred to ZUS.
42.3% as at the end of 2013 to 0.7% at the end of the first half of 2014 (see figure 4.2).

As at the end of the first half of 2014, the shares of companies listed on the Warsaw Stock Exchange in OFE portfolios accounted on average for 79.7% as compared to 40.3% at the end of 2013. Exposure to these instruments differed significantly among individual open pension funds and ranged from 76.6% to 90.2%. The share of equities in OFE investment portfolios was higher than the minimum share of these instruments as provided for in regulations (by the end of 2014, the share of equities cannot be lower than 75%).

The Act provides for a gradual reduction of the minimum limit for OFE investment in shares \(^{89}\), until the limit is lifted from 1 January 2018. It may therefore be expected that the share of equities in the portfolios of individual OFEs will vary depending on their investment policies.

At the end of June 2014, the share of foreign investment in OFE portfolio amounted to 5.3% (the limit is 10%). The investment limit for assets denominated in foreign currencies \(^ {90}\) will be gradually raised – up to 30% of assets from 1 January 2016.

Financial results of pension fund management companies

In the first half of 2014, the financial situation did not pose a threat to maintaining the continuity of financial services by the sector. The technical profit of the pension fund management companies sector from open pension fund management, net profit and technical profitability increased. This was mainly driven by the increase in revenues from open and voluntary pension fund management. The revenues from contribution fees and pension fund management fees decreased. Additional revenues for PTE were payouts (331 million zlotys) from the Guarantee Fund.\(^ {91}\) This contributed to an increase in the profitability of the sector’s equity capital (see Table 4.3).

The ratio of average value of technical profit to revenues from fund management declined to 37.6% and the ratio for individual PTEs varied to a large extent (see Figure 4.3). Two entities posted a technical loss.

Figure 4.3. Technical profitability of pension fund management companies

![Graph showing technical profitability of pension fund management companies from 2011 to 2014.]

Source: NBP calculations based on UKNF data.

Equity capital of pension fund management companies

As at the end of the first half of 2014, equity capital of pension fund management companies amounted to 3.1 billion zlotys. The ratio of equity capital to the assets under management increased twofold when...

---

\(^ {89}\) In accordance with the act, the minimum limit for OFE investment in shares will be: 55% of assets in 2015, 35% in 2016 and 15% in 2017.

\(^ {90}\) Of EU member states, parties to the Agreement on the European Economic Area or members of the Organisation for Economic Co-operation and Development

\(^ {91}\) Although the mechanism of possible shortfall supplementation was lifted, the Guarantee Fund was left but its additional section was liquidated. Some PTEs recognized the revenue from withdrawing funds from the additional section of the guarantee fund in the first half of 2014. From 1 July 2014, the capital of the portion managed by the Central Securities Depository of Poland was increased to 0.3% of OFE assets.
Table 4.3. Financial results and profitability of the PTE sector

<table>
<thead>
<tr>
<th></th>
<th>6-2012 (zł million)</th>
<th>6-2013 (zł million)</th>
<th>6-2014 (zł million)</th>
<th>Change 6-2014/6-2013 (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues from funds’ management:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- contribution fee</td>
<td>734</td>
<td>760</td>
<td>960</td>
<td>26.3</td>
</tr>
<tr>
<td>- management fee</td>
<td>141</td>
<td>167</td>
<td>124</td>
<td>-25.7</td>
</tr>
<tr>
<td>- payments from Guarantee Fund</td>
<td>504</td>
<td>542</td>
<td>403</td>
<td>-25.6</td>
</tr>
<tr>
<td>Funds’ management costs</td>
<td>356</td>
<td>327</td>
<td>419</td>
<td>28.1</td>
</tr>
<tr>
<td>Technical profit on funds’ management</td>
<td>378</td>
<td>433</td>
<td>541</td>
<td>24.9</td>
</tr>
<tr>
<td>PTEs net profit</td>
<td>357</td>
<td>393</td>
<td>496</td>
<td>26.2</td>
</tr>
<tr>
<td>Technical profitability on funds’ management (%)</td>
<td>51.5</td>
<td>56.9</td>
<td>56.5</td>
<td>-0.4 pp.</td>
</tr>
<tr>
<td>ROE (% in I half of the year)</td>
<td>10.2</td>
<td>10.8</td>
<td>16.0</td>
<td>5.2 pp.</td>
</tr>
</tbody>
</table>

Source: UKNF.

compared with the end of 2013 and amounted (on average) to 2.5% at the end of June 2014 (see Figure 4.4). The reason behind the increase was the reduction in the net value of assets managed by PTE discussed earlier in the text.

Figure 4.4. Ratio of pension fund management companies’ capital to the value of open pension funds’ net assets that they manage

Source: NBP calculations based on UKNF data.

Before the changes were made, PTE equity capital was used to cover potential shortfall arising from an open pension fund failing to attain the minimum required rate of return. Due to the lifting of the shortfall mechanism, there are no regulatory requirements regarding the level of equity capital and pension fund management companies will not be obligated to meet this requirement.

4.3. Insurance companies

Traditional activities carried out in Poland, i.e. life insurance, health insurance, accident insurance, third party liability insurance and non-life insurance do not generate systemic risk. This happens because of a low degree of intra-sector ties and the fact that the payment of claims is associated with the occurrence of a specific fortuitous event, which in most cases is independent from the business or financial cycle. Moreover, the liquidation of major claims and payment of claims may take a few years. Life insurance, particularly where the investment risk is borne by the insured, have a minor impact on systemic risk and are also less susceptible (than banks) to a deterioration of the situation in the financial markets.

It should, however, be borne in mind that the activities of insurers active in the financial market may be important for systemic risk, because of its influence

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92 A shortfall at an OFE was covered from PTE equity capital, when funds accumulated on the reserve account and in the additional section of the Guarantee Fund were insufficient to adequately increase the value of an accounting unit of the fund.

93 To date there is no evidence of the bankruptcy of a life insurance company, which would trigger the domino effect and lead to other institutions’ insolvency - Martin Eling, David Pankoke; Working Papers on Risk Management and Insurance no. 124; University of St. Gallen; January 2014.
on assets prices. Some insurance activities in the life insurance sector, such as offering long-term insurance with a guaranteed value of benefits or guaranteed rate of return may bring about systemic risk growth. Systemic risk may also be generated by financial guarantees, CDS and insurance-linked securities, including catastrophic bonds. Currently, these instruments are not present in the domestic insurance market.

Figure 4.5. The largest domestic insurance companies (share in gross premium written)

<table>
<thead>
<tr>
<th>Company</th>
<th>Share in Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>PZU</td>
<td>15.5%</td>
</tr>
<tr>
<td>PZU Życie</td>
<td>15.1%</td>
</tr>
<tr>
<td>Warta</td>
<td>6.6%</td>
</tr>
<tr>
<td>Ergo Hestia</td>
<td>5.2%</td>
</tr>
<tr>
<td>Open Life</td>
<td>4.4%</td>
</tr>
<tr>
<td>MetLife</td>
<td>3.7%</td>
</tr>
<tr>
<td>Aviva Życie</td>
<td>3.5%</td>
</tr>
<tr>
<td>Allianz</td>
<td>3.2%</td>
</tr>
<tr>
<td>Benefia</td>
<td>2.7%</td>
</tr>
<tr>
<td>Others</td>
<td>40.2%</td>
</tr>
</tbody>
</table>

Source: UKNF.

Insurance premium and claims

In the first half of 2014, the value of the domestic insurance sector in terms of premium written did not change significantly. The insurance sector was dominated by large insurance companies owned by domestic and foreign capital groups. Premium written of the largest domestic insurance company was 15.5% (see Figure 4.5). Three largest life insurance companies and three non-life insurance companies collected half of the written premium.

The distribution of gross written premium in life and non-life insurance (see Figure 4.6) also points to market concentration in a few largest entities. Their significance for the market and the method of analysis should be treated in a selective manner, taking into account interactions and capital ties (e.g. PZU group).

Figure 4.6. Distribution of gross written premium in life and non-life insurance

Source: UKNF.

In the first half of 2014, the development of the insurance sector was somewhat halted. The sector of life insurance collected 11.3% less in premium than in the first half of 2013 (see Figure 4.7). The decline was mainly driven by limiting the distribution of insurance-wrapped deposits and structured products, which is evidenced by a marked reduction in the single premium endowment insurance, mainly sold through banks. Unit-linked insurance investments (UFK) were the prevailing type of insurance (6.1 bn zlotys) in the life insurance sector and accounted for 42.8% of the gross written premium.

The non-life insurance sector collected 2.9% less in premium than in the first half of 2013 (see Figure 4.7). The low growth rate was mainly driven by a smaller premium in automobile third party insurance and auto casco insurance resulting from a fall in the number and value of cars insured.

A smaller number of insurance-wrapped deposits and structured insurance products led to a decline of claims paid in the life insurance sector. However, the majority of funds obtained from premiums
are still earmarked for payment of benefits (see Figure 4.7 and 4.8). The decline of premium in the non-life insurance sector was correlated with the reduction of the level of claims. It should be noted, however, that the proportion between the claims payment and the premium is notably lower than in the life insurance sector.

Figure 4.7. Gross written premium in the insurance sector

![Gross written premium in the insurance sector](image)

Source: UKNF.

Figure 4.8. Gross claims paid

![Gross claims paid](image)

Source: UKNF.

**Investments of insurance companies**

Investments that prevail in insurance companies’ assets are designed to cover technical insurance provisions (liabilities of insurance companies arising from insurance contracts) and to cover equity capital. Investments of insurance companies, together with a portion of liabilities permitted by law, are higher than liabilities arising from insurance contracts (technical insurance provisions) and equity capital, and the investments are higher than liabilities arising from insurance contracts (see Figure 4.9).

Figure 4.9. Balance sheet structure of insurance companies

![Balance sheet structure of insurance companies](image)

Note: Technical insurance provisions net
Source: UKNF.

At the end of the first half of 2014, the value of investments of life insurance companies rose to 152.3 billion zlotys (including 52.0 bn zlotys of unit-linked insurance investment). The largest items (excluding unit-linked insurance investment) were debt securities (64.9%, including 60.9% of government bonds), participation units and certificates of investment funds. Term deposits accounted for a small portion of investments and were earmarked for servicing current payments and covering liabilities associated with insurance-wrapped deposits and structured products. An increase in the share of participation units of investment funds was further observed (mainly of investment funds managed by TFI PZU). Except for investments associated with unit-linked insurance investment, domestic life insurance companies do not make investments in corporate shares.
of companies listed on the regulated market (see Figure 4.10).

Figure 4.10. Structure of investments of insurance companies

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

The value of investments of non-life insurance companies amounted to 55.4 billion zlotys. The largest share in investments was that of debt securities (46.7%, including 41.3% of government bonds), participation units and certificates of investment funds (28.3%) and stocks and shares in subsidiaries. The share of term deposits declined. Domestic non-life insurance companies practically do not invest in corporate shares of companies listed on the regulated market (see Figure 4.10), which makes the value of their assets exposed to share price fluctuations only to a minimum degree.

As a result of the inflow of funds to unit-linked insurance investments and positive investment results (net income – 1.8 billion zlotys), the value of unit-linked insurance investments grew to 52.0 billion zlotys at the end of the first half of 2014 (48.9 bn zlotys at the end of 2013, 43.8 bn zlotys at the end of 2012). The largest share in the investments was that of investment funds’ participation units and certificates of investment funds as well as debt securities.

Unit-linked insurance investments do not directly influence insurance sector stability as the investment risk is borne by the persons who conclude the insurance contract. However, the portfolio of unit-linked insurance investments may constitute a potential legal risk for some insurance companies which have infringed on the interests of the insured in a specific manner. In 2014, the Office of Competition and Consumer Protection (UOKIK) stated that collective interests of consumers had been infringed (providing unreliable information on complex financial products and rights and obligations of parties to an agreement) by an insurance company and three agents, who were fined the total amount of around 50 million zlotys. The value of the fines and a likely increase in payments do not seem high in terms of the whole sector, but the UOKIK decision may trigger further proceedings.

Earnings of insurance companies

In the first half of 2014, the financial situation did not jeopardise the continuity of financial services provided by the insurance sector. The life insurance sector reported an increase in technical profit and financial result (as compared with the first half of 2013). This was primarily associated with a fall in the value of claims and costs related to investment activities compared to the premium. Better results helped improve the ROE ratio (see Table 4.4).

A higher technical profit and net financial result were reported in non-life insurance, which was mainly driven by improved results in the insurance of cat damages. The decline of the ROE ratio to 17.1% in the first half of 2014 should not be interpreted as a deterioration of results due to its one-off increase in the previous period (see Table 4.4).

In 2014, the ratio of claims to premium income (the so-called loss ratio) in the non-life insurance sector has shown a downward trend for three years (see Fig-
Chapter 4.

Table 4.4. Earnings of the insurance sector

<table>
<thead>
<tr>
<th></th>
<th>6-2012 (zloty million)</th>
<th>6-2013 (zloty million)</th>
<th>6-2014 (zloty million)</th>
<th>6-2014/6-2013 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life Insurance (Sector I)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Written Premium</td>
<td>19 637</td>
<td>16 055</td>
<td>14 242</td>
<td>-11.3</td>
</tr>
<tr>
<td>Technical Result</td>
<td>1 715</td>
<td>1 460</td>
<td>1 722</td>
<td>17.9</td>
</tr>
<tr>
<td>Financial Result</td>
<td>1 702</td>
<td>1 393</td>
<td>1 836</td>
<td>31.8</td>
</tr>
<tr>
<td>ROE (%)</td>
<td>22.4</td>
<td>22.1</td>
<td>26.3</td>
<td>4.2 pp.</td>
</tr>
<tr>
<td><strong>Non-life Insurance (Sector II)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Written Premium</td>
<td>13 596</td>
<td>13 886</td>
<td>13 481</td>
<td>-2.9</td>
</tr>
<tr>
<td>Technical Result</td>
<td>624</td>
<td>826</td>
<td>887</td>
<td>7.4</td>
</tr>
<tr>
<td>Financial Result</td>
<td>2 479</td>
<td>5 223</td>
<td>2 569</td>
<td>-50.8</td>
</tr>
<tr>
<td>ROE (%)</td>
<td>16.5</td>
<td>29.1</td>
<td>17.1</td>
<td>-12.0 pp.</td>
</tr>
</tbody>
</table>

Source: UKNF.

Figure 4.11, which indicates that the profitability of insurance operations have improved and has an influence on an improved technical result of this sector (see Table 4.4).

Figure 4.11. Loss ratio gross and net in non-life insurance

Source: UKNF.

Solvency and resilience of the insurance sector

The domestic insurance sector was stable and its solvency in the first half of 2014 did not change. New principles for setting the capital requirements will become effective from 1 January 2016, (under the Solvency II project), which may result in higher requirements. 94

Figure 4.12. Own capital in the insurance sector

Source: UKNF.

At the end of the first half of 2014, own funds of insurance companies amounted to 32.0 billion zlotys and own funds of life insurance companies - 12.1 billion zlotys. The changes in own funds, notably a decrease in own funds associated with dividend payouts, should be interpreted as a seasonal factor, and an improvement in results usually takes place in the second half of a year (see Figure 4.12).

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94 On 18 December 2014, KNF published the results of the third obligatory quantitative impact study (QIS), which aim was to analyze the solvency of given insurance and reinsurance companies and to evaluate the degree of readiness to perform their activities by the rules of Solvency II in the domain of quantitative requirements. Results of the study (based on data for 2013) showed that capital requirements under the rules of Solvency II would be higher by 167.3% than current capital requirements, however only 2.8% of insurance companies (in respect to assets) would not have enough own capital to cover capital requirements.
In 2014, the average value of own capital in the life insurance sector was three as high as the statutory level, and in the non-life insurance sector it was four times higher (the so-called insurance activity monitoring ratio) (see Figure 4.13). The ratio’s average value for domestic insurance companies remains higher than the European average.²⁵

Figure 4.13. Activity monitoring ratio in the insurance sector

Source: UKNF.

At the end of the first half of 2014, the ratio of liabilities due to insurance contracts concluded coverage with deposits (which should be higher than 100%) of life insurance companies amounted to 114.1%, while that of non-life insurance companies – 123.6%. The ratios net of reinsurance amounted to 114.9% and 143.5%, respectively (see Figure 4.9).

The Combined Operating Ratio (COR) (claims paid and expenses to premium earned) for domestic insurance companies has stabilized. In 2013–2014, it amounted to 89.7% on average in the life insurance sector, and 90.6% in the non-life insurance sector (see Figure 4.14), which also shows that the financial position of the domestic insurance sector is good.

Figure 4.14. COR in the insurance sector

Source: UKNF.

The high resilience of the domestic insurance sector was confirmed by European stress tests. In November 2014, EIOPA published a report from the stress testing exercise carried out for European insurance companies. The main purpose of the tests was to examine the general resilience of the insurance sector to severe macroeconomic shocks and sector-specific shocks and identify the sector’s vulnerability to shock scenarios.²⁶

²⁶In the core stress test module, a total of 167 insurance groups and individual insurers took part; they had collected 55% of gross written premium for the European market. In the low interest rates module, 225 insurers representing 60% of technical insurance provisions participated.

In the core module, insurers’ assets and liabilities were priced, and the capital requirements as well as own funds to cover the requirements were set for them in line with the Solvency II system (based on standard models).

The low interest rates module assumed two scenarios. The first scenario assumed a prolonged period of low interest rates (Japanese scenario). The second scenario – an abrupt increase of interest rates for short maturities and a simultaneous fall of interest rates for long maturities (inverse scenario).

The results of the core module showed that the European insurance sector has, in line with the Solvency II requirements, sufficient capital. At the end of 2013, 86% of the core module participants (and 96% of the sample of 30 largest insurance companies) had the Solvency Capital Requirement (SCR) at the level of 100% or higher. More than 25% of participants of the core module had a sound capital position (SCR exceeding 200%). In the case of 14% insurance companies whose assets accounted for 3% of the whole sector’s assets, the capital requirement ratio declined below 100%. For the sample of 30 largest companies, the capital of only one insurer declined below 100% of the capital requirement.
The solvency ratio of the domestic sector is the highest among European countries and amounts to 300%. The results of analyses show that the persisting low interest rates have a minor impact on the solvency of the domestic insurance sector.

4.4. Linkages between non-credit financial institutions and banking sector

The ownership, credit and financing linkages of non-credit financial institutions with banks may be a potential systemic risk factor. In the case of the Polish financial system, the ties were insignificant.

The scale of capital linkages between investment fund management companies (TFIs) and banks was limited (see Table 4.5). The share of banks in the equity capital of TFIs amounted to around 9%. At the end of June 2014, net assets of investment funds managed by TFIs, whose sole shareholders were banks, amounted to around 9% of assets of all funds. However, the interconnectedness between TFIs and banks were also indirect through participation in capital banking groups. In the TFI sector, direct capital linkages with other financial institutions – insurance companies and investment firms – were more important.

Inter-sector ownership ties in the sector of open pension funds were more important. The share of entities owned by banks and insurance companies (equity capital-weighted) amounted to 98% of the sector’s assets (insurance companies – 85%, banks – 13%).

The impact of insurance companies on the banking sector through the ownership channel was insignificant. The share of banks in equity capital did not exceed 1 per cent, with the largest share of Bank Zchodzi WBK in equity capital of insurance companies (in Aviva group insurance companies).

Table 4.5. Capital ties between segments of the financial system

<table>
<thead>
<tr>
<th>Subsidiaries</th>
<th>Parent Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Banks</td>
</tr>
<tr>
<td>Banki</td>
<td>x</td>
</tr>
<tr>
<td>TFI</td>
<td>6</td>
</tr>
<tr>
<td>PTE</td>
<td>3</td>
</tr>
<tr>
<td>ZU</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: The table shows the number of entities. For TFIs, data refer only to their sole shareholders. For ZUs and PTEs, data refer to entities with the largest share in their capital.
Source: For TFIs – KRS, for PTEs and ZUs – UKNF.

Table 4.6. Exposures of pension funds (FEs), insurance companies (ZUs), investment funds (FI) to banks (PLN billions)

<table>
<thead>
<tr>
<th>Year</th>
<th>ZU</th>
<th>FE</th>
<th>FI</th>
<th>NIF</th>
<th>NIF’S Loans/Loans total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0.3</td>
<td>1.9</td>
<td>4.6</td>
<td>6.8</td>
<td>0.7%</td>
</tr>
<tr>
<td>2013</td>
<td>0.5</td>
<td>0.9</td>
<td>9.3</td>
<td>10.7</td>
<td>1.0%</td>
</tr>
<tr>
<td>2014</td>
<td>0.1</td>
<td>0.2</td>
<td>9.1</td>
<td>9.4</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>ZU</th>
<th>FE</th>
<th>FI</th>
<th>NIF</th>
<th>NIF’S Deposits/Deposits total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>24.7</td>
<td>21.2</td>
<td>17.5</td>
<td>63.4</td>
<td>5.4%</td>
</tr>
<tr>
<td>2013</td>
<td>20.9</td>
<td>18.4</td>
<td>22.0</td>
<td>61.3</td>
<td>5.0%</td>
</tr>
<tr>
<td>2014</td>
<td>22.8</td>
<td>13.8</td>
<td>25.5</td>
<td>62.2</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Note: Data as at the end of September 2014.
Source: NBP.

Banks’ risk associated with lending to insurance companies, open pension funds and investment funds remained minor. The share of loans to insurance companies and pension funds did not exceed 0.2% of total bank loans at the end of September 2014, while the share of loans to investment funds amounted to 0.8% (see Table 4.6).

The role of NIFs in funding of banks was also limited. The ratio of deposits placed by insurance companies, pension funds and investment funds in total deposits of the banking sector amounted to 1.7%, 1.0% and 1.9%, respectively.

In the first scenario (low interest rates), 24% of insurers did not meet the capital requirements. In the inverse scenario, this applied to 20% of companies “EIOPA Insurance Stress Test 2014”, https://eiopa.europa.eu/Pages/Financial-stability-and-crisis-prevention/Stress-test-2014.aspx.
Chapter 5.

Risk assessment and recommendations

The functioning of Poland’s financial system in the period analysed was stable, and the nature and intensity of risks to its stability have not changed significantly since the publication of the previous issue of the Report. However, the uncertainty related to the macroeconomic developments in the environment of the Polish economy has increased. A new factor for the evaluation of the stability of Polish financial system is an appreciation of Swiss franc to all major currencies, including the Polish zloty. The influence of the appreciation on the situation of the domestic banking sector will depend on duration of and the scale of the change of the exchange rate. It can be assessed, however, that it will not be a significant threat to domestic banking sector stability.

5.1. Risks and negative scenarios

Cyclical risk

In the Polish economy and financial system there are presently no significant imbalances whose adjustment could negatively affect financial stability. The growth rate of lending, which is similar to the growth rate of the GDP, does not generate such imbalances and is not a barrier for an economic growth. Developments in the commercial property market, despite the identification of growing tensions, should not adversely impact the functioning of the financial system because the value of exposures of domestic financial institutions to this market is low.

Also, the difficult condition of the credit unions sector should not generate systemic risk due to the minor scale of interconnectedness between credit unions with other financial institutions and the fact that credit unions provide financial services which are substitutes for banking services. Corrective measures for the credit union sector require involvement of financial resources being at disposal of institutions of financial safety net. Currently used restructuring methods (bankruptcy, liquidation).

97 The least costly method of restructuring credit unions could be through a partial takeover of assets and liabilities of credit unions by other entities, which is a possibility under article 74c of the law on credit unions (Law of 5 November 2009 on credit unions, Journal of Laws of 2013, no. 1450, as amended). However, this approach is not used at present. An argument being raised by some is legal uncertainty due to the ongoing proceeding of the Constitutional Tribunal (case K-41/12) regarding the conformity of certain clauses of the law on credit unions, including some of the clauses of the article 74c, with the Polish constitution.
tion, takeover involve using funds of BFG, which causes, ceteris paribus, reduction of resources available in case of potential problems in the banking sector. The weakening of one of the elements of the financial safety net might have a systemic dimension. Additionally, using funds of BFG to restructure credit unions sector will also cause an increase of costs, primarily for the banks, which may ceteris paribus limit their ability to increase capital buffers. Due to the lower profitability of their activity, this will be potentially more challenging for cooperative banks and might make creation of the financial potential of the institutional protection scheme more difficult. A necessity to increase the BFG resources is caused by new European regulations regarding deposit guarantee as well as recovery and resolution of loan institutions.

Cyclical risk factors relate primarily to developments in the environment of the Polish economy, mainly in countries that are Poland’s major trading partners. Their condition affects the Polish economic dynamics, which in turn impacts the situation of borrowers. The scenario involving a recurrence of stagnation in the euro area still cannot be ruled out; the stagnation may be accompanied by deflation, and in consequence by an increase in the real value of sovereign and private debt. This could contribute to a downgrade of the emerging markets growth outlook and deterioration of the condition of banking sectors in developed countries. As a result, this may trigger a rise in risk aversion in global financial markets. In addition, the intensification of the Russian-Ukrainian conflict may negatively affect the economic situation in the European Union and also provide an impulse for a more severe correction in emerging markets. The likelihood of the scenario of a severe economic slowdown unfolding in the euro area has increased compared with the previous issue of the Report, which was confirmed by lower forecasts of the economic growth.

The negative scenario unfolding in the euro area, coupled with a surge in risk aversion in global and emerging markets, poses – apart from a serious geopolitical conflict scenario – the greatest risk to the stability of the domestic financial system. This factor would moderate Poland’s economic growth. Credit risk would be the main channel through which the materialisation of such a scenario would affect financial stability. Credit risk growth would stem from the deterioration of both the condition of enterprises and the situation in the labour market as well as from a depreciation of the zloty, which – if it is persistent – could negatively impact the quality of the foreign currency loan portfolio.

Such a scenario, although it would additionally negatively affect the situation of the state budget, should not produce a great strain on the financial sector. Poland’s relatively low debt does not generate credit risk. On the other hand, banks’ exposure to market risk is limited and should not generate systemic risk.

Another scenario that may lead to a rise in market risk in the banking sector would involve major central banks abandoning the current loose monetary policy faster than expected by financial markets. This could prompt investors to withdraw from emerging markets, which could result in, inter alia, a depreciation of the zloty and higher yields on Polish government bonds. Nevertheless, the impact of

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98 The resources of the BFG, which come from the payments of banks and the NBP (until 2008) were collected for nearly 20 years, which is from the creation of BFG in 1995. The last time, before the payment of the deposits from SKOK Wspólnota and SKOK Wołomin in 2014 the resources of BFG were used to pay the deposits after the bankruptcy of Bank Staropolski in 2000.

99 Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and Directive 2014/49/EU of the European Parliament and of the Council of 16 April 2014 regarding deposit guarantee systems. These directives indicate that by 2024 financial assets available for the purpose of guaranteeing deposits, recovery and resolution of credit institutions should account for at least 1.8% of all guaranteed deposits.
this scenario on domestic financial system stability can be viewed as moderate.

Although the materialisation of the risk factors discussed above should not jeopardise financial stability, it may, however, pose a major challenge for some financial institutions. The stress tests point to banks’ high resilience to macroeconomic, market and liquidity shocks. However, existing uncertainty about global developments implies that banks need to keep this resilience at a high level.

Structural risk

Compared to the opinion presented in the previous edition of the Report, the risk associated with market participants’ uncertainty over the financial condition of parent entities of banks operating in Poland has decreased. The released results of the comprehensive assessment of the financial condition of banks, carried out by the ECB, have shown that most of them have met the ECB requirements.

It is hard to regard the level of concentration in the Polish banking system as excessive. In an environment of low rates of return, decisions by the strategic investors of Polish banks regarding business models and the geographical scope of the group’s operations may lead to a rise in concentration in the Polish banking sector. Having in mind information regarding plans of sale of some banks operating in Poland by their strategic investors, it may be gauged that the intensity of that process has increased in the period analysed. The increase of concentration in the banking sector may in turn lead to the emergence of a group of institutions that are “too big to fail”. Such institutions may take excessive risk, taking advantage of the fact that their market position and expectations about support from authorities in the event of any problems will help them to obtain low cost-funding. Therefore, special attention should be drawn to the impact of mergers and acquisitions in the banking sector on market concentration.

Institutions with a high market share should demonstrate an increased capacity to absorb the effects of risk materialisation. The Polish Financial Supervision Authority (KNF) position on dividend policy of 2 December 2014 is a step towards ensuring that the largest banks show higher resilience to turmoil in their economic environment.

The foreign currency loan portfolio is the element of the balance-sheet structure of banks that is a potential source of the banking sector’s vulnerability due to borrowers’ exposure to market risk. Some of these loans, extended at a time when the zloty was strongly appreciating, are additionally characterised by high current LTV ratios. At the same time, experience to date shows that foreign exchange rate changes that have so far been observed are not sufficient to generate a significant deterioration in the quality of this portfolio. The value of banks’ exposures to the portfolio’s risk is gradually diminishing due to a decrease in value of the portfolio (adjusted for exchange rate changes) as borrowers repay loan principal. The impact of the decision of the Swiss National Bank regarding the change of their currency policy from 15 January 2015 on that portfolio is discussed in Boxes 4 and 1.

The necessity of changes in the cooperative banking sector is a medium-term structural challenge. This sector does not utilize fully its development potential. With its current business model and level of integration, cooperative banks are not able to ensure the scope and quality of services expected by potential new clients. At the same time, their efficiency remains low. There is a need for a change of the sector’s business model. It should focus on

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100 In the view of banking market analysts, in the nearest few years ownership changes may affect banks of the total market share of about 10%
meeting credit demand of households and SMEs. A closer integration should also be an element of the change, allowing on the one hand to meet regulatory requirements and also increase operational efficiency.

**Box 4. Possible consequences of the depreciation of the zloty in relation to the Swiss franc**

On 15 January 2015, the Swiss National Bank decided to discontinue the minimum exchange rate of CHF 1.2 per euro. At the same time, it lowered the interest rate on deposits by 50 basis points to -0.75%, and the target range for the three-month LIBOR CHF was moved from the current range of between -0.75% and 0.25% to between -1.25% and -0.25%. The decision triggered an abrupt reaction of currency market participants. The EUR/CHF exchange rate declined to the level of around 0.85 (i.e. by almost 30%), and stabilised at 1.024 at the end of the day, which resulted in a strong weakening of the zloty against the Swiss franc.

Given a considerable portfolio of Swiss franc-denominated housing loans and a major scale of zloty weakening, the Box evaluates the impact of the SNB decision on the Polish banking sector. It should be noted that the strength of the impact of particular channels will depend on the sustainability of the zloty depreciation in the longer term. The most important impact channels include:

- **Increase in costs and liquidity needs related to FX position hedging** – the SNB decision led to an increase in spreads in the market for hedging transactions. If the increase continues, FX risk mitigation costs for banks will grow both for fx swaps and CIRS. In the case of CIRS, the rise in costs will not be automatic as a significant number of banks use forward-starting swaps, whose terms are agreed upon well in advance. A rise in liquidity needs is taken into account in the NBP stress tests (see Chapter 2.7.2.). It may be estimated that if the CHF/PLN exchange rate rises to 4.5, liquidity needs for several banks with an almost 9% share in the sector’s assets would exceed their liquid asset portfolios.

- **Increase in credit risk associated with foreign currency housing loans** – zloty depreciation to the level of 4.2 translates into an increase in mortgage loan servicing costs by 300-350 zlotys (see Box 1). Due to a rise in wages from the origination of the largest number of Swiss franc loans, such a rise in loan servicing costs may be viewed as not posing a threat to the majority of households. Nevertheless, maintenance of the CHF/PLN exchange rate at an elevated level would lead to an increase in credit risk costs for banks. This effect is taken into account in the NBP stress tests (see Chapter 2.7.2.). When a 30% zloty depreciation is assumed against all currencies, including the level of 4.5 of the CHF/PLN exchange rate, impairment charges for all foreign currency housing loans would amount to 2.4 billion zlotys (see Table 2.6) (of which an estimated 2 billion zlotys would be for Swiss franc-denominated loans). In the case of one bank only, the impairment charges would exceed its annualised earnings. These estimates may be regarded as conservative since the current zloty depreciation is accompanied by a cut in SNB interest rates, which may partially curb the increase in loan instalments.

- **Increase in LTV of Swiss franc-denominated housing loans** – the depreciation of the zloty against the Swiss franc to 4.2 leads to an increase in the LTV of foreign currency loans by 11-18 percentage points as compared with October 2014, depending on the quarter of loan origination (see Figure 2.17). For loans extended from early 2007, this means a rise above the LTV at loan origination. In the case of collection of default Swiss franc loan debt, the LTV increase leads to a rise in Loss Given Default (LGD) ratio that presents the value of the loss on impaired loans. A detailed estimate of the impact of the LGD rise for impaired loans is very difficult but the value of additional provisions should not exceed 0.5 billion zlotys.

- **Increase in capital requirements** – a rise in the CHF/PLN exchange rate triggers an increase in the zloty value of Swiss franc loans and, as a consequence, increases the capital requirements for credit risk. However, all
commercial banks hold surplus capital, which – when the zloty depreciates to 4.2 – would allow them to meet the capital requirements. The average total capital ratio would fall to around 14.4%.

The reduction of the Swiss franc interest rates may limit the increase foreign currency loan servicing costs following the franc appreciation. Some banks use contractual clauses that set the minimum level of the CHF LIBOR rate for the purpose of determining the interest on loans at zero, which in the current market conditions limits the impact of the negative level of the CHF LIBOR rates on the loan servicing costs. In a situation, where a bank hedges its fx position arising from foreign currency loans with CIRS basis transactions, the level of interest rates does not have a bearing on the effectiveness of the hedge. Therefore, these banks should consider carefully whether the net effect arising from the contractual clauses of additional revenues generated by negative LIBOR rates as compared to a likely rise in default risk is advantageous for the bank.

1 The analysis covers the impact of the increase of CHF/PLN exchange rate to around 4.2 (observed on 15 January), and, in the case of the channels analysed in other parts of the Report – to the level of around 4.5, which corresponds to the assumption of a 30% zloty depreciation.

2 See more on the mechanism of this channel in Chapter 2.3.

3 The estimate for a loan with maturity of 30 years in the amount of 300 thousand zlotys.

Other risks

Besides risks discussed above, other risks – which may become systemic – to financial stability have to be identified, although they are not strictly associated with the business or financial cycle, or the sector structure. Due to their non-economic character they are not a subject of the analysis in this publication. These are primarily legal risk and operational risk. Legal risk is associated with the possibility to sustain big losses or costs arising from administrative procedures or court litigations. Of special significance is operational risk related to the operation of ICT systems, and their exposure to failures and cyber-attacks. The experience of Estonia of 2007 shows that such a risk may significantly grow in the environment of ongoing geopolitical tensions. A potential materialisation of such risks may have substantial implications for financial stability through the impact on reputation of financial institutions that were subjected to cyber-attacks, and in extreme cases – on their capacity to provide financial services. The implementation of KNF’s Recommendation D by banks (they were required to implement its provisions by the end of 2014) may help to enhance banks’ resilience to this type of risk.

5.2. Recommendations

In addition to the analysis of risks in the financial system, the role of the Report is to offer measures and solutions aimed at containing such risks. It is one of the activities that Narodowy Bank Polski performs when fulfilling the mandate to support the stability of the domestic financial system (article 3 item 2 point 6a of the Act on NBP). Most of the measures listed below are not new – the recommendations were presented in previous editions of the Report. As these conditions did not change or the measures were not undertaken, Narodowy Bank Polski presents them again, believing that their implementation would contribute to a further strengthening of the stability of the domestic financial system:

1. A speedy enactment of the act setting up a body responsible for macroprudential supervision of the domestic financial system should be pursued; the design and compe-
tences of the body should ensure an effective identification, assessment and mitigation of systemic risk.

The creation of such an institution will help to strengthen an institutional framework of the domestic financial safety net. An example of a risk source which should be subject to macroprudential policy action is the issue of foreign currency loans, especially during their accumulation in the past. This is due to their significance for the stability of the whole financial system, not just individual institutions and the consequent potential influence on the economy as a whole. Creating a macroprudential authority would also implement the “Recommendation of the European Systemic Risk Board on the macroprudential mandate of national authorities” (ESRB/2011/3). The draft law also introduces into Polish law some of the provisions on capital buffers of the new CRD directive. A prompt implementation of other provisions of the said directive is also desirable through amendment to the Law on banks.

2. Legislative work aiming to introduce the (recovery and resolution) regime for banks into Poland's law should be continued, in particular through implementation of Directive 2014/59/EU.

As a host for European banking groups, Poland should be prepared for international cooperation in the resolution area, which requires a formal appointment of the authority responsible for resolution and giving it adequate powers, so it could cooperate with analogous authorities from other EU countries. Otherwise Poland cannot be represented in EU resolution structures (resolution council), which might make successful influence on shaping international cooperation rules in that field more difficult.

3. The EU initiatives that serve to contain systemic risk that may be generated by the activities of central counterparties (CCPs), in particular relating to the establishment of the recovery and resolution regime for these entities and their appropriate capital levels should be supported.101

4. In order to strengthen the cooperative banking sector, it is advisable to pursue its closer integration and transformation of associations into associations with an Institutional Protection Scheme that covers banks' liquidity and capital, and to change the business model of the cooperative banking as well as strengthen the resilience of the associating banks. To this end, it is necessary to rapidly adopt a law amending the law on the functioning of cooperative banks.

Introducing one or more institutional protection schemes seems to be necessary to ensure compliance with the short-term liquidity standard LCR (scheduled entry into force from October 2015) by the associating banks of the cooperative banking sector. If the provisions are implemented in good time, the appropriate decision-making bodies of interested institutions (cooperative and associating banks) will be able to take the decision on desired modifications of the business model and the future model of functioning. A greater integration of some functions of cooperative banks may help them to reduce their costs, thus creating conditions for the growth of their profitability, and to meet the capital requirements by cooperative banks following entry into force of CRD IV. A closer integration will help cooperative banks to better utilise their potential to ex-

101 These issues were analysed in greater detail in Box 3 in “Financial Stability Report. December 2013”, NBP, p. 32.
Risk assessment and recommendations

5. **Banks should take special care to maintain high capital position and expand lending without significantly increasing leverage.**

The situation in the Polish economic environment remains uncertain. Average capital adequacy and leverage ratios in the banking sector provide high resilience of banks to shocks, being prerequisites for financial system stability in Poland. Therefore, retention of a significant portion of their profits will help banks to develop further their business in a safe manner.

6. **Banks should continue to reduce funding structure risk by gradually limiting the funding concentration in the counterparty and product dimensions, while ensuring a safe continuity of funding.**

This may, in particular, concern those banks which demonstrate a high-share of counterparty-concentrated liabilities towards non-residents. Banks which decide to maintain their funding model should strive for extension of its duration. Banks whose liquidity position is sensitive should also increase buffers of liquid assets.

7. **Banks should pursue a prudent lending policy in the segment of commercial property loans.**

The situation in the retail and office property market shows that imbalances have been growing, which – in the environment of rising supply – may result in unfavourable changes in prices and rents and credit risk growth. Banks should demonstrate particular prudence in examining the quality of loan collateral, the reality of assumptions concerning cash flows generated by the property and the borrower’s loan repayment capacity.

8. **A significant portion of housing loans originated in the past, especially foreign currency loans, exhibits high current LTV. When calculating credit risk costs and formulating their capital policy, banks should take into account the risk arising from this portion of the loan portfolio.** Banks should avoid taking actions that may enhance the likelihood of borrowers losing the loan servicing capacity.

9. **Due to the historically low level of interest rates, banks should ensure that borrowers taking out variable interest rate long-term loans have sufficient income buffers in the event of a substantial increase in interest rates.**

Interest rates in the interbank deposit market, on which the interest rates on housing loans depend, are presently lower than the average calculated from 2004 by around 2.5 percentage points. An acceleration of economic growth may lead to the growth of market interest rates which may bring about a faster increase in loan servicing costs than the rate of borrowers’ income growth. A return of interest rates to an average level would imply a rise of the servicing costs of zloty-denominated housing loans by around one fourth.\(^{102}\) For this reason, borrowers should have income that will help them to service the loan even at a significantly higher level of interest rates that the current one.

10. **The capital position of credit unions remains difficult.** For this reason, **in the case of credit unions whose restructuring is possible,**

\(^{102}\)This estimate is made for a loan repaid in annuity instalments, with maturity of 25 years.
the implementation of restructuring actions should be continued to enhance their operational efficiency and increase their capital, while utilising the internal resources of the credit unions system in an optimal way, in particular by using them to supply the stabilisation fund of the National Association. Moreover, work should start on developing such a business framework for credit unions that would restore the model of a strong common bond among members of each credit union.
Activity monitoring ratio – the ratio of insurer’s capital to the statutory capital requirement, which is the value of solvency margin or the guarantee capital (whichever is higher).

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

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

Annualised data – in the case of data on flows – the value of cash flow in the preceding 12 months; in the case of data on balance (stock); – average value of balance in the preceding 12 months.

Assets of limited liquidity – category of assets specified by KNF Resolution No. 386/2008 defining liquidity standards for banks. Approximately it consists of assets resulting from banking activities outside the wholesale financial market.

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

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

Availability of housing – measurement defining the number of square metres of a flat, which a person with average income in corporate sector in a given city could afford to buy at average transaction price in a given market. The average price consists of 40% of the price in the primary market and 60% of the price in the secondary market, which is reflected in the distribution of transactions in these markets.

Availability of loan-financed housing – measurement defining the number of square metres of a flat, which a person with average income in corporate sector in a given city could afford to buy at average transaction price in a given market, using a housing loan. This takes into account requirements of banks’ lending policies and average market parameters of the loan (interest rate, maturity, minimal income remaining after loan instalment payment).
Available housing loan – the value of a potential maximum housing loan expressed as the multiplicity of a monthly wage in the corporate sector in a given market. The value is calculated taking into account requirements of banks’ lending policies and average market parameters of the loan (interest rate, maturity, minimal income remaining after loan instalment payment).

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

Capitalisation rate – quotient of net operating income, which may be generated in the market and the property market price (in accordance with Common General Rules of Valuation).

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

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

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

Core liquidity reserve – category of assets specified by KNF Resolution No. 386/2008 of 17 December 2008, defining liquidity standards binding for banks. Approximately it consists of other receivables and other assets in the amount obtainable within 7 days.

Credit Default Swap – a derivative transaction under which the issuer undertakes to pay the buyer contractually specified compensation in case of a credit event pertaining to a third party (the reference entity) in return for remuneration in the form of a single/upfront or periodic payments (so called premiums). The value of remuneration paid to the issuer of CDS is interpreted as a measure of perceived credit risk of the reference entity.

Credit losses – net charges to provisions for impaired loans.

Cross Currency Interest Rate Swap – a derivative transaction under which the parties are obliged to the periodic exchange of interest payments calculated on the basis of an agreed nominal amount for a set period of time. Interest payments are denominated in different currencies and calculated on the basis of interest rates agreed for each currency. Transaction may involve the exchange of the nominal amount at the start or at the end of the transaction (at a predetermined exchange rate).

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

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

Developer apartment – an apartment from the primary market constructed by a developer. It is sold both as a contract for its construction and as a newly constructed finished apartment.

Domestic banking sector – domestic commercial banks and cooperative banks.

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

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

Equity capital coverage ratio (TFI) – ratio of the value of TFI equity capital and the value of the minimum capital requirement.

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 – a derivative transaction under which the parties are obliged to exchange the difference between the FRA rate (forward rate determined at the date of the transaction) and the reference rate that was binding two working days before the date of settlement (fixing date), calculated on the basis of an agreed nominal amount for a set period of time starting in the future.

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

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

Housing production indicator – twelve-month moving sum of the number of dwellings whose production is in progress (dwellings which construction has begun after deduction of dwellings completed).

Illiquid assets – category of assets specified by KNF Resolution No. 386/2008 defining liquidity standards binding for banks. Approximately it consists of assets not resulting from banking activities.

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

**Internal Capital Adequacy Assessment Process (ICAAP)** – process of estimating the internal capital by bank. The estimated internal capital is the value of capital which is necessary to cover all identified and significant types of risk involved in the bank activity and changes in the economic environment, including the forecasted level of risk.

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

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

**JPM VXY, JPM EM-VXY** – risk indices for the FX market calculated by J.P. Morgan Chase & Co. as the weighted average of 90-day implied volatility derived from at-the-money FX options for USD against, respectively, 9 most liquid currencies from the developed countries and 14 most liquid currencies from emerging markets. The weightings of individual currencies within the indices are based on turnover data in the global market for FX options.

**Large enterprises** – enterprises that employ at least 250 persons.

**Leverage** – according to CRDIV/CRR, the leverage ratio is calculated as the ratio of Tier 1 capital to the exposure measure that includes both on- and off-balance-sheet exposures.

**Loan spread** – difference between banks' interest on loans and market interest rate.

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

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

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

**M2 liquidity ratio** – supervisory measure of bank’s liquidity defined by KNF Resolution No. 386/2008 on the establishment of liquidity standards binding for banks, in case of banks with total assets over 200 million zlotys. It is defined as the ratio of the sum of primary and supplementary liquidity reserves to the value of unstable external funds. The minimum value of the ratio is 1.00.

**M4 liquidity ratio** – supervisory measure of bank’s liquidity defined by KNF Resolution No. 386/2008 on the establishment of liquidity standards binding for banks, in case of banks with total assets over 200 million zlotys. It is defined as the ratio of the sum of own funds and stable external funds to the sum of non-liquid assets and assets of limited liquidity. The minimum value of the ratio is 1.00.
MSCI EM — the stock index calculated by Morgan Stanley Capital International on the basis of stock indices of 23 emerging markets, weighted by the free float value of these instruments a given market.

MOVE — risk index for US Treasury bond market calculated by Merrill Lynch Bank of America on the basis of a 30-day implied volatility derived from Treasury options. The share of Treasury bond options of 2-year, 5-year, 10-year and 30-year maturities in the index amounts to 20%, 20%, 40% and 20%, respectively.

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

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

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

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

Non-interest income – the sum of income on fees and commissions, equities, other securities and other financial instruments with a variable income amount and the gain/loss on the swap position.

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

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

Overnight Index Swap (OIS) – a derivative transaction under which the parties are obliged to exchange the difference between interest payments calculated on the basis of the floating and fixed rate (OIS rate) multiplied by an agreed nominal amount. The floating interest rate is computed by combining daily O/N interest rates over the transaction period. Net settlement (without the exchange of the OIS nominal amount) is made on the next working day after the maturity date of the transaction.

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

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

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

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

Property Market Database (BARN) – database of prices and features of flats in the primary and secondary market for commercial property developed by Narodowy Bank Polski under the programme of statistical studies of public statistics.

Small- and medium-sized enterprises – enterprises that employ fewer than 250 persons.
Solvency margin – defined by law parameter that determines the level of the insurance company’s own capital.

Stable external funds – category of assets specified by KNF Resolution No. 386/2008 defining liquidity standards binding for banks. Approximately it consists of 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.

Supplementary liquidity reserve – category of assets specified by KNF Resolution No. 386/2008 of 17 December 2008 defining liquidity standards binding for banks. Approximately it consists of receivables and other assets in the amount obtainable within 7–30 days.

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

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

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

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

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

TLTRO — Targeted Longer-Term Refinancing Operations providing liquidity to entities participating in the ECB open market operations. TLTROs are executed in a decentralised manner by national central banks through standard and fixed rate tenders and are aimed at supporting bank lending to households (excluding home loans) and the euro area non-financial private sector.

Unstable external funds – category of assets specified by KNF Resolution No. 386/2008 defining liquidity standards binding for banks. Approximately it consists of funds not included in stable external funds.

Vacancy rate – relation of vacant space to the accumulated (total) supply of commercial space in a particular location, e.g. town or district.

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

Viability rating – individual rating assigned to institutions by Fitch Ratings advising of the financial condition of single entities.
VIX — risk index for the equity market calculated by the Chicago Board Options Exchange on the basis of a 30-day implied volatility derived from the out-of-the-money options for equities included in S&P 500 index.

VXEEM — risk index for equity markets of emerging economies calculated by the Chicago Board Options Exchange on the basis of a 30-day implied volatility derived from the out-of-the-money options on the units of MSCI EM exchange-traded fund.

ZKPK Index – cumulated index of changes in banks’ credit standards.
### Abbreviations

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<th>Abbreviation</th>
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<tr>
<td>ABS</td>
<td>Assed-backed securities</td>
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<td>AC</td>
<td>Auto Casco</td>
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<td>AQR</td>
<td>Asset Quality Review</td>
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<td>BFG</td>
<td>Bank Guarantee Fund</td>
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<td>BGK</td>
<td>Bank Gospodarstwa Krajowego</td>
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<td>BGŻ</td>
<td>Bank Gospodarski Żywnościowej</td>
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<td>BIK</td>
<td>Credit Information Bureau</td>
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<td>BPS</td>
<td>Bank Polskiej Spółdzielczości</td>
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<tr>
<td>BRRD</td>
<td>Bank Recovery and Resolution Directive</td>
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<td>CCP</td>
<td>Central counterparty</td>
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<td>CDS</td>
<td>Credit Default Swap</td>
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<td>CIRS</td>
<td>Cross Currency Interest Rate Swap</td>
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<td>COR</td>
<td>Combined Operating Ratio</td>
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<td>CPI</td>
<td>Consumer Price Index</td>
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<td>CRD</td>
<td>Capital Requirements Directive</td>
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<td>CRR</td>
<td>Capital Requirements Regulation</td>
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<td>Credit Valuation Adjustment</td>
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<td>C/I</td>
<td>Cost/Income</td>
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<tr>
<td>EBA</td>
<td>European Banking Authority</td>
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<td>EBRD</td>
<td>European Bank for Reconstruction and Development</td>
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<td>ECB</td>
<td>European Central Bank</td>
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<td>EIOPA</td>
<td>European Insurance and Occupational Pensions Authority</td>
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<td>EMIR</td>
<td>European Market Infrastructure Regulation</td>
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<td>ESA</td>
<td>European System of Accounts</td>
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<td>ESMA</td>
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<td>EURO STOXX 50</td>
<td>Stock index of the 50 biggest companies in the euro area by value of shares in free float</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>EURO STOXX</td>
<td>Stock index of the biggest banks in the euro area</td>
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<tr>
<td>BANKS</td>
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<tr>
<td>Fed</td>
<td>Federal Reserve System</td>
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<td>FI</td>
<td>Investment fund</td>
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<td>FRA</td>
<td>Forward Rate Agreement</td>
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<td>FSB</td>
<td>Financial Stability Board</td>
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<tr>
<td>FUS</td>
<td>Social Insurance Fund</td>
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<tr>
<td>GDP</td>
<td>Gross domestic product</td>
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<tr>
<td>GPW</td>
<td>Warsaw Stock Exchange</td>
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<tr>
<td>GUS</td>
<td>Central Statistical Office</td>
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<tr>
<td>ICAAP</td>
<td>Internal Capital Adequacy Assessment Process</td>
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<tr>
<td>IFRS/IAS</td>
<td>International Financial Reporting Standards / International Accounting Standards</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<td>KDPW</td>
<td>Central Securities Depository of Poland</td>
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<td>KNF</td>
<td>Polish Financial Supervision Authority</td>
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<tr>
<td>LCR</td>
<td>Liquidity Coverage Ratio</td>
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<td>LFS</td>
<td>Labour Force Survey</td>
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<td>LIBOR</td>
<td>London Interbank Offered Rate</td>
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<tr>
<td>LTRO</td>
<td>Longer-term refinancing operations</td>
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<tr>
<td>LtV</td>
<td>Loan-to-value</td>
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<tr>
<td>MdM</td>
<td>“Housing for the Young”</td>
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<td>NASDAQ</td>
<td>National Association of Securities Dealers Automated Quotations</td>
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<td>NBP</td>
<td>Narodowy Bank Polski</td>
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<td>NC</td>
<td>NewConnect</td>
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<td>NEG</td>
<td>Negative rating outlook – expected downgrade</td>
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<td>NIF</td>
<td>Non-credit financial institution</td>
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<td>NIM</td>
<td>Net interest margin</td>
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<td>NSFR</td>
<td>Net Stable Funding Requirement</td>
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<td>New York Stock Exchange</td>
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<td>O/N</td>
<td>Overnight</td>
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<td>Third party liability insurance</td>
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<td>OFE</td>
<td>Open Pension Fund</td>
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<td>OIS</td>
<td>Overnight Index Swap</td>
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<td>OTC</td>
<td>Over-the-counter</td>
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<td>PAS</td>
<td>Polish Accounting Standards</td>
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<tr>
<td>PHM</td>
<td>Primary housing market</td>
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<td>PTE</td>
<td>Pension fund management company</td>
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<td>ROA</td>
<td>Return on Assets</td>
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<tr>
<td>ROE</td>
<td>Return on Equity</td>
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<td>Abbreviation</td>
<td>Description</td>
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<td>RPP</td>
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<td>S&amp;P</td>
<td>Standard &amp; Poor's</td>
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<td>S&amp;P 500</td>
<td>Stock index of 500 companies listed on NYSE or NASDAQ with the highest value of shares in free float</td>
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<td>SACP</td>
<td>Stand-Alone Credit Profile</td>
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<td>SHM</td>
<td>Secondary housing market</td>
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<td>SKOK</td>
<td>Credit unions</td>
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<tr>
<td>SME</td>
<td>Small and medium-sized enterprise</td>
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<td>SP</td>
<td>Treasury</td>
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<tr>
<td>STA</td>
<td>Stable rating outlook</td>
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<td>TFI</td>
<td>Investment fund management company</td>
</tr>
<tr>
<td>TLTRO</td>
<td>Targeted Longer-Term Refinancing Operation</td>
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<td>UFK</td>
<td>Insurance investment fund</td>
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<td>UKNF</td>
<td>Office of the Polish Financial Supervision Authority</td>
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<tr>
<td>VaR</td>
<td>Value at Risk</td>
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<td>WIBOR</td>
<td>Warsaw Interbank Offered Rate</td>
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<tr>
<td>WIG</td>
<td>Main index of the Warsaw Stock Exchange</td>
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<td>WIG20</td>
<td>Warsaw Stock Exchange index of 20 largest companies by the value of shares in free float</td>
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<td>WIG–Banki</td>
<td>Warsaw Stock Exchange index of banks</td>
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<tr>
<td>ZBP</td>
<td>Polish Bank Association</td>
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<tr>
<td>ZU</td>
<td>Insurance company</td>
</tr>
<tr>
<td>ZUS</td>
<td>Social Insurance Institution</td>
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