June 2017

Financial Stability Report

Financial Stability Department
Warsaw, 2017
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 maintenance of financial system stability requires the monitoring of systemic risk occurring in the financial system or in its environment, as well as the implementation of measures eliminating or reducing the risk. The stability of the financial system is a necessary condition for ensuring sustainable economic growth in the long term.

The stability of the banking system, which accounts for two thirds of assets of the Polish financial 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 numerous 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 NBP due to its statutory tasks to eliminate or reduce the systemic risk, establish the conditions necessary for the development of the banking system, and contribute to the stability of the domestic financial system (Article 3 paragraph 2 items 6, 6a and 6b of the Act on NBP). While fulfilling these tasks, NBP participates in macroprudential supervision of the financial system, and in the event of a direct threat to the stability of the financial system, may also participate in the implementation of crisis management measures.

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 NBP plays an important role and which, together with the monetary policy, contributes to maintaining sustainable economic growth. Another reason for the involvement of 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 paragraph 2 item 1 of the Act 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 Report is also presented to the Financial Stability Committee, which is the macroprudential supervisory body.
The analysis conducted in this Report is based on data available up to 31 March 2017 (cut-off date). Some high-frequency data, especially relating to financial markets, and other particularly significant information, may go beyond the adopted cut-off date. The Report was approved by the Management Board of Narodowy Bank Polski at a meeting on 25 May 2017.
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Poland’s financial system is functioning in a stable manner, and the intensity of risks to financial stability has not changed substantially since the publication of the previous issue of the Report. However, it remains at an elevated level, mainly due to uncertainty persisting in the environment of the Polish economy. The possibility of changes in the domestic legal environment of the financial system, which as a side effect may weaken the resilience of the financial system, especially banks, continues to persist, although the likelihood of such changes has decreased.

The Polish economy does not exhibit significant macroeconomic imbalances. The debt of non-financial enterprises and households remains at a moderate level. The growing consumption of households, along with the decreasing negative impact of investment on GDP, contributed to improving the pace of economic growth in the fourth quarter of 2016.

The functioning of domestic financial markets is smooth. In the first quarter of 2017, improved optimism in global markets, coupled with the affirmation of Poland’s sovereign rating and weaker expectations of a hike in NBP interest rates, resulted in an appreciation of the zloty and a decline in the yields on government bonds (after a previous period of depreciation of the zloty and a rise in the yields on government bonds). Optimism in global markets, reflected in higher share prices and yields on government bonds, coupled with substantial uncertainty about future economic policy, may raise concerns about excessive deviation of the prices of financial instruments from their fundamental values and increase the risk of a large price correction.

The residential real estate market is balanced, and the present expansion phase is characterised by high supply and high demand. The likelihood of an imbalance caused by supply or demand shocks is growing. In this context, of significance are the barriers that could reduce the production of dwellings in the future. In the environment of low interest rates, the initiated price growth could become a catalyst for speculative investment. The commercial real estate market, especially the office space market, continued to see a growing imbalance, which does not, however, pose a systemic threat as the extent of funding of this market segment by domestic banks is small.

Despite improvements in current and forecasted economic growth in most of the major economic regions, significant uncertainty persisting in Poland’s economic environment increases the possibility of substantial negative shocks that could slow the country’s economic growth.

The maintenance of the stability of the banking sector is the key prerequisite for financial stability
in Poland, as banks are the main source of financing for the economy, and bank deposits account for over half of households’ financial assets.

- The credit cycle in Poland is at the border between the recovery phase and the expansion phase. Credit growth rate is close to the GDP growth rate, is no barrier to GDP growth, and also does not create imbalances in the economy and the financial system. The counter-cyclical buffer has been left at the level of 0%. There are no signs of an excessive easing of banks’ lending policy. The quality of the loan portfolio is steadily improving.

- The large portfolio of foreign currency mortgage loans is a vulnerability of some commercial banks. As borrowers have income buffers, the quality of the portfolio, despite significant foreign exchange rate shocks, is very good. Coupled with the significant capital buffers of banks, this indicates that the economic risk associated with this portfolio is not systemic. The portfolio may generate systemic risk in the context of some regulatory solutions proposed in the public debate.

- Banks are exposed to market risk to a limited extent. The open net FX position is small due to the closing of the banks’ open on-balance FX position arising from the large portfolio of foreign currency mortgage loans with off-balance sheet transactions. Interest rate risk in the banking book is limited from the perspective of the entire sector, although cooperative banks demonstrate greater sensitivity of earnings to a potential interest rate decrease than commercial banks.

- The high and rising share of deposits, especially household deposits, and a simultaneous decrease in wholesale funding supports stable financing of banks and mitigation of liquidity risk. The level of liquid assets is high and is increasing. Banks fulfil the supervisory liquidity ratios.

- The profitability of banks, after excluding the impact of one-off factors, has declined. Retained profits are the main source of capital in Poland and the size of capital buffers is a key parameter for the resilience of the banking sector to shocks and a prerequisite for growth of funding to the economy. Consequently, should the trend of declining profitability persist, it would be a negative development. Major determinants of bank profitability were, in addition to the tax on assets, an increase in net interest margin, a fall of non-interest margin and a reduction of personnel costs. The burden of credit risk costs on banks’ earnings has not changed substantially.

- The capital position of the Polish banking system is good, and is accompanied by low leverage. The average total capital ratio increased again and reached the level of 17.2%. Most banks meet the supervisory requirements, including the requirements to maintain capital buffers. All banks on which additional requirements associated with the portfolio of foreign currency loans were imposed fulfil the requirements.

The results of stress tests and loss absorption capacity simulations indicate that most banks are capable of absorbing the effects of shocks associated with future threats identified in the financial system and its economic environment, and of continuing to meet the capital adequacy requirements. Due to the decline in banks’ profitability, the cost of raising capital on the market exceeds the return on assets, which may reduce the possibility of strengthening
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...of capital from external sources, if the need arises to increase it. The persistence of substantial uncertainty in Poland’s external environment, increasing the probability of negative shocks, indicates that it is necessary to strengthen the resilience of the banking sector and avoid regulatory actions that could undermine it.

The cooperative banks sector is stable. Cooperative banks mostly fulfil the supervisory capital and liquidity requirements. The establishment of the so-called Institutional Protection Schemes (IPS) is reinforcing the resilience of the sector. Nevertheless, the low interest rate environment and low efficiency associated with the sector’s business model are challenges for the profitability of cooperative banks and their capacity to expand. Some banks, especially larger ones, increased their exposures to riskier assets, which – in the case of insufficient risk management competence – may pose risks to their stability. In their case, a worrying development is their weak asset quality and relatively high concentration of lending portfolio, coupled with a low coverage of impaired loans by impairment provisions. The fact that a number of cooperative banks remain outside the IPS is a negative development.

The condition of the credit unions remains difficult and restructuring of the sector continues. The number of active credit unions as well as the value of assets of the sector are decreasing. A large portion of the sector still does not fulfil the regulatory minimum capital requirements, while the liquidity requirements are generally satisfied. The quality of the loan portfolio remains poor. The high share of those items in regulatory capital which cannot be used to cover the losses of previous years gives reasons for concern.

Given the business models applied in Poland, the sector of non-credit financial institutions does not generate significant risks to financial stability.

- The sector is not a significant source of funding to the economy. Moreover, non-credit financial institutions use leverage only to a small extent.
- Insurance companies offer traditional insurance services and do not generate liquidity risk. Insurance companies in Poland do not offer a wide range of products with a guaranteed rate of return, which are a vulnerable area in the environment of low interest rates. The profitability of insurance undertakings has declined; however, the insurance sector is characterised by high capital adequacy ratios, which ensures the continuity of the provision of services.
- Investment funds are sector with a large scale of activities. Following a period of rapid asset growth (in particular closed-end investment funds used for tax optimisation purposes), the changes in taxation contributed to halting the pace of asset growth. Liquidity risk is a key risk for the sector, as it is potentially significant for open-end investment funds. The share of liquid assets of open-end investment funds has grown slightly.
- Liquidity risk is, in principle, non-existent in the open pension funds sector because of the continuous inflow of contributions and lack of the possibility of withdrawal by fund participants before they have become eligible for receiving pensions.

The lack of significant direct intra- and inter-sector linkages, especially interbank ties and ties between banks and non-bank financial institutions, reduces the transmission of shocks in the financial system and the emergence of the contagion effects. The NBP simulations corroborate the lack of a significant domino effect in the banking sector. An im-
Important potential contagion channel between banks and credit unions is the system of deposit guarantees and resolution, funded to a dominant extent by commercial banks. This is significant in view of the poor condition of the credit unions sector and some cooperative banks. At the same time, the high concentration of the credit unions sector enhances the significance of the risk.

Narodowy Bank Polski presents a number of recommendations aiming to preserve the stability of the Polish banking system. The recommendations are described in detail in the last chapter. They pertain to:

- continuation of implementation of the Financial Stability Committee recommendation of 13 January 2017 regarding the portfolio of foreign currency loans,
- avoidance of actions that undermine the resilience of the banking system to shocks,
- closer integration of the cooperative banking sector, transformation of its business model and the widest possible participation of cooperative banks in Institutional Protection Schemes (IPS), along with the comprehensive implementation of all the mechanisms of these systems,
- continuation of the restructuring of the credit unions sector,
- lending policy by banks, which should ensure that borrowers taking out long-term variable rate loans hold adequate income buffers in the event of a significant rise in interest rates,
- particularly prudent lending policy of banks in the commercial property lending market.
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Financial institutions’ economic environment

1.1. Macroeconomic developments

In the second half of 2016, the pace of growth of the global economy improved, although it remained moderate. In developed countries, households’ consumer spending was still the main driver of growth, which was fostered by systematically improving situation in the labour market. The recovery in private investment consolidated, however its growth remained low. Upward trends for demand, including investment demand, were supported by expansionary policy of central banks. Investors were also expecting fiscal loosening in the United States. More pronounced acceleration in investment is being hampered by uncertainty regarding the outlook for the global economic growth, significant indebtedness of public and private sector, and still unresolved problem of non-performing loans in banks from some euro area countries. Situation in major emerging economies in the second half of 2016 varied. Growth in China accelerated slightly, whereas in India it slowed. Recession continued in Brazil, while in Russia signs of recovery strengthened.

Economic growth in the euro area stabilised at a moderate level, observed for several quarters (1.7% y/y of the GDP growth in the fourth quarter of 2016, against 1.8% y/y in the third quarter). Similar to previous quarters, households’ consumer spending remained the main growth driver in the euro area, which reflects the improvement in households’ financial situation and the progressing growth in employment. Continuing weak growth in private investment slowed further in the last quarter of 2016. In the context of persisting subdued performance in the global trade, euro area export grew slowly and foreign trade contribution to the GDP growth was slightly negative (fourth quarter of 2016). Economic growth in Germany accelerated slightly (1.8% y/y in the fourth quarter of 2016 against 1.7% in the previous quarter), which resulted from strengthening of domestic demand and exports. Among other major euro area
economies, Spain maintained its’ high GDP growth rate, stronger growth was registered in France, whereas threat of stagnation returned in Italy.

In the Central and Eastern Europe, GDP growth accelerated, mainly due to strong consumer demand resulting from continuing rise in employment and wages as well as consumer optimism. Export growth increased, while weak investment activity, caused to a large extent by persisting low absorption of funds from the new EU financial framework, continued to affect the GDP growth adversely.

In accordance with the latest forecasts for the global economy1, acceleration of the GDP growth may be expected in 2017–2018. In developed countries, improvement in the economic activity will result mainly from faster economic growth in the United States, accompanied by continued growth in the euro area at the rate recorded in 2016. Within the group of major emerging economies developments are expected to vary substantially.

Significant uncertainty related to the growth developments in the global economy continues. Sources of this uncertainty include, in particular, future decisions relating to the macroeconomic policy in the United States, including mainly the scope of fiscal loosening and possibly greater than currently expected tightening of monetary policy. Potentially grave effects of changes in the United States trade policy, relating to the revision of existing trade agreements, are difficult to foresee. Progress on resolving problems relating to excess debt in the public and private sector, including its negative implications for the banking system, is crucial for the euro area growth outlook. In the case of China’s economy, scale of expected further slowdown in the GDP growth is uncertain, in connection with reorientation of the growth model, amid continuing internal imbalances. Declining long-term growth in productivity remains a global problem.

Economic growth in Poland accelerated after the slowdown recorded in the second half of 2016. In the fourth quarter, GDP increased by 2.5% in annual terms (2.9%, seasonally adjusted (sa)), following growth of 2.4% y/y (2.2%, sa) in the previous quarter. In accordance with the NBP expectations, further acceleration of the GDP growth can be expected in the first quarter of 2017. The fast growth of households’ consumption had a positive impact on the economic activity (4.5% in the fourth quarter against 4.1% in the third quarter of 2016), reflecting continuing improvement in the labour market. Negative impact of declining investment expenditure on the economic growth rate persisted (-9.8% y/y in the fourth quarter and -6.7% in the third quarter of 2016). As in the previous quarters, the low investment activity was affected by reduced utilisation of the EU funds as well as entrepreneurs’ concerns with regard to changes in the regulatory environment and uncertainty over future global economic situation. Foreign trade contributed positively to the GDP growth in the fourth quarter of 2016 (0.8 percentage points), which resulted from the acceleration in exports (9.3% y/y against 7.8% in the third quarter) and slower growth in imports (8.2% y/y against 8.7% in the third quarter).

In recent months inflation in Poland, measured by the CPI, has reached a positive level (2.0% in March 2017), following a period of approximately 9 quarters of decline in the general price index. Factors contributing to the growth in the CPI included, first of all, base effects resulting from considerable drop in oil price at the turn of 2015 and 2016, coupled with oil (December

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1See “Global Interim Economic Outlook”, March 2017, OECD and “World Economic Outlook”, April 2017, IMF.

2Inflation indicator after excluding food and oil prices.
2016) and unprocessed food (January and February 2017) price hikes, due to price developments on the global markets. Core inflation\(^2\) remains low (0.6% in March 2017, against 0.2% in January), which is the evidence of low, yet rising, demand pressure. On the other hand, rise in producer price indices (4.7% in March 2017) as well as increased inflation expectations of consumers and enterprises along with economists and financial sector analysts surveyed by the NBP, may prompt inflation growth.

**Situation on the labour market continued to improve, which was exhibited mainly by a growing employment and a fall in the unemployment rate.** According to the Labour Force Survey (LFS) data, in the fourth quarter of 2016 employment in the national economy continued to grow, although at a slower pace than in the first half of 2016 (growth of 0.3% y/y, sa, against 0.3% y/y sa in the third quarter and 1.2% y/y sa in the second quarter of 2016). In the first quarter of 2017, an upward trend continued in the corporate sector, however it was somewhat abating.\(^3\) The registered and LFS unemployment rates continued to follow their downward trend, observable since 2014, reaching once again their all-time lows in the fourth quarter of 2016 (8.2% sa, 5.6% sa). Monthly data with reference to the first quarter of 2017 point to a further decline in the registered unemployment rate, which reached a level of 7.5% (sa) in March. Since the second quarter of 2016, the gradually shrinking number of economically active persons has had a substantial impact on further decline of the unemployment rate.

**In the last months of 2016, nominal wages continued to rise, although at slower pace than earlier. In the fourth quarter of 2016, the growth of wages in the national economy dropped to 3.7% y/y, which should be primarily explained by a one-off negative result of lower pay-outs in the mining sector when compared to the previous year. In the enterprise sector, the growth of wages slowed to 2.9% y/y, against stable and visibly higher rates registered in several previous quarters (in the third quarter of 2016 it amounted to 4.2% y/y). In the first quarter of 2017, the growth rate of nominal wages in the enterprise sector clearly accelerated (in March, 5.2% y/y), which resulted to a large extent from shifting pay-out of quarter bonuses and partly from a build-up of wage pressure. According to the latest NBP macroeconomic projection, higher than hitherto observed wage growth should be expected, while employment growth may slow down.

**Financial standing of households has improved, which was a continuation of the trend observed since the end of 2011.** Households sector balance sheet, similarly to previous quarters, was characterised by a surplus of assets over liabilities, with stable growth of both aggregates (8.4% y/y for financial assets and 5.2% y/y for liabilities in the fourth quarter of 2016). Despite significant rises on the capital market, households still prefer investments in financial assets rendering relatively low risk level and high liquidity (cash and short-term deposits) and housing investments. Ratios of households debt to disposable income and to the GDP remained at a stable, moderate level.\(^4\) Housing loans dominate in the household debt structure and since 2011 their share has remained at a stable level of approximately 60%. At the same time, new consumer loans contributed the most to the growth of liabilities (they represented around half of all transactions as of the fourth quarter 2016). In the third quarter of 2016, the sav-

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\(^3\)The acceleration of the employment growth rate y/y observed in the monthly data for January–March 2017 arises from the annual sample update by the Central Statistical Office of Poland (GUS).

\(^4\)In the fourth quarter debt to annual GDP ratio stood at approximately 38%, whereas in relation to disposable income it amounted to approximately 63%. The debt category consists of short-term loans, long-term loans and other liabilities (according to the NBP Financial Statistics).
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ings rate decreased to a level of 2.0% sa (against 3.1% sa in the previous quarter and the average of 2.4% for the last 10 years). Continued growth in consumer confidence indexes and expected continuation of favourable trends in the labour market may weaken the providence motive when making decisions on savings. It may be one of the reasons for the households' savings rate to persist at a relatively low level, which is confirmed by the current NBP macroeconomic projection.

The condition of the non-financial corporate sector in the fourth quarter of 2016 remained good and stable, although some financial indicators deteriorated. Following a slight increase in the value of the current assessment of economic conditions indicator (BOSE) in the fourth quarter of 2016, in the first quarter of 2017 a further improvement in the perception of economic conditions in the corporate sector occurred.\(^5\) In the fourth quarter of 2016, enterprises expected a deterioration of their economic situation, both in the first quarter and throughout whole 2017. Expectations formulated in the first quarter of 2017 for the second quarter of 2017 and for the consecutive 12 months were, however, much more optimistic. The demand forecast indicator was still at a favourable level, the employment forecast indicator increased, whereas the uncertainty rating fell.\(^6\) As mentioned earlier in the text, in the fourth quarter of 2016 some indicators of corporate sector financial standing deteriorated. Although overall net profit turned out higher by as much as 19.6% y/y, it resulted from the recognition of write-downs by several large companies in 2015. After excluding these write-downs, the growth of the net profit in the fourth quarter of 2016 would amount to -13% y/y). Nominal growth in sales revenues in the fourth quarter remained positive and was significantly higher than a year before (6.6% against 5.6%), however the growth of sales costs also increased significantly (6.3% against 0.7%), among other things, due to the rise in commodities costs and related increase in costs of materials. Growing costs of wages were also an important factor. The sales profitability rate in the fourth quarter was higher only by approximately 0.1 pp. (sa) when compared to the previous year. Although the percentage of profitable companies remained at a very high level, amounting to 81.5% (cumulatively), it was the second consecutive quarter when it decreased in relation to the corresponding period of the previous year.\(^7\) However, this decline was not material.

Investment growth in the corporate sector in the fourth quarter of 2016 remained strongly negative and substantially lower than the growth recorded the year earlier (-20.2% y/y against 11.0%, y/y, at constant prices). Private enterprises surveyed in the first quarter of 2017 planned only a minor increase in investment in the second quarter and in the whole 2017.\(^8\) On the other hand, public enterprises announced a significant surge in investment activity.\(^9\) NBP expects\(^{10}\) that in 2017–2019

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6See “Szybki monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (NBP Quick Monitoring Survey. Analysis of the situation in the corporate sector) April 2017, NBP.

7See “Szybki monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (NBP Quick Monitoring Survey. Analysis of the situation in the corporate sector), April 2017, NBP.

8See “Szybki monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (NBP Quick Monitoring Survey. Analysis of the situation in the corporate sector), April 2017, NBP.

9See “Szybki monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (NBP Quick Monitoring Survey. Analysis of the situation in the corporate sector), April 2017, NBP.

10See “Inflation Report”. March 2017, NBP.
the growth rate of gross fixed capital formation in enterprises, particularly in the public sector, will increase significantly, among others, due to increased utilisation of funds from the new EU financial framework. This will apply mainly to companies operating in the energy sector. On the other hand, growing consumption stimulated by the “Family 500+” Programme, may support investment in the retail sector. Financing for corporate investment still comes mainly from own resources. In the second quarter of 2017, around 48% of surveyed enterprises planned to finance their development this way, whereas the use of credit was declared by approximately 25% of surveyed enterprises.\footnote{See “Szybki monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (NBP Quick Monitoring Survey. Analysis of the situation in the corporate sector), April 2017, NBP.}

In the fourth quarter of 2016, non-financial corporations continued to be characterised by high liquidity and debt service capacity. All the liquidity ratios remained at levels close to their historical highs. In the fourth quarter of 2016 and in the first quarter of 2017 almost 79% of surveyed enterprises declared no liquidity problems, which is also close to the historical maximum reading registered in the first quarter of 2016.\footnote{See “Informacja o kondycji sektora przedsiębiorstw ze szczególnym uwzględnieniem stanu koniunktury w IV kw. 2016 r. oraz prognoz na I kw. 2017 r.” (Economic climate in the enterprise sector in 2016 Q4 and forecasts for 2017 Q1), January 2017, NBP and “Szybki monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (NBP Quick Monitoring Survey. Analysis of the situation in the corporate sector), April 2017, NBP.}

Ratio of total debt of the corporate sector\footnote{The debt of the non-financial corporate sector is defined here by a broad measure of credit, i.e. the sum of liabilities due to loans (other than trade credits) and debt securities, increased by trade credits and other accounts payable. It enables the assessment of enterprises’ capacity to service various types of liabilities.} to the GDP was stable and remained at a low level, as compared with other European countries (almost 90%).\footnote{The foreign debt of the non-financial corporate sector consists of the same financial instruments as the total debt.} The foreign debt of the corporate sector\footnote{The foreign debt of the corporate sector in Poland defined by the sum of loans (other than trade credits) and debt securities amounts to approximately 27% of the GDP.} amounted to approximately 27% of the GDP. In the fourth quarter of 2016 enterprises’ capacity to service loan debt by tapping financial surplus\footnote{This capacity is measured by an indicator which is the ratio of the financial surplus, including interest, to the principal instalments and interest.} remained very good and improved as compared to the third quarter, and only slightly decreased in relation to the corresponding period of 2015 (in sa terms). The indicator of the overall debt of the corporate sector, described by the ratio of liabilities and provisions for liabilities to the balance sheet sum, increased by approximately 1.3 pp. y/y in the fourth quarter and amounted to approximately 50%. The share of enterprises declaring timely repayment of loan debt was close to that recorded in the corresponding period of the previous year and amounted to 94.5%, remaining very close to its historical maximum.\footnote{See “Informacja o kondycji sektora przedsiębiorstw ze szczególnym uwzględnieniem stanu koniunktury w IV kw. 2016 r. oraz prognoz na I kw. 2017 r.” (Economic climate in the enterprise sector in 2016 Q4 and forecasts for 2017 Q1), January 2017, NBP.}

On the other hand, in the first quarter of 2017 a slight decline (of 0.5% y/y) was recorded in the share of enterprises declaring no problems with loan repayment, however it was still significantly higher than the long-term average and amounted to 93.7%.\footnote{See “Szybki monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (NBP Quick Monitoring Survey. Analysis of the situation in the corporate sector), April 2017, NBP.}

In the corporate sector as a whole threat of bankruptcy remained relatively low. Although data for 2016 point to a 3% increase in the total number of bankruptcies and restructurings in the corporate sector compared to 2015 (See Figure 1.1), the number of liquidation bankruptcies fell by 18%, which constituted the highest decline in the whole analysed pe-
Enterprises used some new forms of restructuring proceedings introduced under the Restructuring Law Act, which replaced former reorganization and arrangement proceedings.

Favourable trends in the balance of payments continue. In the fourth quarter of 2016, the current account of the balance of payments closed with a relatively low deficit of 0.3% of the GDP, against -2.0% in the third quarter of 2016. It resulted mainly from the continuing surplus in trade of goods and services, which was accompanied by a negative impact of primary income flows. Poland’s gross external debt at the end of the fourth quarter of 2016 amounted to 1404 billion zlotys, which means an increase of 9.1% y/y. External debt in relation to the GDP at the end of the fourth quarter of 2016 amounted to approximately 76%, which means an increase of 4 pp. on an annual basis.

In the opinion of the NBP, the GDP growth in Poland will clearly accelerate in 2017, to stabilise later in 2018–2019 at a level close to the potential growth rate. According to the central path of the NBP March projection, in 2017–2019 the economy will be growing on average at a rate of approximately 3.4%. Consumer spending will continue to act as a main growth driver, arising from rapidly rising wages and substantial social transfers, especially under the “Family 500+” Programme. In the coming years, a strong acceleration in investment is expected, in both public enterprises, supported by an expected increased absorption of funds from the new EU financial framework, and private enterprises. For private entrepreneurs, continued good financial situation coupled with high and constantly growing capacity utilisation rate will be the factors fostering investment decisions. Growth shall remain balanced, what encompasses closing output gap, declining level of unemployment close to the natural level and limited budget deficit. In an environment of continuing global economic downturn accompanied by an acceleration of domestic demand growth in Poland, a slight
deterioration in the current account is to be expected. This, however, should not trigger a significant change in the external balance in the view of expected strong inflow of foreign direct investment and material scale of absorption of the EU structural funds. Inflation shall remain close the inflation target of the NBP outlined in the projection horizon.

Potential threats to the expected growth path of the Polish economy stem from uncertainty factors regarding the external environment of the Polish economy.

1.2. Developments in financial markets

1.2.1. Global markets

In the fourth quarter of 2016, significant growth in yields on US Treasury bonds and stock market indices in developed markets were observed. This was a consequence of the change in the allocation of global investors’ portfolios from debt instruments towards shares. After the presidential elections in the United States, expectations of market participants related to fiscal expansion and deregulation of the financial sector increased. In the same period, the economic growth outlook for developing economies improved.\(^{20}\) In connection with elevated inflation expectations and a prospect of a tightening of monetary policy by Fed, it resulted in a marked growth of yields on US Treasury bonds across the entire yield curve (see Figure 1.2). The quotations of the S&P500 index were at a record high, and the main indices of European stock markets, moving in line with them, approached their all-time highs (see Figure 1.3). The scale and pace of those changes may raise doubts concerning an excessive deviation of companies’ valuation from their fundamental values and elevated risk of a significant revision of share prices.\(^{21}\)

![Figure 1.2. Yields on 5-year government bonds of selected countries](https://example.com/figure12)

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

As of the end of 2016, following American and European stock exchanges, stock market indices in emerging markets were growing strongly. In October and November 2016, in connection with the elections in the United States (see Figure 1.4) risk aversion grew, which was reflected in the decline of investors’ exposure in emerging markets.\(^{22}\) This resulted in the decline of prices of securities listed on those markets and appreciation of the US dollar against currencies of the aforementioned countries. As of the end of December 2016, the trends...

\(^{20}\)The IMF revised upward its economic growth forecast for developed countries to 1.9% in 2017 and 2.0% in 2018 (i.e. by 0.1 and 0.2 percentage points, respectively, as compared to forecasts of October 2016), with unchanged forecast of the global economic growth rate (3.4% in 2017 and 3.6% in 2018). “World Economic Outlook. Shifting Global Economic Landscape”, IMF, January 2017.


reversed: stock market indices increased markedly in emerging markets and their currencies appreciated, although to a lesser extent. This was mostly due to the aforementioned positive data from developed countries and a significant growth in commodity prices. Increased optimism also translated into the growth of MSCI EM equity index and the appreciation of currencies of the developing countries. This also referred to countries with significant debt in US dollars which may create a significant risk for the financial stability of those economies in the future. In the case of a decline in the global GDP growth rate or a faster tightening of the monetary policy by the Fed than expected, their capacity to service debt may deteriorate. This, in turn, may encourage investors to change the attitude to other markets as well, including Poland.

In connection with the expected higher economic growth rate and the acceleration of inflation, the Fed increased interest rates, whereas the ECB continued its loose monetary policy, which contributed to pronounced appreciation of the US dollar against the euro (November–December 2016). In December 2016 and March 2017, Fed interest rates were raised by 50 basis points in total, to 0.75–1.00%, and the median of FOMC members’ forecasts published in March 2017, concerning interest rates path, assumed their further growth (to 1.4% in 2017 and 2.1% in 2018). The moderate economic recovery observed in the euro area in 2016 supported the improvement of the situation in the labour market, and the negative supply shocks fuelled inflation growth. The ECB did not change interest rates and in December 2016 decided to extend the Asset Purchase Programme (APP) on a scale of 80 billion euros per month until the end of March 2017. In accordance with the ECB announcements, from April at least until the end of 2017, the net value of assets purchased will amount to 60 billion euros per month, and the interest rates in the euro area will remain at the current or lower levels for an extended period of time, and well past the termination of the aforementioned APP. Concerns about the political situation in the EU also had a temporary impact on the behaviour of financial market participants. The resignation of the Italian government as a consequence of the constitutional referendum in December 2016 resulted in the growth of yields on Italian government bonds and the increase in the CDS premia on those debt instruments. Growing support for the euro-sceptical formations triggered investors’ concern before elections in other EU Member States, in particular prior to the Presidential elections in France (scheduled at the turn of April and May 2017). Those circumstances contributed to a temporary increase in the difference between the yields on French and German 10-year government bonds (to approx. 80 basis points) and the growth in the CDS premia on debt securities in France (see Figure 1.5). The Parliamentary elections in the Netherlands (March) and the formal commencement of the procedure of the United Kingdom’s withdrawal from the European Union (March) had a lower impact on investors’ behaviour. In the United States, the growing uncertainty related to the possibility of implementing the announced economic reforms, the progress of the negotiation process concerning the terms of the United Kingdom’s exit from the EU, and concerns regarding the capacity of Greece to repay consecutive tranches of debt may enhance the volatility of prices in financial markets in the subsequent months of 2017.

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23 Summaries of economic projections from the Fed meetings are available at: https://www.federalreserve.gov/monetarypolicy/fomccalendars.html.
Figure 1.3. Selected stock market indices

Note: Data normalised to 100 points as of 30 September 2016. Source: Thomson Reuters.

Figure 1.4. Volatility indices for selected segments of global financial markets

Note: Data normalised to 100 points as of 30 September 2016. Indices refer to, respectively: VXEEM and VIX – equity markets, JPM G7 and JPM EM – foreign exchange markets, MOVE – bond market. Source: Bloomberg.

Figure 1.5. CDS premia on government bonds of selected countries

Note: Data pertain to CDS contracts denominated in the US dollar. Source: Bloomberg.

Figure 1.6. Zloty exchange rate and its volatility

Source: Thomson Reuters.
1.2.2. Foreign exchange market

Following a temporary depreciation (November–December 2016), the zloty gradually strengthened against the euro (see Figure 1.6). It was mostly global factors that contributed to the depreciation of the zloty, accompanied by a rapid growth in volatility of the EUR/PLN exchange rate. From mid-December 2016 to the end of January 2017, the EUR/PLN exchange rate and its implied volatility gradually declined to levels observed at the beginning of the analysed period. After a temporary stabilisation in February and in the first half of March, the EUR/PLN exchange rate continued to follow the downward trend, reaching its lowest value since November 2015 at the end of the first quarter of 2017. In the period of the zloty’s appreciation, a significant increase in volatility implied from option prices for the EUR/PLN exchange rate was observed, which was related to taking into account by market participants the uncertainty regarding the results of elections in France.

The zloty exchange rates against the US dollar and the Swiss franc were determined by the changes in the EUR/PLN, as well as the EUR/USD and EUR/CHF exchange rates. In December 2016 and in February 2017 the appreciation of the zloty against the euro was accompanied by the depreciation against the US dollar. The CHF/PLN exchange rate ranged from 3.9–4.2 zloty per Swiss franc.

1.2.3. Money market

In the period under analysis, the NBP interest rates remained at an all-time low, with simultaneous strengthening of expectations for interest rate increases in the medium term. At the end of March 2017, FRA rates suggested an increase in NBP interest rates as early as in the first half of 2018 (see Figure 1.7). Factors affecting such predictions of investors included mainly the GUS data related to the rapidly growing inflation which in February 2017 amounted to 2.2%, and the forecast of higher economic growth rate than in 2016.25 Expectations of market participants weakened at the end of the period under analysis due to, among others, the view expressed by the MPC members that in the coming quarters the NBP interest rates would most likely be maintained at their current level26 on the account of the projected decline in inflation in the subsequent months of 2017.27

Figure 1.7. Current and expected WIBOR 3M rates

The functioning of the domestic money market was stable. The average daily value of transactions on the unsecured interbank deposit market from October 2016 to March 2017 amounted to approx. 4.0 billion zlotys and was over 7% higher than in the period from January to September 2016. At the same time, a slight growth in the share of one-day trades was observed, most notably O/N transac-

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25 On 27 March 2017 Moody’s upgraded the forecast of Poland’s GDP growth rate in 2017 to 3.2% from 2.9%.
26 “Minutes of the Monetary Policy Council decision-making meeting held on 8 February 2017” and “Minutes of the Monetary Policy Council decision-making meeting held on 8 March 2017”, available at: http://www.nbp.pl/.
Financial institutions’ economic environment

The value of trades in the OIS market decreased significantly. It was mainly the result of the falling number of domestic participants in this market, persistently low activity of foreign banks, and lack of expectations for NBP interest rates’ changes in the short term. The low liquidity of this market may in the long term have adverse implications for the development of other segments of the domestic financial market, as OIS rates are an approximation of risk-free interest rates and are used for the valuation of many financial instruments. In connection with the decline in the number of participants below the required minimum, fixings of reference rates for FRA, IRS and OIS transactions have been suspended by the ACI Polska association since 24 October 2016.

The behaviour of domestic money market participants continued to be affected by the tax on certain financial institutions; however, this impact was much weaker than in the period directly following its introduction, i.e. in February and March 2016. The design of the tax prompted domestic banks not to accept deposits (both secured and unsecured) whose start and end dates would fall in different months. It contributed to temporary drops in turnover in the deposit markets and a decrease in the short-term reference rates of the domestic money market (WIBOR O/N, T/N, S/W and POLONIA) at the end of some months.

Domestic banks could hedge open on-balance sheet FX positions on favourable terms using swaps. The low costs of financing in the euro, stemming from, among others, the ECB’s loose monetary policy, caused EUR/PLN CIRS basis premia quoted to the EURIBOR reference rate to be negative from November 2016 to March 201728 and displayed a downward trend (see Figure 1.8). With relatively constant margins on the EUR/CHF CIRS basis transactions, this translated into a decrease in costs by domestic banks which concluded such transactions in order to hedge open FX positions resulting from loans in the Swiss franc. In the period under analysis, the implied interest rates of the euro in EUR/PLN fx swap transactions were lower than EURIBOR reference rates.

Figure 1.8. Premia on the CIRS basis market

Source: NBP calculations based on Thomson Reuters data.

1.2.4. Government bond market

Until the end of February 2017 a marked increase in the yields on domestic government bonds across the yield curve was accompanied by a substantial rise in the spread between the yields on Polish and German 10-year government bonds (see Fig-

28 This meant that domestic banks with long on-balance sheet FX positions which would, as part of strategies aimed at reducing market risk arising from the mismatch between on-balance-sheet assets and liabilities, conclude EUR/PLN CIRS basis transactions in this period would receive from foreign banks payments calculated according to the WIBOR reference rate and transfer payments calculated according to the EURIBOR reference rate decreased by the absolute value of the margin mentioned above. On the other hand, if the reference rate for interest rates in the euro were negative, domestic banks would receive payments calculated according to this rate increased by the absolute value of the margin.
Yields on 2-, 5- and 10-year domestic government bonds at the end of February 2017 rose to 2.2%, 3.1% and 3.8%, respectively (from 1.8%, 2.4% and 2.9% at the end of September 2016). This was mainly due to the economic growth outlook in developed countries, the tightening of monetary policy by the Fed, and a pronounced rise of inflation in Poland in early 2017 accompanied by market participants’ expectations for an increase of NBP interest rates in the first half of 2018.

This trend was reversed at the beginning of March 2017. The yield on 10-year bonds in this month dropped by 0.3 percentage points, as a result of which the spread between quotations of Polish and German government bonds decreased. The decline in yields on 2- and 5-year bonds was slightly weaker (by 0.2 percentage points). Those changes stemmed from the fading expectations of market participants for an NBP monetary policy tightening, positive data from the Polish economy (among others, a lower than expected public finance deficit in 2016) and improving sentiment among global investors.

In the first quarter of 2017, Poland’s credit risk perceived by market participants decreased. CDS premia on Polish bonds in March 2017 were below 70 basis points, which was the lowest level since August 2015 (see Figure 1.5). This was affected, among others, by the decision of the S&P agency, which affirmed Poland’s credit rating at the beginning of December 2016 and upgraded its outlook from negative to stable. In January 2017, Fitch and Moody’s did not change Poland’s credit rating and indicated the positive outlook of economic growth in Poland. Despite a significant growth of State Treasury debt in 2016 (by 94.1 billion zlotys to almost 930 billion zlotys), market participants positively perceived the condition of public finance in Poland. Such an assessment was affected by the outlook of accelerating economic growth, rising inflation and lower general government debt to GDP ratio compared to other EU countries (54.4% in 2016.).

In the period from September 2016 to—March 2017, domestic financial institutions significantly increased their exposure to the Polish government securities market. The share of domestic banks in the structure of government bond buyers in—
increased to over 40%, and in the case of domestic insurance companies it amounted to almost 10% (see Figure 1.10). The value of those investor groups’ portfolios rose, respectively, by 22.6 billion zlotys (to 246 billion zlotys), and by 9.4 billion zlotys (to 60 billion zlotys), with banks significantly increasing their demand for bonds with short residual maturities. Associated with global factors, the temporary decline in non-residents’ exposure to the domestic government bond market in November and December 2016 stemmed from the reduction of the portfolio by foreign investment and hedging funds – from 44.6 billion zlotys at the end of September 2016 to 32.3 billion zlotys at the end of 2016 (see Figure 1.11). The average maturity of domestic government bonds held by non-residents, exceeding 5 years, was markedly longer than of the residents’ portfolios.

Figure 1.11. Structure of foreign investors in the domestic government bond market

The liquidity of the secondary market for domestic government bonds rose significantly. The daily average value of outright transactions in the period from September 2016 to March 2017 amounted to over 14 billion zlotys and was 16% higher than in the first nine months of 2016. The liquidity of 5- and 10-year benchmark bonds measured by the Hui-Heubel ratio was high, except for the beginning of 2017 (see Figure 1.12).

Figure 1.12. The Hui-Heubel liquidity ratio and the value of trade for Polish benchmark government bonds with the residual maturity of 5 and 10 years

Note: The Hui-Heubel liquidity ratios for the government bond market illustrate the relationship between the change in the price of those instruments in the indicated period (the difference between the highest and lowest prices over a 5-day period for a series of benchmark bonds specified in Thomson Reuters) and the total value of turnover in these instruments in the outright market in relation to the total outstanding value of those bonds. A higher value of the ratio implies lower market liquidity.

Source: NBP calculations based on KDPW and Thomson Reuters data.

1.2.5. Equity market

In the period from October 2016 to the end of March 2017, the direction of changes of the Warsaw Stock Exchange (WSE) indices was largely in line with the trends observed in the global markets (see Figure 1.3). The growth in share prices on the WSE stemmed mainly from external factors which encouraged global investors to reduce their exposure to bonds in favour of equity instruments. Growing commodity prices resulted in a strong growth of the WIG-górniictwo subindex (in six months it increased by as much as 47.6%).

Local factors made the rates of return on WSE indices significantly higher compared to indices of the global equity markets. The WIG and WIG20
indices increased, respectively, by 23.0% and 27.3%, while S&P500, EURO STOXX 50 and MSCI EM, grew by 9.0%, 16.0% and 6.1%, respectively (see Figure 1.3). Investors were encouraged to purchase shares on the WSE by the attractive, in market participants’ view, initial valuation of domestic companies. Investors’ interest was strengthened, among others, by the improved economic outlook for Poland and the decision of the S&P mentioned above. The growth in banks’ share prices was supported by the lower, in the opinion of market participants, risk of imposing on some of them the statutory obligation to convert foreign currency-denominated housing loans (from the beginning of October 2016 to the end of March 2017, the WIG-banki subindex increased by 16.7%).

1.3. Developments in the real estate market

The residential market has entered the expansion phase. The values of production in progress and of the sales of dwellings from the previous peak of the cycle of the years 2006-2008 were either reached or exceeded. High supply is accompanied by equally high demand, which makes the square metre prices of dwellings relatively stable. However, the high demand is not generated by rapidly growing origination of loans, as in the previous phase of expansion, but by the use of individuals’ savings.

The commercial real estate market, especially the office real estate market, continues to see an imbalance between demand and the excess and still rising supply of space resulting from the implementation of new investment projects. In most cases, vacancies are concentrated in lower quality stock.

Figure 1.13. Cycle in the residential market in Warsaw

![Figure 1.13](image)

Source: NBP calculations based on REAS, BIK and GUS.

Figure 1.14. Cycle in the residential market in six cities

![Figure 1.14](image)

Source: NBP calculations based on REAS, BIK and GUS.

Despite the expansion phase, average transaction prices (per square metre) of dwellings in the pri-

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29 At the end of September 2016, the average price to earnings ratio for companies from the WIG20 index reached 11.4, whereas for companies from the aforementioned foreign indices, it was 18.5, 14.4 and 13.6, respectively (source: Bloomberg).

30 A more extensive description of the cycle’s phases can be found in Box 1 in the “Report on the situation in the residential and commercial real estate market in Poland in 2015”. That the residential market has entered a new phase of the cycle is evidenced by a substantial rise in demand and supply of new dwellings. This observation is confirmed by the average quarterly number of transactions on the primary market in the six largest markets in 2016; it was higher by over 2.5 thousand (up 19.5% y/y)
mary markets were stable or showed modest growth. In the majority of large cities, the size and structure of real estate developers’ housing offer was well tailored to the structure of demand.

The prices per square metre of dwellings in the secondary market also remained stable. Warsaw, where they declined somewhat, was an exception, as the decline followed the sale of a bigger number of dwellings of lower quality and poor location. This is corroborated by the analysis of hedonic prices. Rental rates on the housing market increased slightly.

Figure 1.15. Transaction prices of dwellings in the primary and secondary markets in Poland

![Graph showing transaction prices of dwellings in primary and secondary markets in Poland]

Note: Six cities include Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław and ten cities include Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin and Zielona Góra.

Source: NBP.

The observed increase in demand is primarily associated with low interest rates. This factor has an impact both through the credit channel (lending growth) and the investment channel (perceived rates of return on investment in other assets, including dwellings for rent). This factor may also trigger speculative demand, as real estate prices tend to grow when the interest rates are falling.

Figure 1.16. Average (offer and transaction) rent rates in selected cities in Poland

![Graph showing average rent rates in selected cities in Poland]

Source: NBP.

A further increase in the estimated availability of residential loans, housing and loan-financed housing was observed in the period under analysis, mainly as a result of a rise in household income. At the end of the fourth quarter of 2016, the average availability of housing in the largest cities was 0.84 square metres per average monthly wages in the enterprise sector, i.e. it was 0.35 square metres higher (i.e. approx. 70.3%) than the minimum seen in the third quarter of 2007.

The persistent shortage of dwellings in some of the largest cities is a structural factor that affects the long-term demand for new dwellings. The demographic factor (i.e. population growth, increase in number of households and migration), which had a strong impact in the previous cycle, is fading away and is felt in Warsaw only.

The impact of the regulatory factor in the form

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31 The hedonic home price index is discussed in an article by M. Widłak “Metody wyznaczania hedonicznych indeksów cen jako sposób kontroli zmian jakości dóbr” (Methods of constructing hedonic price indices as a way to control for changes in quality of goods), Wiadomości Statystyczne No. 9 (2010).

32 The demand for dwellings is classified into consumer demand, investment demand and speculative demand. Consumer demand results from the desire of a household to satisfy its housing needs; investment demand is related to the possibility to obtain rental income, and speculative demand, from income on the purchase and re-sale of a dwelling at a higher price.
of the Home for the Young programme is fading away, but the scheme is popular among home buyers. In the first quarter of 2017, subsidies amounting to approx. 0.5 billion zlotys were granted to 17,253 borrowers (i.e. 23% of all payments under the programme). The last effect of the programme of loan subsidies will be seen in early 2018. In September 2016, the government adopted the National Housing Programme, which provides for the construction of low-cost dwellings for rent or dwellings for rent to be ultimately owned.\(^{33}\) However, this has no impact on the real estate development segment.

Other regulatory measures are the full application of maximum LtV limit of 80%\(^{34}\) and the pursuit of a more conservative policy of banks. The measures mainly affect consumer demand.

Input demand for housing is associated with the expected relatively high rates of return on housing rental in relation to rates of return on other assets in which the household can invest its savings. In Poland, such assets include mainly deposit accounts at banks and, to a much lesser extent, government bonds. Due to low interest on deposits, investment in a dwelling is perceived as an attractive financial investment despite the risk associated with its low liquidity and restrictive tenants’ rights. As a result, a greater use of own funds of the population to buy dwellings for rent is observed. In the first quarter of 2017, investment demand was driven by inflation, which lowered the real interest rate on loans and the interest rate on deposits. The real interest rate on housing loans reached its lowest level since 2011. The real interest rate on bank deposits turned negative, which means that they produce losses, contrary to residential investment, where real rental profitability is rising modestly due to slightly increasing rents and stable prices.

As home prices are stable, speculative demand, the third component of housing demand, has not materialised so far. The propensity to speculate on the housing market is directly proportional to home price growth (capital gains) and inversely proportional to interest rates (alternative costs and loan costs).

The growth in demand was paralleled by a rising supply in the residential real estate market. Real estate developers are smoothly managing projects, land banks and building permits to take advantage of the existing demand. The supply growth was supported by the continued high profitability of residential development projects. The estimated return on these projects towards the end of 2016 remained at the level of approx. 15 – 18%. Taking into account the current level of demand, the sale of the entire stock available on the primary mar-

\(^{33}\)A more extensive description of the National Housing Scheme can be found in Box 1 of “Information on home prices and the situation in the residential and commercial real estate market in Poland in the third quarter of 2016”.

\(^{34}\)In accordance with an amended Recommendation S (Resolution No. 148/2013 of the Polish Financial Supervision Authority of 18 June 2013 on issuing Recommendation S on good practices with regard to risk management of mortgage-secured credit exposures (Official Journal of KNF of 2013, item 23)
Market can be completed in less than a year. This implies that given the size of the construction sector, the stock of unsold dwellings ceases to be excessive and becomes normal construction in progress.\footnote{Practical observation shows that with the stock of dwellings over one year, prices stabilize; on the other hand, when this value is lower, they tend to grow. The annual stock of dwellings in the market also results from the implementation timetables of developers’ investments. See also Łaszek, J., Augustyniak, H., Gajewski, K., Zochowski, G., Leszczyński, R., Olszewski, K., & Waszcuk, J. (2013). "Podejście modelowe do rynku nieruchomości" (A model-based approach to the housing market). Bezpieczny Bank, (4 (53)), 204-268.}

Figure 1.18. Profitability of home rental (average in 7 cities) compared with household deposits, housing loans, 10-year government bonds and the rate of capitalization of commercial property (offices and retail space).

![Graph showing profitability of home rental compared with other investments.](image)

Note: Values above 1 denote the higher profitability of purchasing property for rental to third party than other capital investment. This analysis does not take into account high transaction costs in the housing market and potentially long payback periods. Source: NBP.

Figure 1.19. ROE on investment projects in six cities.

![Graph showing ROE on investment projects in six cities.](image)

Source: NBP estimate based on Sekocenbud and GUS data.

The residential market remains balanced; however, it is more likely than in the past that potential supply or demand shocks may lead to imbalances. The relatively high stock of dwellings offered on the primary market has so far not affected the level of prices; however, it could become an additional factor of the downward pressure on prices, if demand declined. On the other hand, the decreasing selling time of dwellings on offer increases the real estate developers’ capacity to form prices on the market. The supply of dwellings has so far been flexible; however, the level of housing construction attained may create problems with increasing it further, especially due to the market of building sites limited by the Act on Agricultural Land. A potentially significant restriction on the supply of dwellings in the future, amid continued strong demand, could bring about price increases. The size of the residential market is small (2-3%) in relation to the liquid savings of households (bank deposits).
A possible rise in prices, coupled with the growing interest of households in investment in dwellings, could deliver an impulse for triggering speculative demand.

**Commercial real estate market**

Imbalances which continued to grow in the commercial real estate markets stemmed from the oversupply of rental space in relation to fairly stable demand. This development mainly concerned office and retail space rental. The sustained high availability of foreign funding led to rapid growth in fixed assets. This phenomenon may be largely attributed to low interest rates in developed countries, and thus a low alternative cost.

![Value of investment transactions in the commercial real estate market](chart)

**Figure 1.21.** Value of investment transactions in the commercial real estate market

Source: Comparables.pl.

In 2016, the value of investment in the commercial real estate market amounted to 4.6 billion euros, which means that it reached the level of the 2006 boom. As in previous years, foreign investors prevailed, and a significant portion of the investment value involved transactions in the secondary market (change of ownership of existing buildings).

The growing supply of commercial space led to vacancy rate growth as rents fell. Towards the end of 2016, the vacancy rate in Warsaw, Poland’s major office space rental market, rose by 2 percentage points to 14.2% compared to the end of 2015.36. Despite this development, developers continue to construct new buildings. When new office buildings are put into use, the vacancy rate may go up in the near future.

As commercial projects are partly financed with debt, the present rates of return on equity are acceptable for foreign investors. Some of the projects may start to generate losses when interest rates on the European market are raised.

The situation in the commercial real estate market does not generate risk to banking system stability in Poland, as it is financed by domestic banks to a lesser extent. Approximately 90% of investments are made by foreign investors. In current market conditions, banks should be particularly cautious when assessing loan collateral quality and the borrower’s capacity to repay the loan with income, which may be generated by the real estate.

Initiatives aiming to introduce Real Estate Investment Trusts (REITs)37 into the Polish market may increase the share of residents, including retail investors, in the financing of the commercial real estate market. In view of the current market situation, in the case of introducing REITs into the Polish legal system, high quality of prudential regulation regarding these entities should be ensured, especially if they are to play a significant role in financing real estate.

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36 See also a report by Cushman & Wakefield “Rynek biurowy w Warszawie - Podsumowanie 2016 roku” (Office market in Warsaw - summary of 2016).

37 REITs can be seen as a special case of investment funds focused on the real estate market. A characteristic feature of REITs are the restrictions on their investments (limited to the real estate market) and the obligation to distribute most of incomes to their shareholders (fund unit holders). In many countries REITs received tax preferences, making investment in real estate through REITs more attractive. In October 2016 a draft law proposing the introduction of REITs into the Polish legal system was published.
Financial institutions’ economic environment

Figure 1.22. Rents for Class A office spaces for large cities and Class B office spaces for Warsaw (average values in euro/sqm/month)

Source: NBP.

Figure 1.23. Rents for space rental in shopping centres (shopping malls) for units the size of approx. 100 square metres (euro/sqm/month)

Source: NBP.
Chapter 2.

Banking sector

2.1. Lending

The lending growth rate has not pointed to the risk arising from excessive debt growth. The growth rate of loans to the non-financial sector (3.9% y/y at the end of December 2016) remained close to the nominal GDP growth rate (in contrast to developments in some EU countries – see Figure 2.1). As a result, the pace of loan growth was neither impeding economic development nor generating excessive debt growth risk (see Chapter 5.1.) and thus did not lead to the build-up of imbalances jeopardizing financial stability.

Also, no excessive easing of lending standards and terms has been observed. Trends discussed in the previous edition of the Report have not changed — banks tightened terms on loans in the segments of housing loans and corporate loans.

Lending growth has been mainly supported by low interest rate environment and stable economic growth. Housing and consumer loans growth was underpinned by further improvement in the labour market and rising incomes, as the latter increased households’ creditworthiness. On the other hand, lower demand for credit from enterprises had an opposite impact.

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

Note: Loans* – annual growth rate, three-month moving average; Loans** – annual growth rate after adjusting for foreign exchange rate changes, three-month moving average.

Source: NBP calculations based on GUS and NBP data.

38Percentage changes in loan volumes referred to in Chapter 2.1. apply to data adjusted for foreign exchange rate changes. Unless otherwise indicated, the period analysed in Chapter 2. covers the period from 30 June 2016 (cut-off date of the previous issue of the Report) to 31 December 2016.
Loans to households

The growth rate of housing loans has remained at a similar level for several quarters (3.1% y/y at the end of December 2016 – see Figure 2.2). The value of zloty loans was increasing relatively fast (10.7% y/y), whereas the value of FX loans was decreasing at a steady pace (-6.4% y/y – see Figure 2.3). Lending was supported by the government-subsidized scheme “Home for the Young” – in line with the expectations outlined in the previous edition of the Report, changes in the scheme, which boosted its attractiveness, translated into the full utilisation of the funds earmarked for 2016. In the third and fourth quarter of 2016, the NBP survey-responding banks pointed to a rise in demand for housing loans and explained it by forthcoming entry into force of the new provisions of the Recommendation S raising the mandatory level of borrower’s downpayment.39 With a view to the financial system stability, the changes in the structure of new loans should be assessed positively — in 2016, the share of loans with LTV ratio over 80% fell yet again, while the share of loans with LTV ratio below 30% rose.40

Banks continued to tighten credit standards and terms on housing loans primarily due to regulatory factors – the new rules of acquiring agricultural real estate41, as well as the update of creditworthiness assessment parameters following supervisory recommendations. Increase in credit spreads observed in the first half of 2016 turned out to be only temporary. It seems that this may demonstrate that banks’ attempts to offset the burden of the tax on certain financial institutions by raising credit spreads were limited by competitive market pressure.

The growth rate of consumer lending decreased slightly, nevertheless it was still relatively high (7.2% y/y at the end of December 2016.). By com-

39In accordance with the Recommendation S on good practices with regard to the management of credit exposures secured by mort-
gages, since the 1st of January 2017 the value of LTV in case of new loans should not exceed 80% or 90%, unless the surplus over 80% is insured or secured in other forms.

40See “Raport AMRON-SARFIN 4/2016. Ogólnopolski raport o kredytach mieszkaniowych i cenach transakcyjnych nieruchomości.” (Nationwide report on housing loans and property transaction prices), February 2017, ZBP.

41Ustawa z dnia 14 kwietnia 2016 r. o wstrzymaniu sprzedaży nieruchomości Zasobu Własności Rolnej Skarbu Państwa oraz o zmianie niektórych ustaw (Act of 14 April 2016 on the suspension of the sale of real estate from the Agricultural Real Estate Stock of the State Treasury and on amending certain acts), Journal of Laws of 2016, item 585.
paring scale of growth in particular loan segments in 2016 it can be observed that banks are gradually rebuilding the structure of their loan portfolios to increase the share of more profitable products, i.e. consumer loans. The data from the Credit Information Bureau\textsuperscript{42} show that 2016 saw a decline in volume of new contracts, whereas their value rose — the volume of higher value loan contracts was rising, while in case of lower value contracts it was falling. This may confirm the thesis about a migration of some clients to non-bank credit institutions. With a view to financial stability, however, increasing the share of non-regulated institutions in the credit supply may, in the longer term, generate risk for banks stemming from hindered capability to assess risk correctly.

**Lending in the consumer segment** was supported by the fact that banks slightly eased their lending policy. In the analysed period, banks primarily extended the maximum lending period and reduced credit spreads, which was motivated by, among others, a rise in competitive pressure and changes in demand.\textsuperscript{43} Some banks began to factor in benefits distributed from “Family 500+” programme in their creditworthiness assessment, which may have had an influence on a higher growth, when compared to average increase in the entire sector, in the value of new loans originated by these banks in 2016.

**Loans to enterprises**

The growth rate of corporate loans continued to decline (3.9% at the end of December 2016 – see Figure 2.4). The decline was primarily driven by a slowdown in the segment of working capital loans to large enterprises. The pace of growth of investment loans exhibited an upward trend (11.6% y/y), despite muted investment activity.\textsuperscript{44}

Banks tightened terms on corporate loans, explaining the move by increased risk associated with lending to enterprises from certain industries, including, among others, energy, coal mining and commercial real estate. Banks raised non-interest credit costs and increased their collateral requirements. Although banks tightened their lending policy, the availability of credit remained at a high level (the rate of approved loan applications went up slightly).

**Figure 2.4. Growth rate of loans to enterprises, y/y**

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure2.4}
\caption{Growth rate of loans to enterprises, y/y}
\end{figure}

Source: NBP.

The slowdown of the annual growth rate of corporate loans may to some extent have resulted from the tightening of lending policy, but what probably contributed the most were demand factors. The survey-participating enterprises from the majority of industries pointed to more barriers to development, including higher uncertainty, which may have reduced their propensity to take loans\textsuperscript{45}. The demand was also negatively affected by a slower

\textsuperscript{42}See “Kredyt trendy. Raport Biura Informacji Kredytowej” (Credit trends. The BIK Report), March 2017, BIK.
\textsuperscript{43}See “Senior loan officer opinion survey on bank lending practices and credit conditions. 4th quarter 2016 “, October 2016, NBP.
\textsuperscript{44}See “Inflation Report”, March 2017, NBP.
\textsuperscript{45}See “Szybski Monitoring NBP. Informacja o kondycji sektora przedsiębiorstw ze szczególnym uwzględnieniem stanu koniunktury w IV kw. 2016 r. “(NBP Quick Monitoring Survey. Economic climate in the enterprise sector in 2016 Q4 and forecasts for 2017 Q1), January 2017, NBP.
Figure 2.5. Cumulated index of changes in banks’ credit standards – loans to households (left-hand panel) and loans to enterprises (right-hand panel)

Note: An increase in the index value means that credit standards are eased in a given period, a decrease means that they are tightened. Source: NBP.

progress on projects co-financed from EU funds. Moreover, banks hinted at a decline in loan demand from large enterprises resulting from reduced financing needs for inventories and working capital. In 2016, the share of enterprises applying for loans remained at its lowest level since 2007. According to the data from the Polish Leasing Association, enterprises showed increased interest in leasing – the value of investment financed by Polish lessors in 2016 amounted to 58.1 billion zlotys and rose by 16.6% y/y.

With regard to cooperative banks, a continuation of hitherto trends in lending growth and structure of loan portfolio was observed. The consumer loan growth rate decreased (3.8% y/y at the end of December 2016). The high growth in housing loans continued (17.8% y/y), however their share in cooperative banks’ portfolio of loans to the non-financial sector is relatively small and amounts to 14%. Decline in the growth of corporate loans was maintained (1.1% y/y), with the group of largest cooperative banks contributing mainly to the slowdown. These banks stood out against the backdrop of the cooperative banks sector, as they exhibit a high share of corporate loans in their balance sheets. The pace of growth in lending to individual entrepreneurs remained at a stable level (1.2% y/y), while to individual farmers it dropped (1% y/y).

Outlook

Macroeconomic factors support expectations for a continuation of sustainable lending growth. Nevertheless, outlook remains subject to substantial uncertainty regarding the scale of banks’ adjustment reactions in response to announced changes in the regulatory and legal framework. NBP analyses point to a juncture of recovery and expansion phases in the credit cycle (see Chapter 5.1). NBP economic projections hint at an acceleration of economic growth to 3.7% in 2017, a further improvement on the labour market and an increase in indi...

46 See “Senior loan officer opinion survey on bank lending practices and credit conditions. 4th quarter 2016”, October 2016, NBP.
47 See “Szybki Monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (NBP Quick Monitoring. Analysis of the situation in the enterprises sector), April 2017, NBP.
It seems that in the segment of housing loans factors supporting lending prevail, despite expected continuation of lending policy tightening. Factors that could potentially hamper lending in this segment are being identified for several quarters (tightening of lending policy, subsequent raising of minimum mandatory thresholds for borrower’s downpayment, increased use of alternative financing sources for real estate purchases, introduction of new, more restrictive rules of acquiring agricultural real estate), however it is difficult to state that they have constrained the pace of loan growth. On the other hand, stable demand stemming from rising households’ income, which positively impacts their creditworthiness, low interest rates and the government scheme “Home for the Young” (to be ceased in 2018) shall reinforce lending growth.

With regard to consumer loans, factors supportive to lending growth should also continue to predominate in the medium term. Low interest rates, robust labour market and rising incomes provide for sustained demand for consumer loans financing purchases of durable goods. From the banks’ perspective, incentives to lending expansion in this segment include relatively low capital requirements for retail loans and their high profitability. In addition, based on bank’s declarations outlined in their financial plans for 2017, it is plausible that in the coming quarters, owing to the tax on certain financial institutions, banks will seek to increase the share of higher profitability loans in the loan portfolio structure.

Downward trend in the segment of low-value consumer loans and upward trend in high-value loans should continue. Growth in the segment of low-value loans can be dampened by competition from non-bank financial institutions and consumers’ lower propensity to finance current consumption with credit, caused by drawing on benefits received from the government’s “Family 500+” programme.

The growth rate of lending to enterprises should be underpinned by forecasted increase in the economic growth, high rate of capacity utilisation and the prospects of accelerated distribution of EU funds. On the other hand, uncertainty identified by enterprises may limit the scale of lending growth. The readings of loan demand forecast indicator imply that the role of bank loans in the financing structure of large enterprises will grow. Corporate debt growth in the medium term should be mainly driven by investment loan demand. This applies in particular to large public enterprises, which will strive to make the most of the funds available under the EU financial framework 2014-2020 to co-finance their investment projects. The intensified distribution of the funds from the new financial perspective should translate into lending growth, as this framework emphasizes the use of repayable instruments. Uncertainty in the legal setting (e.g. changing attitude of tax authorities towards enterprises) and external environment (unstable geopolitical situation), which enterprises indicate as one of the barriers impeding their development, can have an opposite impact. However, in early 2017 significance of the uncertainty began to dwindle.

The growth in corporate investment activity should also be fostered by some already im-
implemented and planned legislative changes. In the segment of small and medium-sized enterprises, lending will continue to be supported by the government de minimis Portfolio Guarantee Facility, which was extended until the end of 2017. In addition, as of 2017 the CIT rate was cut from 19% to 15% for enterprises whose annual sales revenue is below 1.2 million euro. In November 2016, the so-called small act on innovation entered into force. It allows for tax deduction of costs of attaining a patent and extends deduction period for R&D costs. Furthermore, legislative changes granting taxpayers a right to recognize a one-off depreciation write-off of up to 100 thousand zlotys per year were announced. In the longer perspective, actions undertaken as part of the Strategy for Responsible Development shall also contribute to the lending growth. It provides for, among others, a greater role of public guarantees as an instrument that facilitates risk sharing on preferential terms and envisages support to banks’ credit offer.

On the supply side, credit growth can be hindered by the likely return of a downward trend in profitability. In the coming quarters, a number of factors negatively affecting banks’ profitability ratios can be identified (see Chapter 2.5). Given that in the previous quarters retained profits were the main source of increasing banks’ capital (see Chapter 2.6), it can be expected that the deterioration of profitability will limit their capacity to accumulate the capital necessary for credit creation.

The lending outlook remains subject to uncertainty associated with draft laws, either currently proceeded or announced, addressing the issue of FX loans. Three bills assuming legislative intervention into contractual provisions arising from FX loans are currently being proceeded in the Sejm (Polish parliament). These include the bill put forward by the President of the Republic of Poland providing for a refund of a part of FX spreads. The costs arising from this operation would decrease banks’ earnings and, in case of some banks, eat into their regulatory capital. The other bills that provide for a statutory conversion of FX loans, in particular at an exchange rate substantially deviating from the market exchange rate, could pose a risk to the financial system stability and to the capacity for providing financing to the economy.

Lending outlook may also be affected by implementation of the Financial Stability Committee recommendation (see Box 1). For some banks, raising risk weights and the LGD parameter for exposures secured by a mortgage on residential property may limit their lending expansion, unless they strengthen their capital position or accelerate the reduction of their FX loan portfolios. Furthermore, changes to the operating design of the Borrowers’ Support Fund, in particular increasing banks’ contributions to the Fund, will generate additional costs and impact banks via the capital channel indirectly.

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53 Rozporządzenie Ministra Finansów z dnia 1 września 2016 r. zmieniające rozporządzenie w sprawie udzielania przez Bank Gospodarstwa Krajowego pomocy de minimis w formie gwarancji spłaty kredytów (Regulation of the Minister of Finance of 1 September 2016 amending the regulation on the de minimis aid granted by Bank Gospodarstwa Krajowego in the form of a loan repayment guarantee), Journal of Laws of 2016, item 1471.

54 Poselski projekt ustawy o restrukturyzacji kredytów denominowanych lub indeksowanych do waluty innej niż waluta polska oraz o wprowadzeniu zakazu udzielania takich kredytów (Deputies’ bill on the restructuring of loans denominated in or indexed to currency other than the Polish currency and on the introduction of the ban on offering such loans), Sejm paper No 729; Przedstawiony przez Prezydenta Rzeczpospolitej Polskiej projekt ustawy o zasadach zwrotu niektórych należności wynikających z umów kredytu i pożyczki (Bill submitted by the President of the Republic of Poland on the rules for the refund of amounts due resulting from credit and loan agreements), Sejm paper No 811; Poselski projekt ustawy o szczególnych zasadach restrukturyzacji walutowych kredytów mieszkaniowych w związku ze zmianą kursu walut obcych do waluty polskiej (Deputies’ bill on the special rules for the restructuring of foreign currency housing loans in connection with a change in the foreign currency exchange rate to the Polish currency), Sejm paper No 877.

55 Resolution 14/2017 of the Financial Stability Committee of 13 January 2017 on the recommendation on the restructuring of the FX housing loan portfolio.
what could also affect banks’ lending capacity. On the other hand, the restructuring of FX housing loans, which is expected by the Financial Stability Committee, should result in a gradual decline of the burdens mentioned above.

**Burden arising from actions taken with regard to FX loans** will mainly affect banks with substantial FX loan portfolios, whose share in the assets of the banking sector amounts to approx. 50%. It can be presumed that some banks will be eager to increase their market share at the expense of individual banks whose regulatory capital will be most heavily affected by these actions. On the other hand, actions that will result in the write-down of a portion of FX loans shall, in statistical terms, contribute to a decline in the growth rate of housing loans.

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**Box 1. Recommendation of the FSC on the restructuring of the FX housing loans portfolio**

On 13 January 2017, the Financial Stability Committee (FSC) in its macroprudential capacity (FSC-M) adopted the resolution on the recommendation on the restructuring of the FX housing loans portfolio. The recommendation issued was based on proposals prepared by the Working Group on the Risk of FX Housing Loans and comprehensive assessment of risk associated with this portfolio.

The analysis carried by the FSC indicated that in economic terms, the portfolio of FX housing loans does not generate systemic risk and such loans are being repaid on time. The impaired loans ratio is only slightly higher than for PLN loans — at the same time it remains relatively stable despite fluctuations in currency exchange rates and successive decrease of the portfolio as the loans are being repaid. Good quality of FX housing loans arises mainly from firm financial standing of the majority of borrowers, due to higher initial income buffers and a high growth of nominal wages in the period following loan origination. On the other hand, impact of zloty depreciation on instalments paid by borrowers was significantly mitigated by a decline of FX interest rates.

From the point of view of the banking sector, the main economic threat associated with FX loans stems from high levels of LTV ratio with reference to substantial part of the portfolio. LTV ratios depend considerably on currency exchange rate volatility, which may adversely affect banks’ standing when the loans are not repaid and the collateral is not sufficient to satisfy the creditor’s claims. High level of LTV ratio may also negatively influence borrowers (psychological burden, difficulties related to a sale of real estate) and trigger unfavourable social reactions.

At the same time, the FSC stated that systemic risk generated by this portfolio in the context of potential effects of legislative solutions, put forward in the public debate, assuming mandatory conversion of FX loans to the zloty must not be disregarded. Due to the identified conditions and risk factors, the FSC acknowledged that the restructuring of FX housing loans should proceed solely on the basis of voluntary agreements between banks and borrowers, in particular, in the case of borrowers who have to cope with a difficult financial situation due to circumstances beyond their will.

On the other hand, the FSC definitely rejected solutions resulting in statutory conversion of FX housing loans at an exchange rate significantly deviating from the current market rate. The FSC justified its assessment in this scope, among others, by very complex and diversified factual circumstances, which hinder applying single regulation to all potential cases. Statutory conversion of FX housing loans could also lead to material losses in some banks, posing threat to their solvency. Mass currency conversion, concentrated in time, would also result in pressure on a considerable weakening of the zloty, which, in an extreme case, could endanger the financial and macroeconomic stability of Poland.

The recommendations addressed to the minister competent for financial institutions affairs provide for:

- Raising the risk weight under pillar 1 for exposures secured by a mortgage on immovable property purchase of which was financed by FX loan. Fulfilling the recommendation requires issuance of the regulation

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raising the risk weight used for estimation of the capital requirement for credit risk to 150%. As a result of raising the risk weight, banks using a standardized approach would have to hold more regulatory capital in order to maintain existing capital adequacy ratios.

- **Raising the minimum value of the LGD parameter under pillar 1.** In order to achieve the effect equivalent to raising the risk weights, in the case of banks using the IRB approach for determining the capital requirement for credit risk it will be necessary to increase the minimum value of the LGD parameter. The fulfilment of this recommendation requires legislative changes to provide a legal basis for issuance of relevant regulation.

- **Changes in the operating design of the Borrowers’ Support Fund.** Resources accumulated in the Fund have so far been used to a limited extent. The FSC recommended introducing changes to the model of its activity which would, on the one hand, facilitate the existing system used for supporting borrowers facing a difficult situation and, on the other hand, allow to allocate Fund’s resources to support the process of voluntary restructuring of the portfolio of FX housing loans.

- **Imposing the systemic risk buffer.** The FSC recommended that the systemic risk buffer at a level of 3% should be imposed on banks (the maximum level for which the opinion of the European Commission is not required). Introduction of the buffer should strengthen the impact of other recommended instruments and ensure banks’ higher resilience to shocks, including those arising from the external environment.

- **Development of adequate solutions neutralising potential excessive tax burdens, which may result from the restructuring of FX housing loans.** The success of the restructuring process depends heavily on the interest and will of borrowers and creditors to engage in voluntary agreements, therefore, it is desirable that employing restructuring measures does not imply excessive tax burdens, both on the borrowers and the creditors side.

The recommendations addressed to the Polish Financial Supervision Authority envisage:

- **Modification of the Methodology of Supervisory Review and Evaluation Process of Commercial, Associating and Cooperative Banks (BION).** The BION methodology should be extended so as to enable imposing additional capital requirements due to risk factors associated with the portfolio of FX housing loans, which has not been included so far (operating risk, market risk and risk of collective default of borrowers).

- **Supplementing currently used additional pillar 2 capital requirements (so-called capital surcharges).** The intention of the recommendation is to include other risk types in the calculation of capital surcharges, following adequate modification of the BION methodology. Determining new level of surcharges will be possible after conclusion of the supervisory review and fulfilling relevant procedures provided under the European regulations, including consultation within colleges of supervisors.

- **Issuing the supervisory recommendation on good practices with regard to restructuring FX housing loans portfolio.** The FSC pointed out that this recommendation should, among others, focus on the necessity to identify all risk types and costs associated with the portfolio of FX housing loans and require banks to prepare restructuring process plans (including the proposed restructuring measures and the sequence of restructuring particular credit groups).

Recommendation addressed to the Bank Guarantee Fund (BFG) provides for:

- **Taking into account the risk associated with FX housing loans when determining a level of contributions to the banks’ guarantee fund.** In the method used for determining the contributions to the banks’ guarantee fund, both the value of guaranteed deposits and the risk profile of individual banks is taken into account. According to the FSC opinion, it is reasonable that the ratio of the value of the FX housing loans portfolio
to Tier 1 capital is also included in banks’ risk profile assessment. As a result of the changes to the method, the distribution of contributions between banks would change so that banks with portfolios of FX loans would pay higher contributions than in the current model.

**Individual recommendations were addressed to institutions represented in the FSC.** The pace of implementing the recommendations depends, among others, on the necessity to comply with the relevant procedures defined in the European law, requirements of the legislative process associated with the issuance of regulations, requirement to introduce certain changes at a statutory level and the related required *vacatio legis* as well as supervisory procedures.

The progress in implementation of individual recommendations as of the end of April 2017 presents as follows:

- The Ministry of Finance is finalising work on the regulation concerning the introduction of higher risk weights and the regulation regarding introduction of the systemic risk buffer.
- The Ministry of Finance is working on the Act amending the Act on supporting borrowers in financial distress. The draft Act should provide for a separation of the two subfunds from the present Borrowers’ Support Fund. One subfund could take over the tasks performed by the Fund so far, however the scope of the support should be extended. Resources collected in the second subfund could be used to facilitate the process of voluntary restructuring of foreign currency-denominated or indexed loans. The date of entry into force of the amended Act depends on the progress of the legislative process in the Parliament.
- In April 2017, the Polish Financial Supervision Authority updated the BION methodology in accordance with the FSC recommendation. The next stage involves supplementing capital surcharges, which will additionally require fulfilment of the relevant procedure at the European level, including consultations within colleges of supervisors. It can be expected that the new capital surcharges will be announced in the fourth quarter of 2017. In parallel, works are carried out concerning the supervisory recommendation concerning good practices with regard to restructuring of loans.
- BFG fulfilled the FSC recommendation addressed to it. In February 2017, the BFG Council, applying the FSC recommendation in the relevant method, determined total amount of contributions to the banks’ guarantee fund and level of contributions due from individual banks.

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1 Resolution No. 14/2017 of the Financial Stability Committee of 13 January 2017 on the recommendation on the restructuring of the FX housing loans portfolio.
3 Justification for Resolution No. 14/2017 of the Financial Stability Committee of 13 January 2017 on the recommendation on the restructuring of the FX housing loans portfolio.
5 Until 31 March 2017, Bank Gospodarstwo Krajowego registered 580 agreements granting a support from the Fund. Total amount of funds granted reached 12.96 million zlotys (2.2% of the Fund resources) and the value of the support paid – 4.8 million zlotys.
2.2. Credit risk

The quality of loans to the non-financial sector improved, and the ratio of loan losses to the value of loans stabilized after a decline. The improvement and relatively low loan losses were supported by the robust economic setting positively influencing the financial situation of entities of the real sector, most notably high liquidity and profitability of enterprises56, and robust labour market (a fall in unemployment and a rise in income).

Figure 2.6. Impaired loan ratio for households

Note: Small cooperative banks include banks with assets below 200 million zlotys, medium-sized banks – from 200 million zlotys to 500 million zlotys, and large banks – above 500 million zlotys. Data excluding SK Bank.

Source: NBP.

2.2.1. Credit risk of loans to households

The quality of loans to households improved somewhat (see Figure 2.6). The improvement was mainly seen at commercial banks. Despite this, the quality of loans to households remained on average better at cooperative banks (except for large cooperative banks) than commercial banks. One of the reasons were differences in the structure of the loan portfolio. A substantial portion of loan portfolios of cooperative banks were loans to individual farmers, including preferential loans with very good loan repayment performance (the impaired loan ratio was 2.1% at the end of 2016).

Figure 2.7. Impaired loan ratios of main categories of loans to households

Note: The value of particular loan categories at the end of 2016 amounted to (PLN billion): Credit card lending – 13.7, Other consumer loans – 135.4, zloty housing loans – 234.4, FX housing loans – 162.4, Other loans – 110.2.

Source: NBP.

The quality of housing loans and loan losses and their ratio to the value of loans stabilised (see Fig-

56See periodical publications of NBP “Sytuacja finansowa sektora przedsiębiorstw” from the period 2015-2016.
However, trends in the individual parts of the portfolio varied. The quality of FX housing loans was steadily deteriorating and as from the end of 2015 it was slightly lower than the quality of zloty housing loans, although still better than the other types of credit to households (see Figure 2.7).

Figure 2.9. Ratio of net charges to provisions for impaired loans to households to net value of the loans

![Chart showing ratio of net charges to provisions for impaired loans to households to net value of the loans]

Note: Annualised data.
Source: NBP

The main reason why the quality of zloty and FX housing loans differ was the fact that the portfolio of FX loans was ageing (see Figure 2.10). For several years, almost all new housing loans have been denominated in the zloty. Therefore, a large portion (65.7%) of zloty housing loans are loans extended after 2011. Meanwhile, the portfolio of FX housing loans consists almost exclusively of housing loans originating before 2012 (99.6% in the case of Swiss franc loans and 96.9% in the case of all FX loans). The large percentage of relatively new loans in the portfolio of zloty loans positively influences its average quality, as new loans rarely deteriorate in the first years after origination. On the other hand, the quality of FX housing loans from the period when they were extended on a mass scale is better than the quality of zloty loans, also after excluding flows between the portfolio of FX loans and portfolio of zloty loans, arising from currency conversion of the loans (see Figure 2.12).

Figure 2.10. Average age of housing loan portfolios

![Chart showing average age of housing loan portfolios]

Notes: Estimates at the end of 2016 for residential real estate loans for the whole non-financial sector. Housing loans to households accounted for 94% of residential real estate loans for zloty loans and 99% for FX loans.
Source: NBP

The factor positively influencing the quality of Swiss franc-denominated mortgage loans was the relatively high average income buffers of the households repaying them. The average value of income less loan repayments was significantly higher in these households than in the households of borrowers repaying zloty mortgage loans and substantially higher than that of the remaining households.

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57 Data at the end of 2016.
58 Based on GUS data on household budgets.
59 The so-called equivalence scales were used to compare the value of the income and expenditure of households repaying mortgage loans and the remaining households. The scales help to compare income and expenditure of households of varying size (the size of households repaying mortgage loans is on average bigger than that of the remaining households). The fact that expenditure (and income needed to finance it) does not grow on a linear basis with each additional member, but proportionally to the equivalence scale of the household, is also taken into account. The equivalised income/expenditure per household member can be interpreted as an equivalent of the volume of expenditure (or income needed to finance it) of a single-person household. The so-called modified OECD equivalence scale used in GUS publications was applied in the estimates.
households\textsuperscript{60} (see Figure 2.13). The condition of borrowers was positively influenced by wage growth, taking place from the date when most loans were originated. The negative impact of the high Swiss franc exchange rate on the value of instalments of Swiss franc-denominated loans was still mitigated by low (negative) market interest rates in CHF\textsubscript{60} (see Figure 2.11).

Figure 2.11. Increase in the value of Swiss franc-denominated housing loans instalment compared to the instalment in the loan origination month against the values of Swiss franc-denominated loans and wage growth in the enterprise sector from the loan origination month

Assumptions: A Swiss franc-denominated housing loan with maturity of 25 years, repaid in constant total instalments or constant principal instalments, an instalment calculated on the basis of the Swiss franc exchange rate and the LIBOR 3M rate of 28 February 2017 and average spread on Swiss franc-denominated loans at loan origination.

Note: Points on horizontal axis mark the month of loan origination. Bars present the zloty value (at the end of February 2017) of Swiss franc-denominated housing loans taken out in a given month marked on the horizontal axis.

Source: NBP estimates based on survey data.

However, due to the strong Swiss franc, the level of collateralisation of a substantial portion of Swiss franc-denominated loans was relatively low. At the end of 2016, the estimated share of loans with Ltv above 100\% and 120\% in the portfolio of Swiss franc-denominated loans amounted to 49\% and 36\%, respectively. The low level of loan collateralization negatively impacts the rate of recovery in the event of default, which would thereby increase credit losses. The good quality of the FX loan portfolio, despite the strong Swiss franc exchange rate, was the reason why high LtvS did not have a significantly negative impact on banks’ earnings. Nevertheless, the rise in the zloty value of loans, including the ratio to property value, has a negative influence on the condition of borrowers (e.g. problems in selling/exchanging homes, no significant fall in the zloty value of the loan compared to the loan origination date despite the number of years of loan repayment).

The quality of consumer loans did not change significantly (see Figure 2.7). Besides economic factors, the level of the ratio was significantly influenced by statistical factors such as debt sale transactions, transfers to the off-balance-sheet and an increase in the value of the portfolio of such loans (an increase of the denominator of the impaired loan ratio).

Losses on consumer loans and their ratio to the value of the loan portfolio have risen somewhat in recent quarters (see Figure 2.8). As the condition of the household sector improved significantly, the rise may have resulted from the easing of lending policy in this market segment in 2013-2015. The scale of credit loss growth was not considerable in comparison with the high spreads on the loans (see Figure 2.36).

The quality of so-called other loans to households improved and the ratio of loan losses to the value of loans stabilized after a decline (see Figures 2.7 and 2.14). The improvement mainly applied to loans to individual entrepreneurs, which constitute

\textsuperscript{60}A dominant portion of Swiss franc-denominated housing loans are loans with a variable interest rate, where interest equals the LIBOR CHF rate increased by a fixed spread.
Figure 2.12. Impaired loan ratios for individual vintages of housing loans (left-hand panel) and shares of the vintages of loans in the loan portfolio in a given currency (right-hand panel)

Notes: Data at the end of 2016. Left-hand panel — data excluding flows between the portfolio of FX loans and the portfolio of zloty loans, arising from currency conversion of loans. Source: NBP estimates based on KNF survey data.

Figure 2.13. Average monthly loan repayments of households and their disposable income less the repayments – data for entire households (left-hand panel) and per household member according to the OECD-modified equivalence scale of a household (right-hand panel)

Notes: Mortg. CHF/PLN – households repaying mortgage loans in CHF/PLN, Other borrow. – households repaying other bank loans other than mortgage loans, Others – households not repaying bank loans. Source: NBP estimates based on GUS household budget surveys from 2013-2015.
the largest part of the category of other loans. In the case of loans to individual farmers, loan quality deteriorated slightly and credit losses increased (see Figure 2.14). This may have been linked to the unfavourable developments in agriculture in the last two years. However, the quality of loans to individual farmers was still much better than average in the household sector and credit losses were lower.

The average coverage of impaired loans to households by provisions in the banking sector did not change significantly (see Figure 2.15). However, it is worth noting that coverage continues to be low at large cooperative banks. Low coverage may stem from the specific character of a bank’s loan portfolio (e.g., high value of collateral), but may also indicate that provisions for impaired loans are underestimated.

Figure 2.14. Loan losses and their ratio to net loans to individual entrepreneurs and farmers

![Figure 2.14. Loan losses and their ratio to net loans to individual entrepreneurs and farmers](image)

Notes: Data excluding housing loans. Ratio – annualised data. Source: NBP.

Figure 2.15. Coverage of impaired loans to households by provisions, according to type of bank

![Figure 2.15. Coverage of impaired loans to households by provisions, according to type of bank](image)

Notes: At cooperative banks, coverage is estimated on the basis of the nominal value of loans. Data excluding SK Bank. Source: NBP.

Box 2. Impact of the termination of interest subsidies to loans under the “First family home” scheme on the credit risk of loans to households

Loans extended in 2007-2013 under the “First family home” programme are characterised by reduced interest rate payments for borrowers in the first 8 years of loan repayment. Part of the interest instalment is refunded from the so-called Housing Assistance Fund run by Bank Gospodarstwa Krajowego (BGK). The part of the interest instalment that is funded is half of the interest instalment calculated at the standard interest rate equal to the WIBOR 3M rate increased by a 2 percentage point spread, charged on part of the loan amount corresponding to the statutory maximum limit of residential floor space to which subsidies can apply.

The value of loans extended under the First family home scheme was 35 billion zlotys. At the end of January 2017, their estimated share in the housing loan portfolio amounted to approx. 8%.

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61See GUS studies “Koniunktura w gospodarstwach rolnych” from the period 2014-2016, available on stat.gov.pl.
62See footnote 64 in Chapter “Credit risk of corporate loans”.

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Figure 1. The estimated average interest on housing loans under the “First family home” programme in the loan origination year and presently (at the end of January 2017)

Assumptions: interest on loan origination equal to the average interest on zloty housing loans from banking statistics; a variable interest rate calculated as the WIBOR 3M rate increased by a fixed spread.
Source: NBP estimates.

Figure 2. The amounts of loans extended under the “First family home” programme in 2009-2013 and the estimated average increase in instalments of individual vintage years of the loans after the termination of the interest rate subsidy scheme

Assumptions: Loan parameters shown in Figure 1, loan maturity is 25 years, repaid in constant instalments, the WIBOR 3M rate at the end of the interest rate subsidy period at the value as of 31 January 2017; reduced interest was applied to the entire amount of the loan (due to the residential floor space limit to which interest rate subsidies can apply, the actual increase in the instalment will be smaller).
Source: NBP estimates based on BGK and NBP data.

The 8-year periods of interest rate subsidies to the largest annual cohorts of loans extended under the programme end from 2017. The first loans were granted in 2007 (the period of preferential interest ended in 2015); however, the value of loans extended in the first 2 years of the programme was insignificant (respectively 1.2% and 2.4% of the total value of loans extended under the scheme). The most subsidised loans were extended in 2009-2012 (91% of the value of loans extended under the programme).
Chapter 2.

At today’s interest rates, the termination of the period of interest instalment subsidies to loans under the programme should not have a major impact on the amount of loan losses. The loans were extended at a time when interest rates were substantially higher than today (see Figure 1). When banks extended the loans, they should have assessed the borrower’s loan repayment capacity also without taking into account the subsidies (the borrower should also be capable of servicing the loan after the loan interest subsidy termination date), at a substantially higher level of loan instalment burden than today. On the other hand, in the case of the largest annual cohorts, the instalment – at loan origination – including subsidies was only slightly lower than the estimated instalment after the loan instalment subsidy termination date (see Figure 2). Additionally, the capacity of a portion of households to service loans after the subsidy termination date increased in relation to the loan origination date as a result of a rise in wages and other income during the 8-year subsidy period.

Moreover, the fact that the prevailing (96%) portion of loans was extended under the programme in 2009-2013, i.e. after the banks’ lending policy was substantially tightened, should have a positive impact on loan quality after the termination of the interest instalment subsidy period. The assessment of customers’ creditworthiness was more conservative than in the credit boom of 2006-2008, which should result in increased resilience of borrowers to loan servicing cost growth (higher income buffers).

**Outlook**

The foreseeable macroeconomic developments allow to assume that the ratio of loan losses to the value of loans to households will stabilise in the coming quarters. Such a scenario will be supported by positive developments in the labour market (forecasts of continued decline in unemployment and wage growth) and the government’s “Family 500+” programme. Low interest rates should also continue to have a positive impact on borrowers who have taken out zloty loans. Loan losses in the segment of consumer loans may persist on an elevated level after lending policy in this market segment was eased in previous years.

The large share of FX housing loans in banks’ portfolios remains a risk factor, although as the income buffers of borrowers and capital buffers are high, this does not pose a systemic risk.

At the current level of interest rates the termination of the period of preferential interest on loans under the “First family home” should not have a substantial impact on an increase in loan losses on the portfolio of housing loans (see Box 2).

**Figure 2.16. Impaired loan ratio for enterprises**

![Impaired loan ratio for enterprises](chart)

Source: NBP.

### 2.2.2. Credit risk of corporate loans

**Corporate loan quality**

The quality of corporate loans in the entire banking sector improved and the ratio of credit losses to the value of loans stabilised after the previous...
decline (see Figures 2.16 and 2.17).

The quality of the corporate loan portfolio at cooperative banks deteriorated significantly, however, almost solely at the large ones (see Figure 2.18). This was, in part, the result of the intensified supervisory activities and of a review of the quality of loan portfolios.

Figure 2.17. Quarterly net charges to provisions for impaired corporate loans and their ratio to net value of loans

An increase in the value of impaired loans led to higher loan losses at large cooperative banks. At the same time, these banks have demonstrated low coverage of impaired loans by provisions (see Figure 2.19), which points to the potential risk of provisions growth in the event of debt collection proceedings. The risk of increased provisions at some large cooperative banks is also indicated by the relatively large shares of loans with shorter arrears (see Figure 2.20). Only a small portion of these loans is classified as impaired, therefore the value of provisions created for these loans is low. Relatively high concentration of loan portfolio is additional risk factor (See subsection 5.3.).

Figure 2.18. Impaired loan ratio for enterprises at commercial and cooperative banks

Note: Data excluding SK Bank.
Source: NBP.

An increase in the value of impaired loans led to higher loan losses at large cooperative banks. At the same time, these banks have demonstrated low coverage of impaired loans by provisions (see Figure 2.19), which points to the potential risk of provisions growth in the event of debt collection proceedings. The risk of increased provisions at some large cooperative banks is also indicated by the relatively large shares of loans with shorter arrears (see Figure 2.20). Only a small portion of these loans is classified as impaired, therefore the value of provisions created for these loans is low. Relatively high concentration of loan portfolio is additional risk factor (See subsection 5.3.).

Figure 2.18. Impaired loan ratio for enterprises at commercial and cooperative banks

Note: Data excluding SK Bank.
Source: NBP.

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63See "Informacja o sytuacji banków spółdzielczych i zrzeszających w III kwartałach 2016 ", Warsaw, December 2016, UKNF, p. 19.
64The risk of understating provisions by cooperative banks, resulting among others from using collaterals to reduce the basis for creation of specific provisions, is indicated by the Office of the Polish Financial Supervision Authority (UKNF). Realisation of the collateral is time-consuming and often problematic, particularly in the case of collateral based on appraisal reports (see "Informacja o sytuacji banków spółdzielczych i zrzeszających w III kwartałach 2016 ", Warsaw, December 2016, UKNF, p. 20). KNF points to irregularities identified during inspections, including, among others, lack of verification and monitoring of the value of the property on which the loan is secured. Other irregularities that may result in an underestimation of provisions include an improper classification of credit exposures according to the borrower's economic and financial condition and timeliness of repayment, as well as lack of proper identification of loan restructuring (see “Sprawozdanie z działalności Komisji Nadzoru Finansowego w 2016 roku”, Warsaw, 2017 , KNF, p. 100).
65For more information on the impact of an increase in provisions for impaired loans on the capital situation of cooperative banks, see Box 3 in “Financial Stability Report. February 2016 ", NBP.
Despite the substantial share of vacancies, the quality of commercial real estate loans was better and credit losses were relatively lower than in the whole corporate loan portfolio. From banking sector stability perspective, it was also advantageous to cut bank lending for commercial real estate in 2016 (see Figure 2.21).

The quality of residential real estate loans to enterprises (mainly loans for development projects on the residential market) was low (see Figure 2.21), but this was largely due to the fact that banks kept the previous years’ loans in their balance sheets. This is evidenced by a strong decline in credit losses (see Figure 2.21), and a very low share of loans which
ceased to be serviced over the last year (see Figure 2.22). Currently, residential real estate loans account for a very small share of corporate loans (3.2% at the end of 2016).

Figure 2.22. Structure of real estate loans to enterprises, in arrears of more than 30 days

Source: NBP.

Corporate loan quality by sections of the national economy

Quality of loans changed insignificantly in sections of the national economy that are to the greatest extent responsible for the credit risk of the enterprise sector, i.e. manufacturing, real estate activities and trade and repairs (in total representing 58% of corporate loans, see Figure 2.23).

The quality of loans to enterprises that produce energy from renewable sources, including wind power plants, deteriorated significantly in late 2016. The deterioration was driven by the shift in state policy towards this sector which resulted in, among others, a substantial decline in the prices of the so-called green certificates. The amount of loans to the industry was not considerable; however, they constituted a significant portion of the loan portfolios of some banks.

Figure 2.23. Loan quality in particular sections of the national economy and their shares in the loan portfolio

Notes: Data are based on the so-called large exposure reporting. Green colour: decline of the impaired loan ratio, red colour — a rise of more than 1 pp., yellow colour — a rise of less than 1 pp. Sections: A - Agriculture, B - Mining, C - Manufacturing, D - Electricity, gas and heating supply, E - Water supply, sewerage and waste management, F - Construction, G - Trade and repairs, H - Transportation and storage, I - Hotels and restaurants, J - Information and communication, L - Real estate activities, M - Professional, scientific and technical activities, N - Administrative activities, P - Education, Q - Health care, R - Arts, entertainment and recreation, S - Other services.

Source: NBP.

The quality of loans to the coal mining industry further deteriorated; however, due to the low share of these loans in total corporate loans, they do not pose a threat to banking sector stability. In addition, the situation of the industry in 2016 was positively influenced by a substantial increase in the prices of coal and coke and restructuring measures such as, among others, recapitalisation of coal mining companies and debt restructuring. At the end of 2016, the share of the coal mining industry in corporate loans amounted to 0.6%. The impaired loan ratio for the industry rose to almost 70%.

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66 Analysis based on the so-called large exposures.
67 Additionally, banks’ exposures due to debt securities issued by this sector’s companies amounted to 1.1 billion zlotys.
68 In contrast to real estate loans to enterprises, where the distinguishing criterion is the purpose of credit (see Figure 2.21), in loans to specific sections discussed earlier in the text, particularly in Section F – Construction, the distinguishing criterion is the section of the economy that an enterprise reports as dominant in its business (irrespective of the type and purpose of credit).

Financial Stability Report. June 2017
The quality of loans to construction improved substantially, although it remained low. This is the result of the industry’s problems in the past, including problems related to losses on infrastructure projects in years 2011-2013. This is confirmed by a considerable decline, in the last several years, of the percentage of newly deteriorating loans to companies operating in this industry (see Figure 2.24).

Figure 2.24. The ratio of loans newly classified as impaired in a given quarter to loans with no impairment in subsequent quarters

Notes: The last four-quarter average of the ratio of the value of loans that became impaired in a given quarter and that did not show impairment at the end of the previous quarter to the value of no impairment loans at the end of the previous quarter. Estimates based on so-called large exposure reporting. Section D – Electricity, gas and heating supply, Section F - Construction.
Source: NBP.

Outlook

Economic factors should support the stabilisation of the ratio of credit losses to the value of corporate loans. Following GDP growth acceleration forecasted for 2017, further stable growth is expected in the next quarters, albeit at a slightly lower level. The condition of the corporate sector in areas vital for loan servicing capacity, i.e. profitability and liquidity, remains good, although recently the share of profitable companies has fallen slightly. On the other hand, enterprises’ assessment of their economic condition during the next year has improved.

The deteriorating condition of the sector of electricity production from renewable sources will probably continue to negatively affect the level of credit losses. The influence on banks’ earnings and capital will be significant for individual banks that are to a large extent involved in financing this sector.

Developments in the office real estate market characterised by the imbalance (oversupply) on this market should be recognised as a risk factor. In addition to a direct negative impact on the situation of the entities that received loans for purchase or construction of the real estate, these developments could cause a deterioration in the earnings of other construction companies involved in the realisation of office real estate construction projects. However, the negative impact of a potential deterioration in the construction industry is reduced by the low and decreasing share of loans to construction companies in banks’ loan portfolios in recent years.

The potential effects of entry into force of a bill on restrictions on Sunday trading hours can also be considered as a risk factor. The bill was submitted to the Sejm in September 2016. It is possible that the restrictions, if introduced, will cause a temporary deterioration of the condition of the trading

\[70\] See “Szybki Monitoring NBP. Analiza sytuacji sektora przedsiębiorstw – April 2017”, NBP.
\[71\] According to empirical research, the need to give up trading on Sundays in the least favourable scenario could hit sales by around 5%, after taking account of customer behaviour adjustments (e.g. doing shopping on the remaining days of the week). See “Rynek handlu detalicznego w Polsce. Potencjalne skutki wprowadzenia węgierskich rozwiązań regulacyjnych dla polskich sieci handlowych”, Raport powstały na zlecenie i przy współpracy z Polską Organizacją Handlu i Dystrybucji, 2015, PwC, available on the website https://www.pwc.pl/pl/publikacje/assets/raport_rynek_handlu_detalicznego_w_polsce.pdf.
industry, as its share in loans to enterprises is substantial.\textsuperscript{21}

2.3. Market risk

The market risk taken by domestic banks stems mainly from the balance-sheet structure mismatch in terms of currency and interest. On the other hand, the scale of trading activity and, consequently, the risk associated with it is negligible.

Despite a relatively substantial currency mismatch of assets and liabilities, the risk of sizeable direct losses arising from foreign exchange rate fluctuations is low. This results from the fact that the long on-balance FX position (related mainly to the portfolio of FX housing loans) is hedged with fx swap and CIRS contracts, and hence the net open position is insignificant (see Figure 2.25).

Figure 2.25. FX position

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure.png}
\caption{FX position}
\end{figure}

Notes: FX liabilities shown as negative values.
Source: NBP.

Banks were increasingly using off-balance-sheet transactions, short-term transactions in particular, to hedge their FX positions in the Swiss franc (related mainly to the portfolio of Swiss franc-denominated loans). The emergence of proposals providing for forced restructuring of the loans in public debate prompted some banks to increase the share of relatively short-term off-balance-sheet transactions in case it became necessary to close positions after currency conversion of the assets. Another factor behind the banks’ decision to use these transactions were the favourable price terms on the market (see Chapter 1.2.). In the long term, an increase of the share of short-term transactions for hedging an FX position increases the risk of rollover and the bank’s sensitivity to developments in financial markets.

Interest rate risk relates almost exclusively to the banking book positions. Most banks, both commercial and cooperative banks, have a positive interest rate gap (see Figure 2.26). This means that the interest rate on assets responds faster to the changes in the reference interest rate than the interest on liabilities. In consequence, a reduction of the reference interest rate results ceteris paribus in a drop of the bank’s net interest income, while an increase results in a rise in net interest income. Cooperative banks are more sensitive to interest rate changes, which follows from both the structure of the interest on their balance sheet and the bigger share of net interest income in income from banking activity.

The low probability of a decrease in interest rates in the coming quarters (see Chapter 1.2.) allows to assume that the market risk arising from the structure of bank’s interest on assets and liabilities is now limited.

The majority of securities held by banks are low risk instruments, i.e. government bonds and NBP bills. After the value of the portfolio of government bonds rose markedly in the first half of 2016, their share did not change significantly in the remaining part of the year. At the same time, available data indicate that banks reduced the average maturity and duration of their bond portfolios to mitigate the portfolio-related interest rate risk. The majority
Table 2.1. Balance-sheet value of debt securities by issuer and accounting classification (PLN billion)

<table>
<thead>
<tr>
<th>Issuer</th>
<th>Held for trading</th>
<th>Fair value through P&amp;L</th>
<th>Available for sale</th>
<th>Held to maturity</th>
<th>Loans and receivables</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central banks</td>
<td>8.6</td>
<td>10.1</td>
<td>50.1</td>
<td>10.6</td>
<td>0.0</td>
<td>79.5</td>
</tr>
<tr>
<td>Central government</td>
<td>13.5</td>
<td>2.6</td>
<td>222.1</td>
<td>22.0</td>
<td>3.9</td>
<td>264.1</td>
</tr>
<tr>
<td>Municipalities</td>
<td>0.0</td>
<td>0.3</td>
<td>7.1</td>
<td>0.4</td>
<td>10.8</td>
<td>18.7</td>
</tr>
<tr>
<td>Financial sector</td>
<td>0.8</td>
<td>0.0</td>
<td>10.4</td>
<td>2.9</td>
<td>3.4</td>
<td>17.6</td>
</tr>
<tr>
<td>Non-financial sector</td>
<td>0.3</td>
<td>0.0</td>
<td>8.5</td>
<td>0.2</td>
<td>17.6</td>
<td>26.7</td>
</tr>
<tr>
<td>Total</td>
<td>23.3</td>
<td>12.9</td>
<td>298.3</td>
<td>36.2</td>
<td>35.8</td>
<td>406.6</td>
</tr>
</tbody>
</table>

Note: Balance as of the end of December 2016.
Source: NBP.

Figure 2.26. Contractual interest rate gap in the banking book at commercial banks (left-hand panel) and cooperative banks (right-hand panel)

Notes: The gap denotes the difference between interest-bearing zloty assets and liabilities in a given period to the repricing; d — working day, w — working week, m — month, y — year; at the end of December 2016.
Source: NBP.
of bonds are classified into the “available for sale” portfolio. This means that changes in the valuation of these bonds will not be reflected in banks’ earnings but in their capital. A reduction in the valuation of the instruments has recently had a negative impact on banks’ capital (see Figure 2.27).

Figure 2.27. Capital from revaluation of financial assets available for sale

The scale of bank operations classified into the trading book remains minor. The majority of debt securities in banks’ portfolios are not marked to market or their valuation is recognized in the capital (see Table 2.1). The entire trading portfolio does not exceed 3% of the assets of the banking sector. In consequence, the median of VaR due to the interest rate risk in the trading book is very small and does not exceed 1% of own funds.

2.4. Funding structure and liquidity risk

Banks’ funding structure is stable and has not changed substantially. Deposits of the non-financial sector and liabilities towards foreign entities of the financial sector remained the dominant sources of funding of banks operating in Poland (respectively 59.8% and 12.3% of the balance-sheet total). The role of other sources, including deposits of the budget-financed sector, own issues and subordinated loans in funding banks, was limited.

The value of deposits of the non-financial sector was still rising fast (8.7% y/y at the end of December 2016). The high growth rate of the deposit base continued in the household sector and the enterprise sector (see Figure 2.28). In the former, the high growth was supported by rising income and transfers under the “Family 500+” programme. The fact that enterprises reduced their investment activity sharply and their financial position was good helped them accumulate liquid funds in the form of deposits.

The growth rate of deposits, which was two times higher than that of loans, helped close the funding gap (existing since 2007) (see Figure 2.29). Total coverage of loans of the non-financial sector with relatively stable liabilities reduces banks’ susceptibility to risks arising from changes in sentiment on financial markets.

Figure 2.28. Annual growth rate of deposits

Note: Data for residents after excluding the impact of foreign exchange rate changes.
Source: NBP.
tions, including in particular from foreign entities, in banks’ balance-sheets has decreased\(^2\) (see Figure 2.30). Similar trends could be observed in Europe’s banking sector, where the balance of cross-border interbank lending was decreasing as the share of deposit funding was rising. In Poland, such a phenomenon is mainly the result of a decline in demand for foreign currency funding following a steady decrease in the portfolio of foreign currency housing loans.

Figure 2.29. Funding gap at commercial banks

![Graph showing funding gap at commercial banks]

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

Source: NBP.

The high availability of deposit funding and stabilisation of market interest rates helped banks lower their funding costs. The second half of 2016 saw a further drop of effective interest rate on liabilities (see Figure 2.31), although the scale of the change was not as large as in previous quarters. Banks responded to the introduction of a tax on certain financial institutions by lowering the interest rates for deposits. The interest on new term deposits of households and enterprises was below the interbank market rates, and the resulting difference was widening, which allowed banks to raise the net interest margin in 2016.

Figure 2.30. The ratio of liabilities towards foreign financial institutions to balance-sheet total at domestic commercial banks

![Graph showing the ratio of liabilities]

Source: NBP.

Figure 2.31. Effective interest on liabilities

![Graph showing effective interest on liabilities]

Notes: Effective interest – the ratio of annualised interest expense to the annual average balance-sheet value of liabilities. Calculations include zloty and foreign currency liabilities.

Source: NBP.

Interest rates, which continued at record lows, had an impact on the rise of the share of current lia-

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\(^2\)Cooperative banks are not financed with foreign funds. On the other hand, branches of credit institutions are largely funded from their foreign parent entities. Taking into account the low significance of branches of credit institutions in the banking sector (2% of assets), the focus of the analysis of foreign funding is on domestic commercial banks.
abilities, including mainly deposits, on the balance-sheet of the banking sector. For the first time, the share of current deposits from the non-financial sector exceeded the value of term deposits. This factor positively influences interest margin, but on the other hand it enhances maturity and liquidity transformation. However, this development has no major impact on liquidity risk growth, as most term deposits are call deposits, which means that the risk of their outflow is similar to that of current deposits.

The evolution of the liquidity position of banks was favourable. The year 2016 saw a substantial increase in most liquid assets, which mainly applied to the portfolio of government bonds, excluded from the tax base (tax on certain financial institutions). The increase in the share of liquid assets in the balance-sheet total led to an improvement of the so-called M2 liquidity ratio and M4 long-term liquidity ratio. However, it should be pointed out that liquid assets remain highly concentrated and banks differ substantially in this respect (see Figure 2.32).

The levels of LCR and NSFR confirm the good condition of the Polish banking sector in terms of short-term and long-term liquidity. At the end of December 2016, the LCR amounted to 196% at commercial banks and was below 100% only in individual cases. Despite the applicable transition period for the NSFR, i.e. until implementation of the provisions of EU law defining the final form and rules for application of the requirement, its average value for commercial banks at the end of 2016 amounted to 119%.

The surplus of deposits over non-financial sector loans (negative funding gap at the end of December was 57.3%) rose in the cooperative banks sector. The surplus was mainly invested in associating banks and in safe debt instruments. Cooperative banks tend to hold higher liquidity buffers than commercial banks. However, even high liquidity buffers can become insufficient in the event of an abrupt deterioration of asset quality or capital ratios and substantial deposit outflows. Therefore, from the point of view of sector stability, it is very important that the IPS be joined by the largest possible number of banks, as the scheme provides for mutual liquidity and solvency guarantees for each member and also monitoring or risk and counteracting excessive risk.

The surplus of deposits over non-financial sector loans (negative funding gap at the end of December was 57.3%) rose in the cooperative banks sector. The surplus was mainly invested in associating banks and in safe debt instruments. Cooperative banks tend to hold higher liquidity buffers than commercial banks. However, even high liquidity buffers can become insufficient in the event of an abrupt deterioration of asset quality or capital ratios and substantial deposit outflows. Therefore, from the point of view of sector stability, it is very important that the IPS be joined by the largest possible number of banks, as the scheme provides for mutual liquidity and solvency guarantees for each member and also monitoring or risk and counteracting excessive risk.

Figure 2.32. Share of domestic Treasury securities and NBP bills in banks’ assets

Source: NBP.

In the longer perspective, for some banks it can be a challenge to comply with the MREL requirement. In line with the BRR directive, banks will have to maintain a specified amount of regulatory

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73 Current accounts also included savings accounts.
75 Cooperative banks participating in the Institutional Protection Scheme (IPS) are exempted, on KNF’s consent, from the obligation to comply with the standard on an individual basis.
capital and eligible liabilities in order to ensure that it is possible to implement restructuring and resolution actions. On 9 October 2016 the Act on the Bank Guarantee Fund entered into force. It introduces into Polish law the provisions of the BRR Directive. BFG will set down the details concerning the requirements.

2.5. Earnings

The net profit of the banking sector in 2016 was over 1 billion zloty higher than a year earlier (see Figure 2.33), which, however, was largely the effect of one-off events. In 2015, banks incurred costs associated with payments from the Guaranteed Deposit Protection Fund following the collapse of SK Bank and a contribution to the Borrower Support Fund, and in 2016 posted a profit from the sale of stakes in Visa Europe. Also in 2016, the banks, whose sum of assets decreased by, among others, the value of government bonds and own funds, exceeds 4 billion zlotys (practically, domestic commercial banks), had to pay the tax on certain financial institutions. After excluding the impact of one-off events, the net profit of the banking sector in 2016 would be lower by the amount of the tax on certain financial institutions (by approx. 19%).

The profitability of the banking sector in the second half of 2016 remained approximately at a constant level (see Table 2.2). The several years' long downward trend of decreasing average profitability ratios was brought to a halt in both commercial and cooperative banks (see Figure 2.34). The differences in asset profitability within both bank groups also narrowed. Commercial banks remained on average more profitable than cooperative banks.

The number of banks reporting negative profitability and their share in the sector's assets and the sum of losses decreased in comparison with the period discussed in the previous edition of the Report.

The losses posted by the majority of these institutions were low when compared with the magnitude of operations and the value of regulatory capital; however, the relative significance of losses increased. At few cooperative banks, a review of loan portfolio quality led to the identification of losses that materially reduced their regulatory capital.

Figure 2.33. Quarterly net earnings of the banking sector

Note: An empty marker is used to mark the banking sector’s net earnings in the second quarter of 2016 excluding the impact of the sale of stakes in VISA Europe Limited.

Source: NBP.

In addition to one-off events mentioned above, a rise of net interest margin also contributed to bringing the decline of the banking sector’s prof-

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78 Data in Chapter 2 apply to active banks (do not include banks declared bankrupt). This fact may generate differences when compared with KNF-released data.
79 The impact of these events was discussed in detail in the previous editions of the Report.
80 No active cooperative banks had assets over 4 billion zloty in 2016.
82 Twenty three banks, with a combined share in the sector’s assets of 2.8%, posted negative profitability ratios, compared to 32 banks with a combined share of 8.7% at the end of June 2016.
Table 2.2. Selected operating indicators of the banking sector

<table>
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<tr>
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<th>2015</th>
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<th></th>
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<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
<td></td>
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<tr>
<td>As % of average assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Net interest income (NIM)</td>
<td>2.23</td>
<td>2.23</td>
<td>2.24</td>
<td>2.27</td>
<td>2.30</td>
<td>2.32</td>
<td></td>
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<tr>
<td>Net non-interest income</td>
<td>1.30</td>
<td>1.30</td>
<td>1.24</td>
<td>1.38</td>
<td>1.36</td>
<td>1.30</td>
<td></td>
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<tr>
<td>Net income from banking activity</td>
<td>3.53</td>
<td>3.54</td>
<td>3.48</td>
<td>3.65</td>
<td>3.66</td>
<td>3.62</td>
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<tr>
<td>Operating costs (CTA)</td>
<td>1.94</td>
<td>2.12</td>
<td>2.14</td>
<td>2.18</td>
<td>2.22</td>
<td>2.12</td>
<td></td>
</tr>
<tr>
<td>Net charges to provisions for impaired loans</td>
<td>0.48</td>
<td>0.44</td>
<td>0.42</td>
<td>0.43</td>
<td>0.43</td>
<td>0.44</td>
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<tr>
<td>Pre-tax earnings</td>
<td>1.14</td>
<td>1.00</td>
<td>0.93</td>
<td>1.04</td>
<td>1.01</td>
<td>1.10</td>
<td></td>
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<tr>
<td>Net earnings (ROA)</td>
<td>0.92</td>
<td>0.81</td>
<td>0.74</td>
<td>0.81</td>
<td>0.78</td>
<td>0.84</td>
<td></td>
</tr>
</tbody>
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As % of net income from banking activity

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
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<td>Q3</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
<td></td>
</tr>
<tr>
<td>As % of average 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>13.0</td>
<td>11.3</td>
<td>10.3</td>
<td>11.4</td>
<td>11.0</td>
<td>11.9</td>
<td></td>
</tr>
<tr>
<td>Net earnings (RORC)</td>
<td>10.4</td>
<td>9.1</td>
<td>8.2</td>
<td>9.0</td>
<td>8.5</td>
<td>9.0</td>
<td></td>
</tr>
</tbody>
</table>

1 Annualised data.
2 Operating costs = general expense (including tax on certain financial institutions) and depreciation.
3 Excluding branches of credit institutions and BGK.
Source: NBP.

Figure 2.34. ROA at domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel)

Note: Annualised data.
Source: NBP.
itability to a halt. The rise was mainly associated with the banks’ move to lower the interest rate on deposits (at a relatively stable level of market interest rates). Banks widened the spread between the lending and deposit rates as a response to the introduction of a tax on certain financial institutions. Also, the drop in the effective interest rate on liabilities may have been influenced by a rise in the share of current deposits in liabilities (see Chapter 2.4.). Net interest margin remained the main source of net income from banking activity.

The reduction of non-interest margin had a negative impact on banks’ profitability. Commission margin continued its steady fall observed since 2011. Banks’ profits on the sale of financial instruments from the “available for sale” portfolio also decreased (even after excluding the impact of the sale of a stake in Visa Europe in the preceding period), which could have been tied with the diminishing prices of government bonds (see Chapter 1.2.).

The burden of operating costs on earnings, after a rise towards the end of 2015, remained at an elevated level. The rise was initially driven by one-off events in 2015 Q4 (mentioned earlier in the text), and sustained in 2016 by the introduction of tax on certain financial institutions. The negative impact of operating costs on earnings was to a minor extent limited by the decrease in personnel costs associated with employment reductions in the sector.

The burden of credit risk materialisation costs did not change significantly. This was the result of the relatively good quality of the portfolio of loans to enterprises and households (see Chapter 2.2.). The estimated profitability of the majority of credit products did not change substantially (see Figures 2.36–2.39). The adjusted net interest margin ratio fell only in the case of consumer loans (the most profitable product), which may have been related to the earlier easing of lending policy by banks.83

Figure 2.35. Sources and allocation of net income from banking activity

Notes: Quarterly data.
Source: NBP.

83 For more information on banks’ lending policy, see Senior loan officer opinion survey on bank lending practices, NBP, 2016 issues.
Figure 2.36. Estimated profitability of consumer loans (left-hand panel), housing loans (middle panel) and other loans to households (right-hand panel)

Notes: Annualised data. The values of the adjusted net interest margin shown in this figure should be regarded only as approximations of the actual profitability of particular credit products. Identical funding costs ("effective interest on funding") were assumed for each credit category. This calculation takes no account of operating costs and the cost of capital to cover the capital requirements, fees and commissions income (including income related to cross-selling) and profits earned on foreign currency loans due to the difference between the bid and offer prices of currencies (FX spread).

"The result of closing open currency position " for housing loans is the estimated net gains/losses on closing an open on-balance FX position by banks (related to the extension of Swiss franc-denominated housing loans), assuming the use of rolled-over 3-month CHF/USD and USD/PLN fx swaps.

"The adjusted net interest margin after tax" takes into account the introduction of the tax and has been calculated by subtracting the nominal rate of 0.44% (re-scaled to factor in the term of the tax) from the adjusted interest margin.

Source: NBP.

Figure 2.37. The share of banks with a specified estimated profitability of loans in the sum of consumer loans (left-hand panel), housing loans (middle panel) and other loans to households (right-hand panel)

Note: For description of estimated profitability measurement, see Notes to Figure 2.36. The share of banks with a specified estimated profitability without subtracting the tax on certain financial institutions.

Source: NBP.
Chapter 2.

Figure 2.38. Estimated profitability of loans to large enterprises (left-hand panel) and SMEs (right-hand panel)

Notes: For description of estimated profitability measurement, see Notes to Figure 2.36.
Source: NBP.

Figure 2.39. The share of banks with a specified estimated profitability of loans in the sum of loans to large enterprises (left-hand panel) and SMEs (right-hand panel)

Note: For description of estimated profitability measurement, see Notes to Figure 2.36.
The share of banks with a specified estimated profitability without subtracting the tax on certain financial institutions.
Source: NBP.
Swiss franc-denominated loans had the lowest net interest margin among housing loans (see Figure 2.40). It should be kept in mind that in the case of Swiss franc loans the cost of funding and closing an open on-balance FX position for a number of banks may be higher than the LIBOR 3M CHF rate used in the estimate. This may imply that, at some banks, the profitability of the portfolio, after taking into account the credit risk materialisation cost and impact of the tax on certain financial institutions, was negative.

**Outlook**

In the upcoming quarters, the profitability of the banking sector measured by ROA and RORC may be expected to fall again. The expected fall will be primarily the effect of regulatory changes. Therefore, the following can be expected:

- **Stabilisation of net interest margin.** The opportunities for banks to raise spreads on new loans or continue to reduce the interest rate of deposits (in order to level out the impact of the tax on certain financial institutions on profitability) will be mitigated by competitive pressure, and on the deposits side also by negative real interest rates. On the other hand, increasing the share of the most profitable products in the loan portfolio or customers continuing to transfer funds from term deposits to current accounts may push up net interest income in the long run. A rise in net interest margin is possible, if financial market participants expectations of an interest rate hike materialise (see Chapter 1.2.) – as a result of a positive interest rate gap and via increased statutory limit for interest rate on loans.

- **A further fall of non-interest margin.** To date, experience has shown that the room is limited for banks’ trying to improve earnings by raising fees and commissions, as a result of competitive pressure and customers’ efforts to adjust to new fees and commissions, among others. Therefore, it seems that the banks’ plan to raise the fees and commissions will most likely result in reducing the pace of decline of this type of revenue only.

- **A rise in the burden of operating costs.** The majority of Polish banks report a positive interest rate gap in a period of up to 1 year, which implies that in the initial period following an interest rate hike the interest on assets increases (ceteris paribus) faster than the interest on liabilities. Historical experience shows than after approximately two quarters, the situation is reversed. The interest on assets stabilizes or grows at a slower rate, and the interest on liabilities rises faster and net interest margin decreases. After approximately a year after the original impulse, net interest margin stabilises at a higher level than prior to the hikes.

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**Notes:** Annualised data.

"Interest margin" means here the difference between effective interest on housing loans in a given currency and the average market 3-month interest rate in a given currency.

Source: NBP.
improvement provisions. The economic situation should be conducive to stabilisation of the burden of credit risk materialisation costs. A rise in costs may be caused by an acceleration of negotiations between banks and customers on the terms of voluntary restructuring of FX housing loans in response to the FSC recommendation.

Due to entry into force, as of 2018, of the IFRS 9, the need will arise to create additional provisions for expected losses on non-impaired loans (so-called stage 1 and state 2) on a larger scale than current IBNR provisions on loans subject to portfolio assessment.

- A rise in effective taxation of banks, if some of the costs arising from new regulations are not recognised as tax deductible expenses.

Banks’ profitability may also be affected by other events; however, the probability and magnitude their materialization is hard to assess yet. Specifically:

- The need may arise to create additional provisions for disputes relating to litigations on foreign currency housing loans and as a result of a significant increase in the number of such litigations.

- If bills on foreign currency housing loans, including a bill on the rules for the refund of amounts due resulting from credit and loan agreements now dealt with in parliament, enter into force, it will be necessary to reduce the value of loans by the so-called refund of FX spreads or by other write-downs.

- Due to the situation of some smaller credit institutions, it is possible that banks will be required to incur the costs of their restructuring or increased contributions to BFG, should a need arise to pay out guaranteed deposits.

2.6. Banks’ capital position

Banks continued to raise their own funds (see Figure 2.41). The increase in Common Equity Tier 1 capital (by 1.6%) resulted largely from the retention of profits earned (approx. 3.1 billion zlotys) and share issues (approx. 0.9 billion zlotys). Most issues were addressed to buyers from the same capital group or entities that are either directly or indirectly controlled by the State Treasury.

Cooperative banks started to replenish Common Equity Tier 1 capital with membership capital (an increase of approx. 65 million zlotys in the second half of 2016). This was made possible by legislative changes and a positive result of the notification of this type capital instruments with the European Banking Authority (EBA). After proper adjustments

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85 More information on the impact of the implementation of IFRS 9 on European banks, in particular systemically important banks, can be found in: EBA, Report on results from the EBA impact assessment of IFRS 9, 10 November 2016, EBA. According to the EBA analysis, the average increase of provisions compared to the current levels of provisions under IAS 39 will be approx. 18% and will mainly apply to loans in the so-called stage 2, in the case of which there was a significant increase of credit risk from loan origination, although they are not recognized as impaired loans.

86 The analysis includes commercial banks with their foreign branches (foreign branches' assets account for approx. 0.3% of the banking sector's assets and slightly over 1% of the four banks that have foreign branches). Branches of credit institutions and BGK were excluded from the analysis, as the latter is not subject to the CRDIV/CRR regulatory package to the same extent as other banks.

87 The profits that have not been distributed, among others, for other reserves or funds for general banking risks, and that have been reviewed by the auditor, decreased by any foreseeable burdens can be included in the regulatory capital only with the prior permission of KNF.

88 Amendment to the Ustawa z dnia 7 grudnia 2000 r. o funkcjonowaniu banków spółdzielczych, ich zrzeszaniu i bankach zrzeszających (Act of 7 December 2000 on the Functioning of Cooperative Banks, their Associations and Associating Banks), in the wording provided in the Ustawa z dnia 10 czerwca 2016 r. o Bankowym Funduszu Gwarancyjnym, systemie gwarantowania depozytów oraz przymusowej restrukturyzacji (Act of 10 June 2016 on the Bank Guarantee Fund, the Deposit Guarantee System and Forced Restructuring)
of the statutes of banks are made, membership capital can be used to increase capital in each cooperative bank.

Figure 2.41. Main components of regulatory capital and capital ratios from pillar 1

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

A factor holding back the growth in Common Equity Tier 1 capital was a substantial decline in the revaluation reserves due to revaluation of available for sale financial assets and derivatives used in hedge accounting of commercial banks (by over 1.9 bn zlotys in the second half of 2016). The decline was mainly related to the repricing of government bonds, as the portfolio of government bonds increased significantly in the course of the year.

The total capital requirement from pillar 1 rose slightly (by around 0.7%) despite a rise in the value of loans (see Figure 2.42). The relatively low increase in capital requirement for credit risk resulted, among others, from optimization of the capital adequacy calculation, which is indicated by changes in levels of capital requirements and distributions of credit exposures by particular exposure classes and credit risk weights (see Figure 2.45). The cooperative banks sector saw a marked change compared to the previous year, where banks forming a given Institutional Protection Scheme (IPS), can — after obtaining consent from the supervisory authority — use lower risk weights for mutual exposures. As the majority of cooperative banks did not have ratings issued by the external credit assessment institutions (ECAI), before joining the IPS they attributed to such exposures the risk weight based on the sovereign rating what resulted in the risk weight of 20%. After the banks joined the IPS, such exposures were assigned the risk weight of 0% (see Figure 2.45), as a result of which the capital requirements fell approximately by an estimated 5%.

The banks applying the Internal Ratings Based Approach (IRB) also lowered their average risk weights. The application of the IRB approach allowed banks to reduce the capital requirement for credit risk by around 30% (3 billion zlotys). During the regulatory transition phase, these banks could not lower their capital requirements below the reference level arising from the application of the Standardised Approach or Basel I methodology. The transition phase, in accordance with the current wording of the provisions of the CRDIV/CRR regulatory package, ends on 31 December 2017. From 2018 banks will be able to fully use the possibility of lowering the requirement arising from advanced methods. A po-

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89 The group comprises four banks with a 20.7% share in the banking sector’s assets. The banks use the IRB approach only to some types of credit exposures – around 40-55% of credit exposures at these banks are subject to advanced method – and use the standardized approach for the remaining types.

90 During the current work of the Basel Committee on Banking Supervision on the re-definition of the capital adequacy rules for internationally active banks, proposals have emerged for banks using the advanced approaches to introduce the permanent floors on reducing the capital requirement for credit risk by around 30% (3 billion zlotys). During the regulatory transition phase, these banks could not lower their capital requirements below the reference level arising from the application of the Standardised Approach or Basel I methodology. The transition phase, in accordance with the current wording of the provisions of the CRDIV/CRR regulatory package, ends on 31 December 2017. From 2018 banks will be able to fully use the possibility of lowering the requirement arising from advanced methods. A po-
tential additional reduction of the capital requirement calculated on end of 2016 data can be estimated at around 0.8 billion zlotys.

Figure 2.42. Capital requirements

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.

A decrease in the “capital requirements for other risk” category since 2014 results from changes in the composition of capital requirements as of entry into force of CRDIV/CRR.

The equivalent of the pillar 2 capital requirement corresponds with the obligation to maintain elevated capital ratios arising from the regulatory decisions of 2015-2016 on banks substantially engaged in foreign currency loans to unhedged households (where there is a mismatch between the currency of a loan and currency of income or assets to be used to repay the loan). The equivalent does not constitute part of the denominator of capital ratios.

Source: NBP.

As a result of the measures banks have taken, average risk weights for exposures to the non-financial sector have fallen slightly (see Figure 2.43), but still remain among the highest in the European Union (see Figure 2.44).

Changes in average risk weights and in distributions of exposures by risk weights can be expected in the coming quarters. This development is related to the implementation of the FSC recommendation for the minister responsible for financial institutions to raise risk weights and the minimum LGD parameter for exposures secured by mortgages on residential property, for which the amount of principal and interest instalments depends on changes in the exchange rate of a currency or currencies other than the currency of income earned by the borrower (see Box 1). It seems that – acting under existing regulations — banks can intensify actions aimed at optimizing the capital requirements.

Figure 2.43. Average credit risk weights for exposures to the non-financial sector

Source: NBP.

Figure 2.44. Ratio of total risk exposure amount to assets (RWA density)

Note: Total risk exposure includes all types of risk, referred to in Article 92 of the CRR, not only credit risk on loans to the non-financial sector (as shown in Figure 2.43). Source: NBP calculations based on ECB data.
Capital growth and the relatively low growth of total capital requirements led to a further increase in capital ratios (see Figure 2.46). At the end of December 2016, the average total capital ratio (TCR) amounted to 17.2%, and Common Equity Tier 1 capital and Tier 1 capital ratios — 15.6%. The regulatory pillar 1 capital adequacy standards (see Figure 2.48 and 2.49) were more than met by the majority of banks, except for three cooperative banks with a total share in the banking sector’s assets of less than 0.1%.

All banks with significant portfolios of mortgage loans in foreign currency for households met the additional capital requirement imposed under pillar 2. TCR surcharges for particular banks, in force at the end of 2016, ranged from 0.48 percentage points to 3.81 percentage points, and for Tier 1 capital and Common Equity Tier 1 capital ratios — 75% and 56% of the TCR surcharges, respectively.

An excess of Common Equity Tier 1 capital above the pillar 1 and pillar 2 capital requirements allowed most banks to meet the requirements regarding maintained capital buffers, in force at the end of 2016 — the capital conservation buffer.

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91 In the period under analysis one of the banks that reported negative capital in previous periods ceased to operate — Bank Spółdzielczy in Nadarzyn was declared bankrupt by the District Court for the Capital City of Warsaw on 19 December 2016.
92 Some banks hold credit exposures in countries where national authorities set the countercyclical buffer standard above 0% and they have to maintain the countercyclical buffer for these exposures on a reciprocity basis. At the end of December, the buffer was 5.5 million zlotys.
(1.25%), the institution-specific countercyclical capital buffer and the OSII buffer. In October 2016, KNF, after consulting the FSC as the macroprudential body, issued individual decisions for 12 banks on the maintenance of appropriate capital buffers for so-called "Other Systemically Important Institutions" (OSII). The imposed OSII buffers, depending on the size of the bank, were 0, 0.25, 0.5 or 0.75 percentage points.93

Figure 2.47. Excess of Common Equity Tier 1 capital at the end of December 2016.

Note: The figure takes into account all banks with a surplus of Common Equity Tier 1 capital. The total deficit of Common Equity Tier 1 capital, after taking into account pillar 1 and pillar 2 requirements and the obligation to maintain capital buffers, is approx. 143 million zlotys.
Source: NBP.

The total excess of Common Equity Tier 1 capital – after taking into account the pillar 1 and pillar 2 requirements and the obligation to maintain capital buffers – amounted to 59.3 billion zlotys (see Figure 2.47). At the end of December 2016, five banks, including four cooperative banks and one commercial bank, did not have sufficient capital to comply with the combined buffer requirement. The total shortfall of Common Equity Tier 1 capital, after including these requirements, was relatively small and was below 145 million zlotys.

The vast majority of banks also met the KNF-recommended levels of capital ratios.94 After introducing the systemic risk buffer, which is likely at the beginning of 2018, the KNF recommendations regarding expected levels of capital ratios may be modified to factor in this fact.

Poland’s banking sector was still characterised by low leverage. In the period under analysis, banks, mostly commercial ones, additionally decreased leverage (see Figure 2.50). At the end of December, the leverage ratio calculated according to definitions included in the CRDIV/CRR package95 amounted to 9.1%. The leverage ratio minimum at the level of 3%96 is to be introduced as a capital ratio in pillar 1 of capital adequacy by the end of 2017. At the end of December, three banks, including one commercial bank, reported a leverage ratio below 3%. The combined share of the banks in the banking sector’s assets amounted to 1.4%.

93For more information on the OSII buffer, see Box 3 in “Financial Stability Report. December 2016”, NBP.
94For more information on the KNF-recommended capital levels, see Box 2 in “Financial Stability Report. December 2016”, NBP.
95The leverage ratio according to CRDIV/CRR is calculated as the quotient (expressed in a percentage) of Tier 1 capital to the exposure measure that includes both on-balance and off-balance sheet exposures.
96Such a level is proposed by the Basel Committee on Banking Supervision in: “Revision to the Basel III leverage ratio framework”, Basel Committee on Banking Supervision, April 2016. The same level has also been recommended by EBA in: “EBA Report on the leverage ratio requirements under article 511 of the CRR”, EBA, August 2016.
Figure 2.48. Distribution of assets of domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel) by Total Capital Ratio

<table>
<thead>
<tr>
<th>Total capital ratio</th>
<th>Share of assets of banks in range in the domestic commercial banks and their foreign branches’ assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>below 0</td>
<td>[0 - 4%)</td>
</tr>
<tr>
<td>3-2016</td>
<td></td>
</tr>
<tr>
<td>6-2016</td>
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</tr>
<tr>
<td>9-2016</td>
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</tr>
<tr>
<td>12-2016</td>
<td></td>
</tr>
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</table>

Source: NBP.

Figure 2.49. Distribution of assets of domestic commercial banks (left-panel) and cooperative banks (right-hand panel) by Common Equity Tier 1 capital ratio

<table>
<thead>
<tr>
<th>Tier 1 capital ratio</th>
<th>Share of assets of banks in range of the cooperative banks’ assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>below 0</td>
<td>[0 - 4%)</td>
</tr>
<tr>
<td>3-2016</td>
<td></td>
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<tr>
<td>6-2016</td>
<td></td>
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<td>9-2016</td>
<td></td>
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<tr>
<td>12-2016</td>
<td></td>
</tr>
</tbody>
</table>

Source: NBP.

Financial Stability Report. June 2017
Figure 2.50. Leverage ratio at commercial banks (left-hand panel) and cooperative banks (right-hand panel)

Notes: Leverage ratio prior to 2014 based on estimates. The leverage ratio at cooperative banks is characterised by cyclical changes as an effect of one-off retention during the year of all profits earned in the previous financial year. The decrease of the ratio since 2014 results largely from the amortization of the grandfathered components of Tier 1 capital.

Source: NBP.

Outlook

The worse profitability outlook will make it difficult for banks to increase their capital via profit retention. Retained profits were the main source of increasing capital by banks in previous years.

ROE and RORC, which were lower than in previous years, imply that increasing capital via share issues may not be easy. The improvement in investors’ market valuation of banks (see Chapter 2.7) led to a slight decline in the implied average cost of own capital in the second half of 2016 for a group of listed banks. However, the implied average cost of own capital remains above the ROE (see Figure 2.51), which means that banks may encounter difficulties in attracting new investors, if necessary.

The planned rise to 150% of risk weight for credit exposures in foreign currency secured on mortgages on residential property will increase the level of the capital requirement for credit risk. Estimates based on end of 2016 data show that average capital ratios in the banking sector would fall by approximately 1—1.6 percentage points.

The introduction of the systemic risk buffer for all banks in Poland will significantly reduce the excess of Common Equity Tier 1 capital. The introduction of the buffer in December 2016 would ceteris paribus have nearly halved the available excess of Common Equity Tier 1 capital (to approx. 30 billion zlotys). The total deficit of Common Equity Tier 1 would then have amounted to 0.56 billion zlotys and would have been reported by 18 banks, including one commercial bank. Including all the membership capital held by cooperative banks in Common Equity Tier 1 capital would not have had a significant impact on the value of the capital deficit in these banks.

97 The concept of cost of capital is ambiguous, as the price of own capital is not directly observable on the market and has to be estimated on the basis of market prices and expected future cash flows. One of the ways to estimate the cost of capital used in the analysis is the approach combining two share pricing models: the Dividend Discount Model (DDM) and the Capital Asset Pricing Model (CAPM). Such an approach may be applied for the portfolios of large Polish banks listed on the stock exchange.

98 Estimates according to a simplifying assumption that all foreign currency housing loans had, prior to the change, weight of 100% and all loans were classified in the class of exposures secured by mortgages on immovable property.

99 Based on the estimated distribution of exposures secured by mortgages on residential property by risk weights.
2.7. Market assessment of Polish banks

The market assessment of Polish banks improved in the period analysed. Since December 2016, WIGbanki index quotations have begun to grow after an almost year-long period of stabilisation (see Figure 2.52). The “price to book value” ratio rose to early 2015 levels and was near its long-term average (see Figure 2.53). Despite the rise in share prices of European banks, investors continued to better assess the capacity of Polish banks to generate profits than that of European banks.

Higher bank prices were supported by optimism growth among global investors. The upbeat mood resulted, among others, from expectations of an accelerated pace of economic growth and the improvement in economic climate indicators in developed countries and emerging markets.

Among domestic factors, the reduction of the expected cost of a likely restructuring of the portfolio of FX housing loans had a substantial impact on the stock market prices of banks. The rise in the valuation of Polish banks was also driven by the decisions of rating agencies to maintain Poland’s long-term rating and upgrade Poland’s rating outlook, which were justified by, among others, the stable
condition of the Polish banking sector.

The general assessment of Poland’s banking sector by rating agencies was good. S&Ps upgraded the rating outlook for Bank Pekao after PZU SA and the Polish Development Fund signed an agreement to buy a controlling stake in the bank from Unicredit on 8 December 2016. Fitch affirmed the long-term rating and its outlook rating for several medium-sized banks. The actions were motivated by the fact that the banks had maintained a diversified funding structure and a good capital position, and also by their good asset quality. The agencies also pointed out that uncertainty over the banks’ future earnings stemmed from a lack of a final decision on how the portfolio of FX housing loans would be restructured.

<table>
<thead>
<tr>
<th>Moody’s</th>
<th>Baseline credit assessment</th>
<th>Long-term deposit rating</th>
<th>Short-term deposit rating</th>
<th>Outlook</th>
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<td>P-1 (P-1)</td>
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<th>Outlook</th>
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Notes: In brackets – as of the end of November 2016. For definitions of the ratings, see Glossary. The banks are listed according to total assets. Ratings assigned only on the basis of publicly available data are not included in the Table.
2.8. Selected indicators of banking sector’s condition

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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 Domestic commercial banks.
Source: NBP.
2.9. Selected indicators of the condition of domestic commercial banks

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1 Annualised data.
2 For definition, see Glossary.
3 Loans to residents, data after excluding the impact of foreign exchange rate changes.
Source: NBP.
2.10. Selected indicators of the condition of cooperative banks

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<td>0.3</td>
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<tr>
<td>housing loans</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>enterprises</td>
<td>1.5</td>
<td>1.0</td>
<td>1.1</td>
<td>1.1</td>
<td>0.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Funding gap</td>
<td>-36.8</td>
<td>-45.7</td>
<td>-46.2</td>
<td>-46.9</td>
<td>-46.5</td>
<td>-57.3</td>
</tr>
</tbody>
</table>
Chapter 3.

Credit unions sector

The restructuring processes in the credit unions sector continued in 2016. Out of 55 credit unions which carried out their operations in 2013, i.e. when the sector was included within the scope of KNF supervision, 40 continued to operate at the end of 2016 (8 credit unions were taken over by banks and other unions, and 7 were declared bankrupt). In 2016, the number of credit unions decreased by 8, of which 3 credit unions were taken over by a bank, and 5 were declared bankrupt. These developments led to a drop in the sector’s asset value by almost 1 billion zlotys to 11.3 billion zlotys (see Figure 3.1). At the end of 2016, 31 credit unions were subject to recovery proceedings (only 10 of them were implementing the KNF-approved programmes), of which 7 were managed by administrators.

Figure 3.1. Assets of credit unions.

Credit Unions operated at the end of the reporting period
Credit Unions operated at the end of 2016 (continuing operation)

Source: Reporting data of credit unions.

100 This analysis is based on credit unions’ reporting data that may not take account of all the adjustments arising from the KNF recommendations made during audits, as well as the auditor-proposed adjustments following the KNF-ordered re-examination of the financial statements for 2013. In order to eliminate the statistical impact of the credit unions that discontinued their operations (credit unions taken over by banks and credit unions under bankruptcy), this analysis was performed on a group of “credit unions continuing operation”, i.e. credit unions operating at the end of 2016. The differences between data presented in the subsequent editions of the report are due to gradually implemented adjustments by particular credit unions and the change in the number of credit unions in the group under analysis.

101 An amended Act on Credit Unions, which took effect on 14 February 2017, introduced a proportional supervision of the credit unions sector (Journal of Laws of 2017, item 245); the amendment implemented the judgment of the Constitutional Tribunal of 31 July 2015. The amendment defined the so-called small credit unions (with assets below 20 million zlotys and membership of up to 10 thousand people) and imposed the obligation upon the KNF to exercise oversight by making use of the measures that take account of the scale of operations of a credit union.

102 On 2 February 2017, the KNF suspended the operation of SKOK Wielkopolska, therefore at the end of March 2017 the number of operating credit unions stood at 39.
The dwindling number of credit unions increases the degree of concentration in the sector. The share of assets of the 3 largest credit unions rose by 4 percentage points to 74%. The HHI index at the end 2016 amounted to 0.39 compared to 0.34 at the end of 2015.

The scale of interconnectedness between the credit unions sector and the banking sector remains modest. Credit unions still did not show liabilities to banks on their balance sheets, and the value of funds kept at banks accounted for approx. 5.5% of their assets (and 0.04% of banks’ liabilities). The value of funds deposited in the banking sector by the National Association of Credit Unions decreased – at the end of 2016 they accounted for less than 23% of the Association’s assets (and 0.03% of banks’ liabilities), compared to almost 47% at the end of 2015.

The capital position of credit unions

The capital position of credit unions remains difficult, and the sector requires a capital injection. At the end of 2016, the sector’s reported capital adequacy ratio stood at 2.1% and was substantially lower than at the end of 2015, when it was 5.5% (see Figure 3.2). The ratio’s decline followed a decrease in credit unions’ regulatory capital (to 206 million zlotys, i.e. by 64%), driven by a growing current loss of the sector. The loss increased after several credit unions had taken full account of recommendations, among others, regarding the valuation of capital instruments (equity stakes in subsidiaries) and revaluation of the loan portfolio.

The capital position of the sector may turn out to be more difficult as some credit unions still do not fully meet the recommendations of the Office of the Polish Financial Supervision Authority (UKNF). According to the KNF, the regulatory capital of credit unions should be reduced by 331 million zlotys, which would cause the capital adequacy ratio of the entire sector to drop to (-)1.3% at the end of 2016.

Figure 3.2. Regulatory capital and the capital adequacy ratio (credit unions continuing operation)

Figure 3.3. Structure of regulatory capital of credit unions at the end of 2016

The structure of regulatory capital of credit unions hinders the process of restructuring. The revaluation fund and optional participations of the National Association form a significant portion of credit unions’ capital, which cannot be used to cover losses (current losses and losses of previous years). This ob-
objective can only be achieved by funds from the share fund and the resource fund\textsuperscript{103}; they are the equivalent of around 32% of the sector’s accumulated losses (see Figure 3.3).

**The capital condition of credit unions varies.** Out of 40 operating credit unions, 33 reported positive regulatory capital, and for 30 entities the capital adequacy ratio exceeded the statutory minimum of 5%. However, the combined share of these credit unions in the sector’s assets was below 30% (see Figure 3.4).

Figure 3.4. Distribution of the capital adequacy ratio (credit unions operating in a given period)

![Chart showing distribution of capital adequacy ratio](chart.png)

Source: Reporting data of credit unions.

The earnings of credit unions and their efficiency

The credit unions sector as a whole generates losses. At the end of 2016, its result amounted to (-)118.5 million zlotys and consisted of losses of 16 credit unions, mainly credit unions under administration. However, over half of credit unions reported positive earnings at the end of 2016, which helped them improve their capital position (see Table 3.1).

The factor that had an adverse impact on the efficiency ratios of credit unions was the declining result on core operations despite the net interest margin running at a relatively high level (approx. 10% compared to 2-3% for the banking sector). Credit unions’ earnings were also negatively affected by high general expenses (the C/I ratio was 98% vs. 58.4% in the banking sector, including 72.1% for cooperative banks), among which external services expenses were a major item.\textsuperscript{104} Moreover, as the quality of loan portfolios continued to deteriorate and the UKNF recommendations were implemented, credit unions created additional provisions for impaired loans. Although the sale of debt by some credit unions helped them to release some of the provisions, the cost of the transactions (recognized as financial operations costs) was a burden on the sector’s earnings (see Figure 3.5).

Figure 3.5. The structure of credit unions’ earnings as at the end of 2016

![Chart showing structure of earnings](chart2.png)

Source: Reporting data of credit unions.

Asset structure and credit risk at credit unions

Loans to the non-financial sector remained

\textsuperscript{103}Losses can only be covered from part of the share fund (i.e. excluding optional participations by the National Association) – which follows from the contracts concluded by the National Association with credit unions. The largest component of regulatory capital, i.e. the revaluation fund, cannot be used to cover losses.

\textsuperscript{104}External services expenses are directly associated with the transfer part of credit unions’ significant business areas, including sales and debt collection, to special purpose vehicles in the past.
Table 3.1. The results and capital position of credit unions by groups according to the value of assets* - as of 31 December 2016 (credit unions continuing operation)

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of credit unions in the group</th>
<th>Share sector’s assets</th>
<th>Regulatory capital (zloty million)</th>
<th>Number of credit unions with CAR over 5%</th>
<th>Net income (zloty million)</th>
<th>Number of credit unions with current profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>18</td>
<td>3.49%</td>
<td>23.55</td>
<td>14</td>
<td>-2.46</td>
<td>11</td>
</tr>
<tr>
<td>Group II</td>
<td>16</td>
<td>14.44%</td>
<td>18.96</td>
<td>13</td>
<td>-43.25</td>
<td>10</td>
</tr>
<tr>
<td>Group III</td>
<td>6</td>
<td>82.07%</td>
<td>163.56</td>
<td>3</td>
<td>-73.00</td>
<td>3</td>
</tr>
<tr>
<td>Credit Unions’ sector</td>
<td>40</td>
<td>-</td>
<td>206.08</td>
<td>30</td>
<td>-118.70</td>
<td>24</td>
</tr>
</tbody>
</table>

*Classification of credit unions:
Group I – credit unions with assets of up to 50 million zlotys,
Group II – credit unions with assets of at least 50 million zlotys and up to 200 million zlotys,
Group III – credit unions with assets over 200 million zlotys.
Source: Reporting data of credit unions.

The main item of credit union’s assets. At the end of 2016, their value amounted to 6.3 billion zlotys (55% of the assets) and did not change much throughout the year. In the first three quarters of 2016, the loan portfolio was growing, but it decreased in the last months of the year after some credit unions performed debt sale transactions.

Figure 3.6. Product structure of the total loan portfolio of credit unions (credit unions continuing operation)

Source: Reporting data of credit unions.

Consumer loans to individuals prevailed (over 91%) in the loan portfolio of credit unions, as their value in 2016 rose 5% to 5.7 billion zlotys. The share of these loans in the portfolio is constantly growing. At the same time, the share of real estate loans is steadily falling – in 2016 their value fell by over 30% to 0.4 billion zlotys (see Figure 3.6). In maturity terms, loans with maturity of more than 12 months prevailed as they accounted for over 80% of the loan portfolio at the end of 2016.

The quality of loans of credit unions remains low, although they sell overdue debt. The value of loans with arrears in repayment of more than 3 months amounted to almost 1.3 billion zlotys at the end of 2016, and their share in total loans was 17.5% (up 0.6 percentage points). During the entire year, the quality of the loans portfolio was gradually worsening and at the end of Q3 the ratio reached the level of 19%. The sale of overdue debt by some credit unions in the last months of 2016 helped improve the quality of the portfolio (by 1.5 percentage points).\(^\text{105}\)

Although the quality of the loan portfolio of credit unions continued to deteriorate, they maintain a high level of coverage of overdue loans with provisions (see Figure 3.7). At the end of 2016, provisions for overdue loans accounted for 88% of the portfolio of loans overdue more than 3

\(^{105}\) Of 315 million zlotys in debt sold in 2016, 98% was debt overdue more than 12 months. After accounting for the debt sold, the overdue loan share ratio in the loan portfolio would total 21%.
months compared to 53.5% in the banking sector. In 2016, credit unions created almost 50 million zlotys in provisions, and their end-of-the year balance sheet value amounted to 1.1 billion zlotys.

Figure 3.7. Overdue loans and their share in total loans (credit unions continuing operation).

Equity stakes in subsidiaries have a substantial share in credit unions sector’s assets. Their valuation has an influence on the level of regulatory capital (via the revaluation fund) and earnings. At the end of 2016, the value of the instruments was 0.9 billion zlotys (an 8.3% share in the sector’s asset) and due to revaluation it decreased by almost 0.27 billion zlotys during the year. Credit unions’ high exposure to subsidiaries is, among others, the result of the previous years’ sale of separated parts of enterprises to special purpose vehicles set up in the credit unions sector in exchange for their equities. Credit unions rarely invest uncommitted funds in marketable debt instruments, which account for merely approx. 1% of total assets.

Funding and liquidity risk

Deposits of credit union members remain the main source of funding of the credit unions sector. At the end of 2016, the value of deposits amounted to 10.9 billion zlotys and decreased somewhat in the group of credit unions continuing operation by 0.3% compared to the end of 2015. The downward trend of the deposits continued for most of the year (the first quarter saw the highest drop – by almost 1%) and it only rebounded in the last quarter. In terms of maturity structure, no changes were observed – deposits with maturity below 12 months prevailed (see Figure 3.8). Guaranteed funds account for 97% of deposits kept by credit unions.

The funding gap of credit unions was negative. The ratio of the loan portfolio to the value of credit unions’ deposits at the end of 2016 was 57% and it rose slightly during the year. However, it still runs below the World Council of Credit Unions recommended maximum level of 70-80%.

The liquidity position of the sector was stable. Liquid assets (3.1 billion zlotys) accounted for 27.5% of total assets and covered almost 29% of the de-

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106 The higher level of coverage of overdue loans with provisions than in the banking sector results from the different structure of both the loan portfolio and overdue loans of credit unions. At the end of 2016, 68% of overdue loans at credit unions were consumer loans, and 27% were housing loans. In the banking sector, they were 24% and 16%, respectively.
Deposits held. After a fall in the first three months of 2016, their value rose in the final quarter of the year, mainly as an effect of deposit growth (see Figure 3.9).

Figure 3.9. Liquid assets and liquid reserve (credit unions continuing operation)

![Graph showing liquid assets and liquid reserve](image_url)

Source: Reporting data of credit unions.

In 2016, the majority of credit unions maintained the liquid reserve ratio above the statutory minimum of 10%. As of 31 December 2016, the ratio for the entire sector was 11.9% and was 0.6 percentage points higher than at the end of 2015.

Figure 3.10. Distribution of the liquid reserve ratio of credit unions as of 31 December 2016

![Bar chart showing distribution of liquid reserve ratio](image_url)

Source: Reporting data of credit unions.

Deposits at the National Association are the major component of liquid assets of credit unions. However, the value of the deposits decreased by 8% (i.e., to 1.9 billion zlotys). At the same time, the value of funds deposited by credit unions at banks rose by around 15% (i.e., to 0.30 billion zlotys) and invested in State Treasury debt instruments (to 0.12 billion zlotys). Around 15% of liquid assets (0.46 billion zlotys) are kept as cash and on current accounts (see Figure 3.11).

Figure 3.11. The structure of liquid assets of credit unions (credit unions continuing operation)

![Bar chart showing the structure of liquid assets](image_url)

Source: Reporting data of credit unions.

* This item also includes State Treasury-guaranteed debt instruments.

** Units of money market funds.

Source: Reporting data of credit unions.

**National Association**

The National Association of Credit Unions (National Association) is a cooperative of legal persons whose members are all credit unions. The objective of the National Associations is to exercise oversight of credit unions with regard to their observance of statutory regulations and fulfilment of the KNF supervisory recommendations, as well as to ensure the financial stability of credit unions (most notably, to provide them with financial support from the stabilisation fund) and to clear their settlements.

The National Association is funded with credit
unions’ funds, kept as mandatory deposits (accumulated, among others, as part of the liquid reserve) and non-mandatory deposits. At the end of 2016, the value of funds deposited at the National Association was 2.1 billion zlotys and – as the number of credit unions is diminishing – has been steadily decreasing. In 2016, the decline was almost 13.6%, mainly in the first half of the year (see Figure 3.12).

The national Association invests funds received from credit unions mainly in liquid assets, the structure of which has changed substantially. At the end of 2016, total assets of the National Association were 3.1 billion zlotys, of which a significant part (i.e. almost 18%) were equity stakes in companies and cooperatives – mainly associated with the credit unions sector. The liquid assets of the National Association amounted to 2.3 billion zlotys, and their share in total assets was 77%. In 2016, the Association’s strategy to invest liquid assets was altered, which changed their structure at the end of the year. The share of State Treasury debt instruments in total liquid assets rose to almost 55% (from 0.8 billion zlotys to 1.3 billion zlotys); at the same time the value of funds deposited on bank accounts fell – from almost 1.6 billion zlotys to less than 0.7 billion zlotys. The National Association invests in units of money market funds to a lesser extent, as their value at the end of 2016 was 0.5 billion zlotys.

A financial surplus posted by the National Association at the end of the year is the source of supply for the stabilisation fund and the resource fund. At the end of 2016, the Association posted an 11.8 million zloty financial surplus, which was the result of dividends from subsidiaries and revenues from the portfolio of debt instruments growing in the second half of the year.

Support of the National Association to credit unions as part of its stabilisation mandate is provided from the stabilisation fund. The support can be provided in the form of stabilisation loans (also in the form of subordinated debt) or the taking

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107 According to the Act on Credit Unions, up to 10% of the surplus of a given financial year can be earmarked by the National Association for the resource fund.

108 The fund is composed of credit unions’ contributions that are the equivalent of 1% of assets of a given credit union (but not more than 3%) and is supplied with the profit of the National Association. According to the Act on Credit Unions, the detailed rules of creating and supplying the stabilisation funds are laid down in the Association’s articles of association.
up of optional participations. In 2016, the balance of funds of the stabilisation funds was up 6.6% to 0.27 billion zlotys as a result of the inclusion of the Association’s 2015 financial profit. More than 90% of the funds was used as part of a capital injection of credit unions, to purchase optional participations at credit unions. However, the participations could not be used to cover the previous years’ losses.
Chapter 4.

Non-credit financial institutions

In 2016, the non-credit financial institutions sector (NFI) grew at a rate slower than that observed in the banking sector (see Table 4.1). In the investment funds sector, the scale of growth in assets significantly decreased, with the simultaneous reversal of the downward trend in the value of assets in the open pension funds sector. Assets of insurance companies also rose, including in particular, of the non-life insurance sector.

Table 4.1. Assets of insurance companies (IC), investment funds (IF), open pension funds (OPF) and banks (PLN billion)

<table>
<thead>
<tr>
<th>Year</th>
<th>IC</th>
<th>IF</th>
<th>OPF</th>
<th>NFI</th>
<th>Banks</th>
<th>NFI / Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>178.5</td>
<td>219.5</td>
<td>149.1</td>
<td>547.2</td>
<td>1,529.3</td>
<td>35.8%</td>
</tr>
<tr>
<td>2015</td>
<td>180.3</td>
<td>272.3</td>
<td>140.5</td>
<td>593.9</td>
<td>1,595.0</td>
<td>37.2%</td>
</tr>
<tr>
<td>2016</td>
<td>185.4</td>
<td>275.0</td>
<td>153.4</td>
<td>613.8</td>
<td>1,706.4</td>
<td>36.0%</td>
</tr>
</tbody>
</table>

Note: Data for OPF and IF relate to net assets, and for IC – to assets. Due to adjustments, the data may differ from those presented in the previous editions of the Report. Source: UKNF, NBP.

The situation of the non-credit financial institutions sector is analysed mainly in six dimensions:

- the extent of the NFI sector’s resilience to risks to maintaining the continuity of provision of sector-specific financial services to the real economy,
- the possible impact of the investment behaviour of NFI on asset prices as a result of, among others, the materialisation of liquidity risk,
- product concentration and cross-sector linkages,
- concentration of entities,
- financing the entities of the real economy by the NFI sector,
- the extent and type of linkages with the banking sector (including ownership linkages, liabilities incurred in banks and financing granted to banks).

Additionally, risk areas specific to each of these segments are analysed.

109 This chapter is devoted to domestic insurance companies, investment funds, investment fund management companies, open pension funds and pension fund management companies.
4.1. Insurance companies

Insurance companies (ICs) play an important role in the economy. They offer a possibility to obtain insurance coverage against consequences of unfavourable fortuitous events. In exchange for a premium paid in advance, the risk is transferred to the insurance company which undertakes to pay claims in case of occurrence of an insured event.

In Poland, compared to other EU Member States, the insurance sector played a more limited role in the financial system. The share of insurance premium and the sector’s assets in relation to GDP was much lower than the average for the European insurance sector and the average in countries with highly developed insurance markets. For Polish insurance companies, the aforementioned ratios remained at a level close to that recorded in 2015, amounting to approx. 3% and 10%, respectively. On the other hand, the share of insurance in savings of households decreased, reaching 7.2% at the end of 2016.

Insurance companies ran mainly traditional insurance business, which did not generate systemic risk. The operations covering financial risk represented a marginal part of the entire sector’s activities. Insurance companies invested funds in liquid assets and matched them to the nature and maturity of liabilities arising from concluded insurance contracts. Moreover, the insurance sector was characterised by much weaker intra-sector financial linkages than the banking sector. Linkages in the insurance sector stemmed mainly from reinsurance, which enabled insurance companies to mitigate the adverse impact of fortuitous events on the volatility of their financial results and solvency parameters.

Life insurance companies also enabled households to collect savings in the form of unit-linked life insurance (UFK). In the case of such insurance, the investment risk was borne by the policyholders and the economic function of the unit-linked life insurance corresponded to that performed by investment funds.

Technical provisions and claims

Technical provisions of insurance companies correspond to the expected value of the sum of claims and benefits which will be paid by the insurance sector to the real economy entities. They constitute the biggest part of the insurance companies’ liabilities. Companies create technical provisions to cover future liabilities to beneficiaries stemming from concluded insurance contracts.

Figure 4.1. Liabilities of insurance companies to policyholders arising from insurance contracts

Source: UKNF.

The most important item of liabilities were the provisions of unit linked life insurance (see Figure 4.1). In the case of these insurance policies, the liabilities of companies corresponded to the value of assets collected in unit-linked life insurance. Among other provisions of life insurance companies, liabilities

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110 The reason is that within the insurance sector there is no market corresponding to the interbank.
111 Data are presented in statutory accounts value.
Non-credit financial institutions stemming from life and endowment contracts prevailed. Their major part was represented by group and individually continued life insurance.112

Most insurance products offered by ICs did not include a guarantee of the interest rate. Under life insurance and endowment insurance contracts, companies offered profit participation. However, the profit was due only if the rate of return gained from investments was higher than the technical interest rate applied by the insurance company (see Figure 4.2). Moreover, the provisions stemming from life annuity contracts which may increase companies’ exposure to the interest rate risk, constituted less than 2% of life insurance companies’ liabilities. The average weighted maturity of liabilities of life insurance sector entities 113 (see Figure 4.3) was longer than the average duration of the securities portfolio of those companies.114 Compared to the first half of 2016, the average maturity of government bonds slightly decreased and amounted to approx. 5 years.

Figure 4.2. The rate of return and the technical interest rate in life insurance other than unit-linked life insurance

Figure 4.3. The maturity structure of technical provisions in life insurance

In the non-life insurance sector claim payments increased to historical highs. It referred mainly to claims arising from motor insurance contracts (see Figure 4.4). Share of personal injuries with third-party liability insurance (OC) of mechanical vehicles, including compensations115, over the last seven years increased from approx. 7% to 15% of the value of paid claims.116 The data of the Insurance Guarantee Fund (UFG) indicated that 1/3 of those claims comprised personal injuries occurring in traffic accidents before 2008, i.e. prior to defining the right to compensation payment in the regulations. Unpredictability in determining the level of compensation due to non-pecuniary damages remained the highest risk for non-life insurance companies providing car insurance. However, the regulator started work related to potential legal solutions which would contribute to mitigating this problem.

113Excluding liabilities due to insurance contracts where the investment risk is borne by the policyholder and individually continued life insurance.
114European life insurance companies have a longer maturity of liabilities and a longer duration of securities than domestic entities.
117Personal injuries comprised not only compensations but also benefits for persons injured in accidents.
In the life insurance sector, the value of claims paid dropped. It resulted from withdrawing of so-called insurance-wrapped deposits with a single premium. On the other hand, in unit-linked insurance, the value of claims paid rose, which was associated with clients’ surrenders from those products.

Insurance premiums

Premiums are the primary source of funding for insurance companies. Insurance business is characterised by the so-called inverted production cycle. The premiums are paid in advance, and their amount is determined prior to the insurance event. Revenues from premiums are allocated for the payment of claims, coverage of costs and future liabilities stemming from insurance contracts.

In 2016, the inflow of premiums to life insurance companies decreased (see Figure 4.5). The decrease followed a significant decline (by 23.0%) of premiums in unit-linked insurance. The value of the premium in this group was the lowest since 2012 whereas the value of claims reached its historic high. As a result of irregularities associated with unit-linked insurance which occurred in the past, clients’ propensity to conclude new contracts declined. Moreover, in 2016, the regulatory and supervisory requirements for investment insurance products increased. This resulted, among others, in the necessity of insurance companies to modify and adjust their product offer, which also had an impact on a lower demand for such insurance. The value of premiums in the life insurance group also decreased. The decrease was, among others, the consequence of changes in the classification of products where the benefit was determined based on specific indices or other baseline values.

Revenues in non-life insurance sector from premiums increased. It was the result of almost 40-percentage increase in premiums in car insur-

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119 Data are presented in statutory accounts value.
118 The Act of 10 November 2015 on Insurance and Reinsurance Activity (Journal of Laws of 2015, item 1844, as amended), introduced the obligation of distribution in time of the commission for distributors, decreased liquidation fees and imposed the obligation on insurance companies to conduct the survey of needs among clients. Moreover, in 2016 the KNF issued recommendations for insurance companies on examining product adequacy and implementation of the insurance product management system (KNF Resolutions No. 228/2016 and 229/2016 KNF of 22 March 2016).
120 In accordance with an Annex to the Act of 10 November 2015 on Insurance and Reinsurance Activity, such products are classified in group No. 3 of instead of group No. 1, as before.
ance, mainly in the group of third party liability insurance (OC). This, in turn, was associated with a rise in prices of such insurance rather than a rise in demand. Price increases have been observed since the end of 2015 and stemmed from the growing value of claims paid by insurance companies. The growth of premiums in car insurance in 2016 contributed to the improvement of profitability in auto casco insurance (AC), whereas in third party liability insurance (OC) the financial situation of insurance companies still did not improve.

Insurance company and product concentration

Activity of the insurance sector was dominated by several largest entities. In the life insurance sector, three largest insurance companies collected almost a half of the premium, whereas in the case of non-life insurance companies, it was almost 60% of premium of the whole sector. In 2016, the largest insurance capital group collected 35.2% of the premium.

Within the particular sectors, insurance companies had a similar product offer. In the case of life insurance, all entities offered life insurance products as well as emergency insurance and personal accident insurance; most of the entities also offered unit-linked insurance. A high level of concentration occurred only in the life insurance group—where the largest entity offered group employee insurance and individually continued life insurance on a broad scale (see Figure 4.6). In the non-life insurance sector, most of the companies offered car insurance, and insurance against fire and property. Companies with a limited product offer were also active on the market. They usually focused on products offered within a single group of insurance.

High product concentration related only to marine and aviation insurance as well as credit insurance. It was niche insurance in which only certain companies with proper experience and HR base specialised. Due to the small share of these groups in the gross written premium (1.7%), the cessation of activities by a company offering this type of insurance should not affect the availability of services. Other entities, in particular large ones, would be able to provide similar protection in a short time. Moreover, owing to the freedom of services within the EU, foreign insurance companies could present a similar offer.

Figure 4.6. The product structure of life insurance companies by gross written premium

![Figure 4.6](image)

Note: The figure shows the share of one, three and five largest insurance companies in gross written premiums of selected insurance classes.

Source: UKNF.

121 Insurance of low downpayment in case of mortgage loans constituted a minor part of credit insurance.
Chapter 4.

Figure 4.7. The product structure of non-life insurance companies by gross written premium

Note: The figure shows the share of one, three and five largest insurance companies in gross written premiums of selected insurance classes. Source: UKNF.

**The structure of assets and investment risk**

Insurance companies borne the investment risk associated with assets other than unit-linked insurance. At the end of 2016, assets of insurance companies amounted to 185.4 billion zlotys. In the life insurance sector, assets for which the investment risk was borne by the policyholders had the highest share (57 billion zlotys). Lack of excessive exposure to illiquid assets and maintaining adequate levels of liquid assets (see Figure 4.8) played an important role in ensuring the stability of the insurance sector. Liquid government bonds constituted a predominant part of the portfolio of debt securities. Investments in real estate and shares listed on the regulated market accounted for a marginal part of investments. In the second half of 2016, exposure of non-life insurance companies to government bonds increased significantly. It was associated with the change in the structure of assets of one of entities which redeemed investment funds' shares, re-placing them by debt securities. In 2016 life insurance companies granted significantly less loans, especially in the repo transactions. As a consequence, such operations constituted a marginal part of assets. Insurance companies invested 91% of their funds in the domestic market.

**Insurance companies purchased shares of investment funds.** These investments concerned both unit-linked assets and investments where the investment risk was borne by the insurance company. Free funds were invested in shares of dedicated investment funds, usually created for the capital group. A major part of investments in shares of investment funds for which the risk was borne by the insurance company constituted shares of closed-ended funds.

Figure 4.8. Assets of insurance companies in statutory accounts value

Note: Life insurance does not include unit-linked investments. Source: UKNF.

**The structure of investments of individual ICs within the sectors was highly diversified.** The biggest players in the market invested much more in investment funds' shares than other companies. This is probably due to the optimisation of activities carried out within capital group. In addition, companies that had a large share of unit-linked insur-

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122The data are presented in statutory accounts value.
123Such decision probably contributed to the reduction of the capital requirement of this company.
ance allocated a significant part of assets in investment funds’ shares. On the other hand, companies offering structured insurance demonstrated a high share of deposits, with simultaneous large exposure to derivatives.

Insurance companies were important investors on the domestic Treasure bond market, but played a marginal role in the financing of enterprises and the banking sector (see Figure 4.9). Insurance entities did not significantly increase their exposure to corporate debt securities. Despite operating in low interest rates environment, these entities did not search for yield by investing in less liquid and more risky assets.

![Figure 4.9. The share of insurance companies in the domestic debt securities market](image)

Note: Investments and the debt outstanding are shown at nominal value. The data do not include securities issued in foreign currency. Source: MF, NBP and UKNF.

**Investments of insurance sector in domestic banks remained at a low level.** Limiting the sales of insurance-wrapped deposits and structured insurance contributed to a significant decline in the value of term deposits with credit institutions. Some entities invested most their funds in banks belonging to the same group. The average concentration of deposits in the banking sector amounted to 67%. The value of liabilities to this sector was also low (it decreased from 879 million zlotys to 13 million zlotys). Some insurance companies, driven by the lowering of capital requirements, decreased the share of term deposits, while significantly increasing the value of cash.

Few non-life insurance companies began to use leverage. Insurance companies benefited from loans granted by other entities operating in the capital group but they did not issue own debt securities. Insurance companies did not take out loans as a part of repo transactions. However, the largest entities on the market used derivatives on a large scale, using them mainly for “effective portfolio management.”

**Liquidity risk**

Insurance companies were not exposed to liquidity risk. The premium which was the main source of financing was paid in advance, before the occurrence of the insured event. A surplus of premiums over claims was observed in the insurance sector. The maturity of assets used to cover future liabilities was shorter than the maturity of technical provisions. In this manner, insurance companies managed liquidity risk in the event sudden payouts of benefits.

The assets in which ICs invested were relatively liquid. In 2016, insurance companies committed themselves to decreasing liquidation fees in part of unit-

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124Share of deposits placed in a single bank to all deposits for a given insurance company.
125In accordance with Solvency II Directive, cash is included in the counterparty default risk module, but it is not taken into account in the credit spread risk module and in the concentration risk module.
126If the duration of assets is shorter than the duration of liabilities, the risk of earlier sales of assets is reduced in the situation when the insurance company is bound to pay out the benefit earlier than expected. According to Solvency II Directive, the mismatch between assets and liabilities increases the capital requirement for interest rate risk. When interest rates fall, a significant mismatch may lead to a reduction in the solvency parameters of some entities, particularly those holding liabilities with long maturity.

---
linked insurance products.\textsuperscript{127} The reason was mis-selling of the insurance products. High fees were also applied for early surrender of an insurance contract. The reduction of the fees could be associated with the risk of an increased number of surrenders, however, the probability of such risk materialisation is insignificant. The changes regarding fees related mainly to agreements concluded before 2014 for which the period of the highest liquidation fee rates had already passed. Moreover, companies had adequate time and necessary information to prepare to potential gradual fund withdrawing from the UFK.

Liquidity risk could be more significant in those entities which offered unit-linked life insurance on a large scale, as policyholders could withdraw their funds. However, in unit-linked portfolios managed by insurance companies, liquid investments prevailed. In the case when unit-linked assets were invested in investment funds’ shares, insurance companies usually hedged themselves against liquidity risk through the relevant provisions in the insurance documentation.\textsuperscript{128}

Financial results

In 2016, the financial performance of insurance companies deteriorated (see Figure 4.10 and Table 4.2). In life insurance, despite a significant decline of the premium, the technical result increased by 0.2 billion zlotys. On the other hand, lower revenues from investments of free funds of life insurance companies and the growth of other operating costs deteriorated the financial performance. A high increase in premiums did not translate into a significant improvement in the technical result of the non-life insurance sector. The financial result fell and the growth of other operating costs had the greatest impact on its decline.\textsuperscript{129}

Figure 4.10. Revenues and costs of insurance companies

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure4_10.png}
\caption{Revenues and costs of insurance companies}
\end{figure}

Source: UKNF.

One third of entities recorded a financial loss. Amount of the loss in life insurance companies, which showed a negative financial result, amounted to 0.31 billion zlotys and in the non-life insurance sector – 0.33 billion zlotys. The share in assets of life insurance companies with negative profitability was 21%, and for non-life insurance – 10%, although in this sector more companies reported a loss.

As a result of the technical loss in motor insurance, the value of the loss ratio and COR remained at a high level (see Figure 4.11). However, due to changes in the pricing policy of insurance companies, the upward trend of this ratio and the COR was halted in the second half of 2016 (see Figure 4.12).

\textsuperscript{127}It was the effect of agreement of 17 insurance companies with the UOKiK President, under which the reduction of fees covered agreements effective as at 1 December 2016 concluded before 1 January 2016 (i.e. the day on which regulations establishing the maximum level of liquidation fees at 4% entered into force). The reduction was mainly related to policies which were not covered under earlier arrangements. Moreover, insurance companies undertook to refund liquidation fees to persons who had concluded contracts after 2008 and terminated them after having turned 65.

\textsuperscript{128}Insurance companies expected a possibility of postponed payouts or a payout of only a portion of funds from the unit-linked insurance in the case of suspension of redemption of investment fund shares in which unit-linked assets were invested. The insurance documentation made a possibility to establish the value of unit-linked units dependent on the valuation of shares of investment funds.

\textsuperscript{129}Other operating costs include, inter alia, costs related to the tax on certain financial institutions.
Non-credit financial institutions

Table 4.2. Financial results and basic indicators of the insurance sector

<table>
<thead>
<tr>
<th></th>
<th>12-2014 (zloty million)</th>
<th>12-2015 (zloty million)</th>
<th>12-2016 (zloty million)</th>
<th>12-2016/12-2015 (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life insurance (Sector I)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross written premium</td>
<td>28 667</td>
<td>27 525</td>
<td>23 857</td>
<td>-13.3</td>
</tr>
<tr>
<td>Technical profit</td>
<td>3 280</td>
<td>2 845</td>
<td>3 018</td>
<td>6.1</td>
</tr>
<tr>
<td>Net profit</td>
<td>2 963</td>
<td>3 046</td>
<td>2 251</td>
<td>-26.1</td>
</tr>
<tr>
<td>Equity capital</td>
<td>12 983</td>
<td>12 427</td>
<td>12 244</td>
<td>-1.5</td>
</tr>
<tr>
<td>Technical profitability (in %)</td>
<td>11.7</td>
<td>10.4</td>
<td>12.8</td>
<td>2.4 pp.</td>
</tr>
<tr>
<td>ROE (in %)</td>
<td>23.0</td>
<td>24.0</td>
<td>18.2</td>
<td>-5.8 pp.</td>
</tr>
<tr>
<td>Non-life insurance (Sector II)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross written premium</td>
<td>26 260</td>
<td>27 292</td>
<td>32 182</td>
<td>17.9</td>
</tr>
<tr>
<td>Technical profit</td>
<td>786</td>
<td>246</td>
<td>351</td>
<td>42.6</td>
</tr>
<tr>
<td>Net profit</td>
<td>3 719</td>
<td>2 574</td>
<td>1 934</td>
<td>-24.9</td>
</tr>
<tr>
<td>Equity capital</td>
<td>21 580</td>
<td>21 650</td>
<td>21 953</td>
<td>1.4</td>
</tr>
<tr>
<td>Technical profitability (in %)</td>
<td>3.6</td>
<td>1.1</td>
<td>1.5</td>
<td>0.3 pp.</td>
</tr>
<tr>
<td>ROE (in %)</td>
<td>17.6</td>
<td>11.9</td>
<td>8.9</td>
<td>0.3 pp.</td>
</tr>
</tbody>
</table>

Note: Due to the adjustments made, data may differ from those presented in the previous editions of the Report. Source: UKNF.

Moreover, the insurance sector recorded a decline in the ROE indicator. In Europe, non-life insurance was usually more profitable than life insurance. In Poland, the situation was different (see Figure 4.13). It was a consequence of a high share of very profitable group and individually continued life insurance. In the non-life insurance, the low ROE indicator was the effect of a considerably higher value of equity than in life insurance.

The decline in the financial result of insurance companies was also affected by the introduction of a tax on certain financial institutions in February 2016. The tax covered more than a half of active insurance companies. It is estimated that in 2016 insurance companies paid about 585 million zlotys of this tax, of which almost a half was paid by the largest domestic insurance group. The introduction of the additional burden caused a decrease in the entire sector’s earnings by several per cent.

Figure 4.11. Loss ratios for selected business lines in the non-life insurance sector

Source: UKNF.

In recent quarters, earnings of insurance companies were mostly paid out in the form of a dividend and did not increase the sector’s equity. High surpluses of own funds over the capital requirements did not encourage entities to accumulate earnings.

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Solvency

The insurance sector had a large surplus of own funds over the capital requirements arising from Solvency II Directive. The coverage of solvency parameters in the life insurance sector was over three-fold and for the non-life insurance sector - over two-fold higher than the capital requirements (see Figure 4.14). (None of the entities used LTG or transitional measures provided for in Solvency II that allowed the distribution of the implementation of new solvency rules for a period of 16 years.\textsuperscript{131}) The domestic insurance sector had high solvency ratios and demonstrated the highest resilience under stress conditions among EU countries (see Box 3).\textsuperscript{132}

Almost all own funds of insurance companies (99.2\%) were classified in the category of best qualitative features. The value of insurance sector own funds eligible to cover the Solvency Capital Requirement increased as compared to the first half of 2016 and amounted to 62.3 billion zlotys. This value was mainly determined by a surplus of insurance companies’ assets over their liabilities calculated for solvency needs.

The growth in the value of own funds had an impact on the improvement of solvency ratios of non-life insurance companies. It was caused by the significant decline in the value of technical-insurance provisions in this insurance sector, while maintaining the capital requirements at a similar level. On the other hand, the capital requirements for life insurance companies increased, which resulted in a decline in solvency ratios. Nevertheless, insurance companies of the life insurance sector continued to maintain the coverage of the capital requirements at a very high level.

\textsuperscript{131}In accordance with the Solvency II Directive, insurance companies, under the approval of the supervision authority, may use tools for long-term insurance guarantees (LTG) and transitional measures. For LTG tools, the directive stipulates a correction adjusting to the relevant term structure of risk-free interest rate (\textit{matching adjustment} – MA) and the correction due to volatility to the relevant term structure of the interest rate (\textit{volatility adjustment} – VA whose application will serve to mitigate volatility in insurance companies’ balance sheets as a result of the application of market valuation of assets and liabilities. Also, the directive stipulates a possibility to use transitional measures related to risk-free interest rates, as well as technical insurance provisions over a maximum period of 16 years following its entry into force. The transitional measures should mitigate the impact of amendments to the regulations which would significantly deteriorate the solvency of individual entities.

\textsuperscript{132}SCR ratio in the EU life insurance amounted to approx. 150\%, and in the non-life insurance sector – to approx. 230\%. 
Almost all insurance companies met the new solvency requirements. Only two companies of the non-life sector, with a minor market share, did not have sufficient funds to cover the SCR or the MCR (see Figure 4.15). The Polish Financial Supervision Authority took action to restore the required solvency parameters within these entities.

All insurance companies calculated the Solvency Capital Requirement on the basis of the standard formula. The level of SCR in the life insurance sector was most influenced by the life underwriting risk module and the market risk module. In the case of non-life insurance companies, the level of the SCR was significantly influenced by the underwriting risks in other personal insurance and in property insurance as well as by the market risk. Moreover, market risk played a far greater role in the non-life insurance sector than in life insurance sector.

Reinsurance programmes had a significant impact on reducing the risk of the insurance sector. The primary objective of reinsurance was to mitigate the financial consequences of fortuitous events and to stabilise the earnings of ICs. Reinsurance cover applies primarily to non-life insurance contracts with high sums insured and limits the impact of cat risk on the solvency of insurance companies. In addition, reinsurance allowed to reduce fluctuations in financial performance and contained liquidity risk. The share of reinsurers in technical insurance provisions increased the value of the counterparty risk module, which was taken into account in the solvency requirement, but it also increased the value of own funds for covering the capital requirements.

In 2016, the scale of reinsurance cover in the insurance sector increased. In 2015, reinsurers suffered losses by providing cover to domestic insurance companies, which resulted in an increase in reinsurance premiums in 2016, which in turn translated into a positive technical result on reinsurers’ share. Insurance companies transferred almost 31% more premiums to reinsurers who paid out 42% more claims than a year ago. At the same time, reinsurers’ share in the premium and in claims rose (to 19.8% and 17.6%, respectively). The largest increase in premiums transferred to reinsurers was recorded in car insurance as well as fire and theft insurance and financial loss insurance. Cedents concluded reinsurance contracts mainly with foreign entities belonging to the same group as the insurance company. In life insurance, reinsurance played a non-significant role.
Box 3. Results of stress tests of the European insurance sector

In 2016, the European Insurance and Occupational Pensions Authority (EIOPA) conducted stress tests for European insurance undertakings. 1 236 insurance undertakings, mainly life insurance companies from 30 member states participated in the exercise. They constituted 77% of the European insurance market, as measured by technical provisions arising from insurance contracts (excluding liabilities due to health insurance and unit-linked insurance contracts).

For the purpose of the test, insurance undertakings were bound to submit balance sheet data as at the day of entry into force of the Solvency II Directive, i.e. 1 January 2016. In the test, the undertakings were able to use long-term guarantees (LTG) and transitional measures envisaged in the Solvency II Directive. However, they were bound to demonstrate their impact on the balance sheet before and after the tests performed.

The objective of the EIOPA study was to check the impact of adverse scenarios on the excess of insurance undertakings' assets over liabilities arising from insurance contracts concluded. However, the tests did not cover the impact of shock scenarios on the change in the Solvency Capital Requirement (SCR), which was reported only in the baseline scenario and served mainly for the assessment of the impact of applied LTG and transitional measures.

In the baseline scenario, the European insurance undertakings reported an excess of assets over liabilities at a level of 10%. Average ratios for the coverage of the Solvency Capital Requirement (SCR) and Minimum Capital Requirement (MCR) for entities participating in the test amounted to 196% and 533%, respectively. If LTG and transitional measures were not used, the average SCR coverage ratio in the baseline scenario would fall to 136% (see Figure 1). Moreover, instead of two entities which did not hold sufficient funds to cover the SCR in the baseline scenario, 33 insurance undertakings would show a lack of coverage of the SCR.

![Figure 1. Impact of the application of LTG and transitional measures on the coverage of the solvency capital requirement](image-url)

Source: EIOPA.

The test consisted of two shock scenarios, a so-called low-for-long (LY) scenario and double hit (DH) scenario. In the former, the sensitivity of insurance undertakings to the environment of persistently low interest rates was examined. In addition, for the purpose of this scenario the Ultimate Forward Rate (UFR), used for calculating the technical provisions in accordance with the Solvency II Directive, was reduced from the current level of 4.2% to...
to 2%. The latter scenario combined the decline in risk-free interest rates with the growth in yield of debt securities, arising from a higher risk premium, and the decline in prices of shares and real estate. In this way, the impact of shocks affecting both assets and liabilities of insurance undertakings was examined.

The stress tests showed that as a result of the materialisation of both scenarios, insurance undertakings would record a decline in the excess of assets over liabilities. For undertakings participating in the test, the double hit scenario was more painful, since under this scenario, the fall in excess of assets over liabilities was 28.9%, whereas in the low-for-long scenario, it amounted to 18%. In the case of the low-for-long scenario, undertakings recorded a growth in the value of both assets and liabilities; however, the value of liabilities increased much more and contributed to the decline in the excess. In the double-hit scenario, the value of assets and liabilities dropped simultaneously, which enhanced the decline in the excess amount. The application of LTG and transitional measures by insurance undertakings resulted in less severe reduction of excess amounts for a significant part of the entities.

Five domestic insurance undertakings participated in the stress tests. They included PZU Życie, MetLife, Aviva, NN and PZU SA, which took part in the exercise due to its significant share of long-term liabilities arising from motor third party liability insurance. The Polish insurance sector demonstrated the highest ratios of SCR (320%) and MCR (1,146%) coverage among all countries taking part in the survey. Domestic entities also showed the highest excess of assets over liabilities ((see Figure 2). For the domestic insurance undertakings, the double hit scenario turned out more painful, and triggered the decline of the excess of assets over liabilities by 20%. None of the domestic undertakings applied LTG and transitional measures, which would mitigate the severity of this scenario. In the case of the low-for-long scenario, the excess of assets over liabilities dropped by 4.5%. This was associated, inter alia, with relatively short duration of liabilities of the domestic insurance sector.

Figure 2. Assets to liabilities ratio in the baseline, double hit and low-for-long scenario

![Figure 2](image)

Source: EIOPA.

4.2. Investment funds and investment fund management companies

The investment funds’ activity is based on pooling capital resources of many investors in order to invest them collectively. Inflows are converted into investment funds’ units (shares) in open-end funds or investment certificates in closed-end funds, expressing the share of their holders in the fund assets. The funds provide the opportunity for indirect investment in various classes of assets, including those that are not available to individual investors with little capital. The institutions also allow investors to reduce investment risk through significant diversification, which is more difficult to obtain in the case of individual investments in financial markets.

There are entities operating in the sector of investment funds whose shares can be acquired only by a specific group of investors. Most often, they took the form of closed-ended investment funds and served the creation of individual investment solutions tailored to the needs of specific customers – primarily enterprises, but also wealthy retail investors and insurance companies.

The safety of investment funds’ assets accumulated in investment funds is independent of the financial situation of the investment fund management companies (MCs) and depositaries. Investment fund management companies and the investment funds they manage have separate legal personalities and the funds’ assets are legally separated from MCs’ assets. Management companies are responsible for the operation of investment funds and liable for any potential damages resulting from non-performance or improper performance of their obligations. Investment funds’ participants do not bear the consequences of a possible bankruptcy of investment funds’ depositaries, as the funds’ assets are not included in their bankruptcy estate.

The size of the sector

Net assets of investment funds increased by 1% despite the net outflows. This growth was significantly lower than in previous years. Closed-ended funds were the main part of the sector. Their assets and market share increased. In relation to GDP, assets of funds remained at a level similar to that recorded at the end of 2015 – approx. 15%. In Poland, this ratio was still significantly lower than in developed countries.

Figure 4.16. The structure of the investment funds sector by investment policy

Note: Open-ended investment funds and specialised open-ended investment funds were included in the group of open-ended funds.

Source: NBP.

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133 In accordance with Article 64(1) of the Act of 27 May 2004 on Investment Funds and Management of Alternative Investment Funds (Journal of Laws 2014 item 157 as amended) The MC is liable before participants of the collective securities portfolio and of investment funds for all damage caused by non-performance or improper performance of their duties in the management of a collective portfolio of securities or a fund and its representation, unless the non-performance or improper performance of duties is due to circumstances for which the company is not responsible.

134 Assets of open-ended investment funds and specialised open-ended investment funds decreased.

135 For example, investment funds’ net assets in the euro area accounted for approx. 93% of GDP.
For the first time since 2008, the investment fund sector has recorded net outflows. Net outflows amounted to -11.7 billion zlotys. The highest level of payouts from funds was recorded for non-financial companies. This was related to amendments to the Act on Corporate Income Tax introduced at the end of the year. A significant portion of capital invested in shares of investment funds was also withdrawn by insurance companies – it applied, in particular, to funds created for the needs of the largest insurance capital group in Poland. On the other hand, net inflows were recorded for households.

The structure of the sector according to the investment policy pursued by investment funds has not changed. Among closed-ended funds, other funds prevailed (see Figure 4.16). Among open-end funds – similar to the European investment fund sector – debt securities funds had the largest share in assets.

The investment fund sector exhibited a diversified level of concentration, depending on the investment policy pursued. At the end of 2016, approximately 1,300 entities (funds and subfunds) were active in the sector. The highest level of concentration was observed for mixed funds and other funds (see Figure 4.17). Services provided by funds with similar investment policies can be considered as substitutive, which makes the risk of discontinuation of financial services provided by this sector insignificant.

Figure 4.17. The concentration of investment funds by investment policy

Note: The figure shows the share of one, three and five largest investment funds in the net assets of individual groups of funds by investment policy. Source: NBP.

Investment risk and the structure of assets

The structure of assets of closed-ended investment funds has changed significantly. As a result of the aforementioned changes in fiscal regulations the exposure of those funds to other equity financial instruments decreased substantially (see Figure 4.18), including, especially - to shares not listed on organised markets. In particular, the value of such instruments issued by companies from Luxembourg, used in the capital structures intended for tax optimisation, decreased. On the other hand, the share of corporate debt securities increased in the assets of closed-ended investment funds and as a con-

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136 The outflow of funds occurred in open-ended investment funds, in specialised open-ended investment funds and in closed-ended investment funds.

137 Amendments introduced by the Act of 29 November 2016 r. amending the Act on Personal Income Tax, the Act on Corporate Income Tax and the Act amending the Act – Tax Code and Certain Other Acts (Journal of Laws of 2016, item 1926) were mainly aimed at eliminating the cases of using investment funds for constructing capital structures intended for tax avoidance. The Act limited the scope of entities’ exemption from the CIT applicable so far to open-ended and specialised open-ended investment funds using the rules and restrictions determined for open-ended investment funds. In the case of closed-ended investment funds and specialised open-ended investment funds using the rules and restrictions determined for closed-ended investment funds, the exemption of entities was replaced by objective exemption. All income (revenue) of those entities was tax exempt, excluding income (revenue) from: participation in companies without legal personality or organisational units without legal personality, established or having their management board in Poland or in other state, if such entities are not taxable against their total income in this state; interest on loans granted to such entities and interest on other liabilities of those entities towards funds; interest on capital share in such entities; donations or other complimentary or partly payable benefits processed by those entities; interest (discount) on securities issued by those entities as well as disposal of securities issued by those entities, or shares in such entities.
sequence - the share of all funds in the market of those instruments. This change, to a large extent, stemmed from the growth in the value of such investments of a single fund dedicated to specific investors.

**Investment funds were important participants of financial markets.** They played an important role as buyers of domestic debt securities, (see Figure 4.19). However, their share in financing of the corporate sector and the banking sector was low, due to a small value of the market of debt instruments of those institutions. On the other hand, the funds were essential for the liquidity of trading on the WSE Main List – in 2016 their share in turnover amounted to 12.1%. The share of investment funds in the capitalisation of domestic companies listed on the WSE Main List rose, reaching 6.2% at the end of December.

**Figure 4.18.** The structure of assets of the investment funds sector

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Open-ended funds</th>
<th>Closed-ended funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deposits</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Loans granted</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Domestic treasury securities</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>NFC's debt securities</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>MFI's debt securities</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Other debt securities</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>Shares listed on GPW Main Market and NewConnect</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Investment funds' shares</td>
<td>5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Other equities</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Fixed tangible assets</td>
<td>5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Other assets</td>
<td>5%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

**Figure 4.19.** The share of investment funds in the domestic debt securities market

<table>
<thead>
<tr>
<th>Security Type</th>
<th>12-2014</th>
<th>12-2015</th>
<th>12-2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury securities</td>
<td>35%</td>
<td>30%</td>
<td>25%</td>
</tr>
<tr>
<td>MFI's debt securities</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Covered bonds</td>
<td>10%</td>
<td>5%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Note: The data do not include securities issued in foreign currency. Investments and debt arising from issuance of individual securities are shown at nominal value. Source: MF, NBP.

**Loan receivables were an important part of closed-ended funds' assets (including as part of repo transactions).** At the end of 2016 they amounted to approximately 17 billion zlotys (including 2.4 billion zlotys due to repo transactions). The funds granted loans mainly to foreign non-financial companies. Therefore loans granted by investment funds were not a significant source of financing for Polish non-financial companies.

**Deposits and debt securities issued by banks constituted a significant part of funds' assets.** The linkages with the domestic banking sector were most important for debt funds (see Figure 4.20). The linkages resulted from debt securities held by those entities. On the other hand, deposits in banks were of major importance for the overall sector of investment funds. Linkages with the banking sector were significantly greater in the case of open-ended funds.

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138 In accordance with the provisions of the Act of 27 May 2004 on Investment Funds and Management of Alternative Investment Funds, open-ended investment funds may not grant sureties, guarantees and loans to other entities, except if their subject involves dematerialised securities. Closed-ended investment funds may grant sureties, guarantees and loans to the maximum value of 50% of their assets' value, provided that the level of a loan, surety or guarantee granted to a single entity must not exceed 20% of the value of assets. Closed-end investment funds may also grant loans in the form of securities.
Figure 4.20. Share of assets linked with the domestic banking sector in total assets of investment funds by investment policy

![Graph showing share of assets linked with the domestic banking sector in total assets of investment funds by investment policy.]

Note: Due to the adjustments made, the data may differ from those presented in the previous edition of the report. Assets linked with the banking sector include: deposits, receivables due to loans granted to the banking sector (including, as part of repo transactions) and debt securities issued by domestic banks. Source: NBP.

The investment risk is borne by the funds’ participants. Investment funds generally do not guarantee achieving the set investment targets. Thus, the investment fund management companies do not bear the risk associated with the investment activity of funds.

Liquidity risk

In the case of large outflows from investment funds, these institutions could be forced to sell off assets. This sell-off could particularly relate to open-end funds which redeem their units at the request of participants and whose assets cannot be converted into cash within a short period of time, without material impact on their prices. In the case of a strong slump in prices and deterioration of market liquidity, investors could decide to redeem their shares in investment funds in order to protect their capital against continued loss in value. Mass sale of funds’ assets could result in further turmoil on financial markets, contributing to further decline in prices and liquidity. If such assets were also held by other financial institutions, decrease of process could influence their financial situation.

Figure 4.21. The share of liquid assets in total assets of open-ended investment funds by investment policy

![Graph showing the share of liquid assets in total assets of open-ended investment funds by investment policy.]

Note: Due to the adjustments made, the data may differ from those presented in the previous edition of the report. Liquid assets include: deposits, Treasury securities and shares listed on organised markets, participation units and investment fund shares of foreign collective investment schemes. NBP has no data on investment funds’ assets, broken down into time periods within which it is possible to sell them without affecting their prices. Source: NBP.

The most liquid assets were held by equity funds and mixed funds, and least liquid assets – by bond funds (see Figure 4.21). The share of deposits in assets of individual groups of funds was diversified – the lowest for mixed funds (approx. 3%), and the highest for other funds (approx. 8%). Deposits may act as a liquidity buffer which provides immediate access to capital allowing to fulfil claims of redemption (both expected and unexpected). However, maintaining the high level of deposits reduces funds’ exposure to market risk and causes that a smaller part of their assets is directly used for

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139 Liquid assets include deposits, Treasury securities and shares listed on organised markets, participation units and investment fund shares of foreign collective investment schemes. It should be pointed out that in case of crisis, the market of Treasury securities may be the only market that remains liquid.
the implementation of the investment policy.

The share of liquid investments in funds’ assets allows to assess their capacity of efficiently manage large redemptions only to limited extent. In such circumstances, the funds will not always be ready to sell off liquid assets in the first instance. Such strategy could cause that after executing a portion of payouts, only illiquid instruments would remain in the fund’s assets, consequently, the fund would have no possibility to execute successive redemption orders. Due to this fact, funds may prefer to sell individual components of investments evenly.

**Financing and the structure of liabilities**

Households had the largest share in the structure of investment funds’ investors. At the end of 2016, investment funds shares accounted for about 11% of household financial assets and were the third most popular form of keeping their savings (after bank deposits and cash). Households were the main participants in open-ended funds (see Figure 4.22). In the second half of 2016, the role of households in the structure of investment certificate holders also increased, which followed the growth in closed-ended fund assets for the needs of affluent clients. A decline in the role of non-financial companies and insurance companies among investors was associated with the aforementioned withdrawal of resources from the funds by those entities.

Repo transactions were an important source of leverage in investment funds. Liabilities arising from these transactions were significantly higher than those from bond issues, loans and credits. The highest level of leverage, measured as the ratio of total assets to net assets (excluding derivatives exposures) was displayed by open-ended funds, mixed funds and debt securities funds (see Figure 4.23). In order to increase exposure, the funds also used derivatives. Both in repo transactions and derivatives transactions, domestic banks were mainly the counterparties of investment funds.

![Figure 4.22. The structure of investment fund participants](image)

**Figure 4.22. The structure of investment fund participants**

Note: Open-ended investment funds and specialised open-ended investment funds were included in the group of open-ended funds.

Source: NBP.

![Figure 4.23. Leverage in the investment funds sector by investment policy](image)

**Figure 4.23. Leverage in the investment funds sector by investment policy**

Source: NBP.

**Financial situation of investment fund management companies**

Despite the growth in investment funds’ assets, the financial situation of investment fund management companies worsened. (see Table 4.3). This
Table 4.3. Financial results and basic indicators of the investment funds management companies sector

<table>
<thead>
<tr>
<th></th>
<th>12-2014 (zloty million)</th>
<th>12-2015 (zloty million)</th>
<th>12-2016 (zloty million)</th>
<th>12-2016/12-2015 (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total revenues:</td>
<td>2 834</td>
<td>3 234</td>
<td>3 240</td>
<td>-0.2</td>
</tr>
<tr>
<td>– investment funds management fee</td>
<td>2 618</td>
<td>2 995</td>
<td>3 025</td>
<td>1.0</td>
</tr>
<tr>
<td>– financial instruments portfolios management fee</td>
<td>18</td>
<td>26</td>
<td>18</td>
<td>-1.0</td>
</tr>
<tr>
<td>Total costs</td>
<td>2 249</td>
<td>2 555</td>
<td>2 610</td>
<td>2.1</td>
</tr>
<tr>
<td>Pre-tax profit</td>
<td>585</td>
<td>679</td>
<td>631</td>
<td>-7.2</td>
</tr>
<tr>
<td>Net profit</td>
<td>477</td>
<td>546</td>
<td>499</td>
<td>-8.8</td>
</tr>
<tr>
<td>Equity capital</td>
<td>1 451</td>
<td>1 596</td>
<td>1 724</td>
<td>8.1</td>
</tr>
<tr>
<td>Equity capital requirement</td>
<td>275</td>
<td>295</td>
<td>369</td>
<td>25.2</td>
</tr>
<tr>
<td>Average value of investment funds net assets</td>
<td>212 118 169</td>
<td>249 200 463</td>
<td>278 648 845</td>
<td>11.8</td>
</tr>
<tr>
<td>Average value of financial instruments portfolios</td>
<td>20 126</td>
<td>29 391</td>
<td>51 051</td>
<td>73.7</td>
</tr>
<tr>
<td>Equity capital coverage ratio (%)</td>
<td>0.66</td>
<td>0.59</td>
<td>0.63</td>
<td>0.04 pkt proc.</td>
</tr>
<tr>
<td>Pre-tax profit margin (%)</td>
<td>0.66</td>
<td>0.59</td>
<td>0.63</td>
<td>0.04 pkt proc.</td>
</tr>
<tr>
<td>ROE (%)</td>
<td>38.4</td>
<td>37.5</td>
<td>30.4</td>
<td>-7.0 pkt proc.</td>
</tr>
</tbody>
</table>

Note: The participant claims coverage ratio is a ratio of investment fund management companies’ equity capital to the sum of investment funds’ net assets.
Source: UKNF, NBP.

was associated with the growth of fixed costs incurred by investment fund management companies arising, among others, from the necessity to adjust to new regulations. The ROE of the sector decreased significantly. The aggregate return on equity of management companies reached its lowest level since 2002, however, it remained much higher than for other non-credit financial institutions and banks.

At the end of 2016, two investment fund management companies did not meet the statutory capital requirements. The equity of the sector was over four times higher than required by law, however, in relation to the total net assets of investment funds it remained low (0.63%). The ratio of individual companies’ equity capital to total assets of the funds they managed varied (see Figure 4.24) and amounted, on average, to 1.64%. For the vast majority of investment fund management companies, the value of the participant claims coverage ratio was lower than the average, and in the case of 12 entities it was less than 0.25%.

Figure 4.24. The ratio of investment fund management companies’ equity capital to assets of the managed investment funds

Source: NBP.

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140 Regulation of the Minister of Finance of 29 December 2015 concerning fees for covering costs of capital market oversight (Journal of Laws of 2015, item 2347) and the Act of 27 May 2004 on Investment Funds and Management of Alternative Investment Funds.
141 Assets of investment funds managed by one of those investment fund management companies did not exceed 1.5% of the value of net assets of the sector. The other company managed only one fund in liquidation.
4.3. Open pension funds and pension fund management companies

The activity of open pension funds consists in collecting and investing contributions provided to them under the capital part of the universal pension system. Assets of open pension funds are divided into accounting units assigned to the members of the fund proportionally to the size of the funds paid. For 10 years prior to retiring, open pension funds transfer assets assigned to the member to ZUS (Social Insurance Institution) under the so-called security slider. A part (2.92% of the base for contributions) of mandatory pension insurance contribution (amounting to 19.52% of the contribution assessment basis) is transferred to open pension funds for those insured who declared their voluntary participation in the fund. At the end of 2016, 16.4 million people were OPF members, of which only about 16% transferred a part of the contribution to the fund.

The existing legal regulations guarantee the safety of funds accumulated in open pension funds, irrespective of the financial situation of pension fund management companies and depositaries. The value of pension fund assets is not linked with the financial situation of pension fund management companies, as these entities have a separate legal personality and the fund's assets are separated from the assets of management companies. Fund resources are not included in the bankruptcy estate of depositaries, therefore members of the open pension funds should not bear the consequences of the potential bankruptcy of the depositaries.

Due to the changes in the open pension funds sector in 2014, the importance of OPFs in the financial system and in the economy decreased. Net assets of open pension funds at the end of 2016 accounted for approximately 8.5% of GDP. This rate was significantly lower than in most OECD countries, where the average ratio of pension fund assets to GDP in 2015 amounted to 37.2%.

The size of the sector

In 2016, the value of net assets of open pension funds rose by 9.2% and at the end of the year it amounted to 153.4 billion zlotys. The funds achieved the growth in value owing to the high profit (13.7 billion zlotys). It was mainly the result of favourable conditions on the domestic equity market, particularly, in the last months of the year. The inflow of new contributions to the funds (3.2 billion zlotys) was balanced by the outflow of funds transferred to the Social Insurance Institution under the security slider (3.5 billion zlotys).

The sector of open pension funds demonstrated a high level of concentration (see Figure 4.25). At the end of 2016, 12 open pension funds (OPFs) were active in Poland. In recent years, CR3 and CR5 concentration ratios remained at similar levels, which resulted from minor transfers of members between individual OPFs. Services provided by the OPFs are highly substitutive, therefore there is no risk of interruption of services continuity. In the event of a potential bankruptcy of one of the management companies, the law guarantees

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142 From April to July 2016, it was possible to change the decision on the transfer of part of the contribution to pension funds under the transfer window. During this period, 88.5 thousand people decided to transfer part of their contributions to open pension funds, and 9.1 thousand people – to transfer all pension contributions to the Social Insurance Institution.

143 On the basis of the Act of 6 December 2013 on Amending Certain Acts in Connection with the Determination of the Principles of Old-age Payment from Funds Collected in Open Pension Funds (Journal of Laws of 2013, item 1717) open pension funds transferred 51.5% of the assets to Social Insurance Institution in February 2014.

144 "Pension Markets in Focus", OECD 2016.

145 In the analysed period, there were no acquisitions on the market of open pension funds.
a takeover of OPF management by another company.

**Figure 4.25. Concentration of entities on the OPF market**

![Graph showing concentration of entities on the OPF market]

Note: The figure shows the share of one, three and five largest open pension funds in net assets of the sector. Source: UKNF.

**Investment risk and the structure of assets**

Open pension funds’ investment portfolio was dominated by domestic equities\[146\], which accounted for 76.4% of its value (see Figure 4.26). In individual funds, this share ranged from approx. 70% to 80%. Open pension funds purchased almost exclusively shares traded on the domestic regulated market. Banks’ shares constituted over 30% of those investments. Non-Treasury debt securities represented approx. 9% of the funds’ portfolio, and OPFs preferred investments in securities issued by banks. A small part of the portfolio of funds included bonds of local government units and EIB debt securities. There was a considerable discrepancy between the scale of individual funds’ exposure to non-Treasury debt securities, ranging from approx. 2% to almost 20% of the portfolio. Foreign investments of the funds\[147\] and bank deposits\[148\] constituted 7.3% of their portfolio each. The composition of the open pension funds’ investment portfolio resulted, among others, from the ban on investment in Treasury securities and real estate as well as from the supply structure of non-Treasury debt securities.

The environment of low interest rates did not pose a threat to the stability of the pension funds sector. The reason is that the Polish pension system is based on the mechanism of defined contribution and the OPFs do not guarantee the specific rate of return or level of benefits. The investment risk related to investing assets of open pension funds is solely borne by their members.

**Figure 4.26. Structure of open pension funds’ investment portfolio**

![Graph showing structure of open pension funds’ investment portfolio]

Note: Domestic categories of assets include issues in foreign currencies. Source: UKNF.

In accordance with legal regulations, open pension funds were not allowed to grant direct cash loans\[149\]. In 2016, open pension funds did not perform repo transactions due to the ban on investment in Treasury securities, which were usually used...
as collateral for such transactions. Prior to the introduction of restrictions on investment in Treasury securities, pension funds were active participants of the market of repo transactions, in particular, they used to provide lending to other entities, pledged by the securities received.

Deposits and debt securities issued by banks accounted for a significant part of funds' portfolio. At the end of 2016, banks' liabilities to open pension funds constituted 11.7% of their net assets. Open pension funds played an important role in the market of debt securities issued by banks. The funds invested in both bank bonds and covered bonds (see Figure 4.27). At the end of the year, two largest OPFs held over 56% of all funds' investments in bonds issued by banks. Consequently, the share of these two institutions in the market of debt securities reached almost 10%. At the same time, the share of one of the funds in the market of covered bonds reached approximately 6%.

Figure 4.27. The share of OPFs in the domestic debt securities market

![Graph showing the share of OPFs in the domestic debt securities market]

Note: Investments are shown at market value, while the debt outstanding due to issues of individual securities – at nominal value. Source: MF, UKNF.

OPFs were important participants of the equity market. At the end of 2016, the share of OPFs in the capitalization of the domestic companies listed on WSE Main List amounted to 19.7%, and the share in turnover in 2016 – to approx. 4.5%. Nevertheless open pension funds financed the sector of non-financial corporates to a slight extent, as they held shares purchased mainly on the secondary market.

Liquidity risk

There is no liquidity risk arising from withdrawal of funds by members in the sector of open pension funds. Unlike investors in investment funds shares, OPF members have no possibility to withdraw funds and resign from this form of investment in the case of turmoil in financial markets. In order to limit the volatility of the price of accounting units or its decline, the funds may only reallocate resources among categories of assets available to them, however, investment limits and the structure of the domestic financial market significantly restrict a possibility to rebuild the portfolio.

The obligation of transferring a portion of OPF assets to the Social Insurance Institution under the so-called security slider requires maintaining an adequate share of liquid investments in assets by the funds. In 2016, the OPFs transferred 3.5 billion zlotys under the slider mechanism. At the same time, in 2016 the funds received 4.6 billion zlotys of dividends and interest, and at the end of 2016 they kept 11.0 billion zlotys in bank deposits in domestic currency. Thus, the risk of funds' defaulting on the obligation to transfer a part of assets

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150 Banks' liabilities to OPFs include: domestic banks' bonds, domestic covered bonds and bank deposits.

151 In accordance with the binding legal regulations, starting from 2016 every four years, in the period from April to July, open pension fund members can decide to cease transferring part of their pension contribution to pensions funds. Then, the full contribution will be transferred to the Social Insurance Institution. In the same periods, it is possible to decide to start (or recommence) transferring a part of pension contribution to pension funds.
to the Social Insurance Institution did not exist. 152

**Financing and the structure of liabilities**

The equity capital of pension funds comes from a part of the mandatory pension contributions paid by the insured in the public pension system. However, assets of OPFs are not owned by fund members, but they are public funds. 153 According to the planned changes in the pension system, most of the assets accumulated in open pension funds would be transferred to individual pension accounts and thus become a part of household financial assets. If the assets of open pension funds were part of household savings, their share in such savings at the end of 2016 would amount to approx. 9%. 154

Open pension funds did not use leverage. According to the legal regulations, the open pension funds could not take out loans and credits for an amount exceeding 1.5% of the fund’s assets value. 155 At the end of 2016, the ratio of pension funds’ assets to their net assets amounted to 100.3%, and the funds did not have any liabilities from loans and credits. They also could not purchase derivatives which would serve to create leverage.

**Financial situation of pension fund management companies**

Pension fund management companies posted a lower technical result on funds’ management than in 2015. The decrease was the result of lower revenues from management fees accompanied by higher management costs (see Table 4.4). Lower management fees proceeds should be attributed to a lower average annual value of assets under management. Following the technical result, the net profit of the management companies also decreased. The ROE also declined, which was driven by a higher decrease of PTEs’ net profit as compared to the decrease of their equity capital value. The ROE, however, still remained at a very high level.

In 2016, the value of equity capital of pension fund management companies dropped. It mainly resulted from a lower net profit of the management companies. It can be assumed that lowering the level of the management companies’ equity capital will continue, irrespective of the value of assets of the funds under management.

The ratio of equity capital of pension fund management companies to assets of pension funds managed by them has slightly decreased (see Figure 4.28). At the end of 2016, the ratio amounted to 1.5%, on average. A decline in the value of this ratio in the second half of 2016 stemmed mainly from the growth in the value of open pension funds’ assets. The value of the management companies’ equity capital could be important in the case of claims of fund members against pension fund management companies. 156

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152 It seems that in 2017 the outflow of funds from the OPFs due to the security slider will be higher than in previous two years as a result of the lowering of the statutory retirement age, to be effective from October. Therefore, the funds may be forced to sell some instruments they hold in order to maintain their current level of liquid funds in assets. The additional supply from OPFs may affect prices of these instruments.

153 Item 5.3 of the legal justification for the Constitutional Tribunal’s judgement of 4 November 2015 (case reference No. K1/14).

154 75% of net OPF assets was added to the value of household financial assets.

155 Article 154(1) of the Act of 28 August 1997 on the Organization and Functioning of Open Pension Funds.

156 In accordance with Article 48(1) of the Act of 28 August 1997 on the Organisation and Functioning of Open Pension Funds, the management company is liable towards fund members for any damage arising from non-performance or improper performance of its obligations related to fund management and its representation, unless such non-performance or improper performance of those obligations is caused by circumstances for which the management company is not liable and which it could not have prevented despite best endeavours.
Table 4.4. Financial results and profitability of the sector of pension fund management companies

<table>
<thead>
<tr>
<th></th>
<th>12-2014 (zloty million)</th>
<th>12-2015 (zloty million)</th>
<th>12-2016 (zloty million)</th>
<th>12-2016/12-2015 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues from funds’ management:</td>
<td>2 019</td>
<td>940</td>
<td>871</td>
<td>-7.3</td>
</tr>
<tr>
<td>– contribution fee</td>
<td>162</td>
<td>49</td>
<td>51</td>
<td>4.1</td>
</tr>
<tr>
<td>– management fee</td>
<td>778</td>
<td>743</td>
<td>698</td>
<td>-6.1</td>
</tr>
<tr>
<td>– payments from Guarantee Fund</td>
<td>977</td>
<td>50</td>
<td>27</td>
<td>-46.0</td>
</tr>
<tr>
<td>Funds’ management costs</td>
<td>747</td>
<td>409</td>
<td>433</td>
<td>5.9</td>
</tr>
<tr>
<td>Technical profit on funds’ management</td>
<td>1 271</td>
<td>531</td>
<td>438</td>
<td>17.5</td>
</tr>
<tr>
<td>Net profit</td>
<td>1 094</td>
<td>484</td>
<td>400</td>
<td>-17.4</td>
</tr>
<tr>
<td>Equity capital</td>
<td>3 603</td>
<td>2 460</td>
<td>2 364</td>
<td>-3.9</td>
</tr>
<tr>
<td>Average value of OFE’s net assets</td>
<td>175 104</td>
<td>150 858</td>
<td>141 570</td>
<td>-6.2</td>
</tr>
<tr>
<td>Technical profitability on funds’ management (%)</td>
<td>63.0</td>
<td>56.5</td>
<td>50.3</td>
<td>-6.2 pp.</td>
</tr>
<tr>
<td>ROE (%)</td>
<td>31.1</td>
<td>17.8</td>
<td>17.1</td>
<td>-0.7 pp.</td>
</tr>
</tbody>
</table>

Note: Due to adjustments made, the data may differ from data presented in the previous editions of the Report. The results also take into account the management of voluntary pension funds. In 2016, revenues of pension fund management companies from voluntary pension fund management accounted for 0.6% of their revenues on pension fund management.

Source: UKNF.

Figure 4.28. The ratio of equity capital of pension fund management companies to net assets of open pension funds managed by them

Figure 4.29. Number and types of capital groups to which entities of the NFI sector belong

Note: IC I – life insurance companies, IC II – non-life insurance companies, BH – brokerage houses.

Source: UKNF.

4.4. Cross-sector linkages of non-credit financial institutions

The majority of non-credit financial institutions carried out their activities as part of capital groups, both domestic and foreign. However, those groups were diversified in terms of types of institutions (see Figure 4.29). Share of individual institutions of the NFI sector which operated in the same capital group with a bank ranged from 20.9% of assets for the PTE sector to 42.4% of assets for the insurance sector.

At the end of 2016, for the non-credit financial institutions sector, ties with other institutions of the sector were more important than ties with the banking sector (see Table 4.5). In the case
of investment fund management companies, linkages with brokerage houses were most important, not only due to the fact that they were members of the same capital groups but also due to direct ownership linkages. Brokerage houses were the parent institutions of eight investment fund management companies. Their share in the equity capital of this sector was 16.0% (28.3 of net assets of all funds). In the case of pension fund management companies, all entities carried out their operations within capital groups, mainly with insurance companies (see Figure 4.30).

Figure 4.30. NFI sector assets managed by selected capital groups

Source: UKNF.

The scale and nature of linkages of the insurance sector with the banking sector is changing. At the end of 2016, the share of banks in the sector - measured by the share of banks in insurers’ capital and by premium of insurers, whose shareholders are banks - was limited. Due to the largest insurance capital group’s investment in the banking sector, a new direction of linkages may, however, become more important. The share of the entity directly controlled by this insurance group in assets of the banking sector reached 3.6%; however, the scale of those linkages is to increase significantly in 2017.157

Table 4.5. Cross-sector capital linkages

<table>
<thead>
<tr>
<th>Subsidiaries</th>
<th>Parent companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFI</td>
<td></td>
</tr>
<tr>
<td>- number of entities</td>
<td></td>
</tr>
<tr>
<td>(majority share)</td>
<td>8</td>
</tr>
<tr>
<td>(minority share)</td>
<td>–</td>
</tr>
<tr>
<td>- share in capital of TFI (in %)</td>
<td>12.8</td>
</tr>
<tr>
<td>- share in net assets of FI (in %)</td>
<td>16.2</td>
</tr>
<tr>
<td>PTE</td>
<td></td>
</tr>
<tr>
<td>- number of entities</td>
<td></td>
</tr>
<tr>
<td>(majority share)</td>
<td>2</td>
</tr>
<tr>
<td>(minority share)</td>
<td>1</td>
</tr>
<tr>
<td>- share in capital of PTE (in %)</td>
<td>21.9</td>
</tr>
<tr>
<td>- share in net assets of OFE (in %)</td>
<td>6.0</td>
</tr>
<tr>
<td>ZU</td>
<td></td>
</tr>
<tr>
<td>- number of entities</td>
<td></td>
</tr>
<tr>
<td>(majority share)</td>
<td>2</td>
</tr>
<tr>
<td>(minority share)</td>
<td>8</td>
</tr>
<tr>
<td>- share in capital (in %)</td>
<td>3.3</td>
</tr>
<tr>
<td>- share in gross written premium (in %)</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Note: The share of net assets of investment funds/open pension funds managed by investment fund management companies/pension fund management companies and premiums written of insurance companies whose dominant shareholders are banks or insurance companies, in the assets/written premiums of the sector

Source: UKNF.

The impact of earnings of subsidiaries on the financial situation of parent entities was insignificant. In 2016, pension fund management companies and investment fund management companies, which are usually subsidiaries, reported earnings the level of respectively, 0.4 billion zlotys and 0.5 billion zlotys. Banks and insurance companies, which were usually parent entities in capital groups, posted earnings at the level of 13.0 billion zlotys and 4.2 billion zlotys, respectively.158 However, it seems

157 In December 2016, PZU Group, together with PFR (Polish Development Fund), signed the agreement for the purchase of a 32.8% stake in Bank Pekao SA. The structure of the transaction stipulates that PZU will own 20% of the bank’s shares. At the same time, PZU and PFR concluded a shareholders’ agreement determining the method of joint exercise of their voting rights. The settlement of the acquisition shall be finalised once all regulatory approvals are obtained.

158 Excluding the consolidated earnings of the PZU group.
that in the future, parallel to the increased investment of insurance companies in the banking sector, results of individual banks will be very significant for the insurance sector.

The scale of credit linkages of NFIs and funding linkages with the banking sector remained low. The value of loans extended to this sector was a marginal part of the loan portfolio of banks. Similarly, NFI deposits were not a significant source of financing for banks. From the perspective of the NFI sector, the credit exposure resulting from deposits of NFIs at banks was more important. The liabilities of the banking sector to non-credit financial institutions made 10.4% of the NFI sector assets. Despite a relatively low value of deposits placed by the insurance sector, their level of concentration was high.

Investment links between insurance companies and the investment fund management sector increased. Despite the lower inflows of premiums from unit-linked insurance, the value of assets accumulated within insurance investment funds increased. In 2016, the value of UFK assets managed by insurance companies decreased, in favour of UFK assets invested in units of domestic investment funds (see Figure 4.31). This type of linkages may be of potential importance in the case of a significant number of withdrawals from insurance insurance funds. The risk associated with potential fire sale of assets seems unlikely, however. Insurance companies had time and necessary information to prepare for potential gradual withdrawals from insurance investment funds linked to lowered withdrawal fees (see section 4.1.) The value of portfolios managed by TFIs which comprised one or more financial instruments also increased. Investment fund management companies, which were members of insurance capital groups contributed to this growth. Those entities managed almost 75% of funds within all portfolios managed by TFIs.

Source: UKNF.

![Figure 4.31. Assets of insurance investment funds](image-url)
Chapter 5.

Assessment of systemic risk in the Polish financial system

Poland's financial system functions in a stable manner, and the intensity of risks to its stability has not changed significantly in the period since the publication of the previous issue of the Report. However, it remains at an elevated level, mainly due to uncertainty in the external environment of the Polish economy.

Systemic risk is a risk of disruption in the functioning of the financial system, which if materialised interferes with the functioning of the financial system and the national economy as a whole.\(^{159}\) On the other hand, the objective of macroprudential supervision (as a measure to maintain financial stability) is, in particular, to strengthen the resilience of the financial system in the event of a materialisation of systemic risk, and thus support long-term, sustainable economic growth of the country.\(^ {160}\)

Identification of systemic risk requires analysis of the situation in the financial system in a way comprising not only sectoral analysis, but also the processes influencing the whole financial system and possible linkages within it. For that reason, the analysis of systemic risk is based on the concept of intermediate objectives of macroprudential policy. The Financial Stability Committee (FSC), bearing in mind the recommendations of the European Systemic Risk Board\(^ {161}\), as well as taking into account the specificity of the Polish financial system, detailed the following intermediate macroprudential supervision targets\(^ {162}\):

- limiting the risk arising from excessive growth or the size of indebtedness or leverage,
- limiting the risk arising from excessive mis-

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\(^{159}\) See Article 4(15) of the Act of 5 August 2015 on Macroprudential Supervision of the Financial System and Crisis Management (Journal of Laws 2015, item 1513).

\(^{160}\) See Article 1(2) of the Act of 5 August 2015 on Macroprudential Supervision of the Financial System and Crisis Management (Journal of Laws 2015, item 1513).

\(^{161}\) See Recommendation of The European Systemic Risk Board (ESRB) of 22 December 2011 on the macroprudential mandate of national authorities (ESRB/2011/3).

match between assets and liabilities, or the risk of illiquidity in financial markets,
- limiting the risks arising from excessive concentration of exposures to entities or risk factors and related links between financial system entities,
- reducing the risk resulting from inadequate incentives influencing the behaviour of financial institutions or their customers,
- ensuring adequate resilience of the financial infrastructure.

The systemic risk assessment comprises identification of potential weaknesses in areas corresponding with intermediate macroprudential policy targets, as well as the assessment of the resilience of the analysed financial institutions to the materialisation of risks. In addition, the systemic risk assessment discusses the possible sources of shocks which may lead to the materialisation of the risk. The analysis includes areas related to the first four out of five intermediate objectives. In the area of the fifth intermediate objective, i.e. resilience of the financial infrastructure – NBP examines the functioning of payment systems together with securities clearing and settlement systems. The results of these analyses are presented in a separate publication – “Assessment of the functioning of the Polish payment system”.

5.1. Possible vulnerabilities in the financial system

Risk arising from excessive growth or the size of indebtedness or leverage

The credit cycle in Poland is at the turn of the recovery and expansion phase, which means that the threat of excessive credit expansion is low (see Figure 5.1). NBP assesses the current position in the credit cycle on the basis of three variables – credit growth rate, value of the credit gap and the debt service ratio. The analysis includes areas related to the first four out of five intermediate objectives. In the area of the fifth intermediate objective, i.e. resilience of the financial infrastructure – NBP examines the functioning of payment systems together with securities clearing and settlement systems. The results of these analyses are presented in a separate publication – “Assessment of the functioning of the Polish payment system”.

Figure 5.1. Position in the credit cycle

Notes: Last observation 2016 Q3.
Source: NBP calculations based on NBP, BIS and GUS data.

The threat would be high primarily at a time when a country is in the phase of expansion for a long time.

The Debt Service Ratio (DSR) is defined as the sum of interest and amortization to income in the private non-financial sector – it is therefore the measure of debt burden on income.

The credit gap is a deviation of the private non-financial debt to GDP ratio from the long-term trend.

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163See “Ocena funkcjonowania polskiego systemu płatniczego w II półroczu 2016 r.” (Assessment of the functioning of the Polish payments system in the 2nd half of 2016), May 2017, NBP.

164The threat would be high primarily at a time when a country is in the phase of expansion for a long time.

165The Debt Service Ratio (DSR) is defined as the sum of interest and amortization to income in the private non-financial sector – it is therefore the measure of debt burden on income.

166The credit gap is a deviation of the private non-financial debt to GDP ratio from the long-term trend.
the debt towards banks and domestic credit institutions (the so-called narrow credit measure, which amounted to 54.6% of GDP in the third quarter of 2016) were growing at a pace consistent with the long-run trend (see Figure 5.2).

Figure 5.2. The private non-financial sector debt to GDP ratio and the long-run trend

![Graph showing the private non-financial sector debt to GDP ratio and the long-run trend.]

Notes: Last observation 2016 Q3. Source: NBP calculations based on NBP, BIS and GUS data.

Early warning models also indicate that in the horizon of 1 year to 4 years the threat of a banking crisis associated with excessive credit growth remains low – the average (model quality-weighted) likelihood does not exceed 13% for models that include domestic and global variables and 7% for models based on domestic variables only. The historical analysis of the results of the models implies that the risk should be assessed as significant when the likelihood exceeds 25% (see Figure 5.3 and Figure 5.4).

The banking sector remains the dominant source of financing for the real economy. Bank lending is growing at a rate that does not generate macro-economic imbalances. The growth rate of loans to the non-financial sector remained close to the nominal GDP growth. No signs of excessive easing of lending policy by banks were identified. The quality of loans to the non-financial sector is gradually improving and the ratio of loan losses to the value of the portfolio is stable. The quality of the loan portfolio in large cooperative banks, which is worse than in other cooperative banks and in commercial banks, is a vulnerability.

Figure 5.3. Probability of a banking crisis in Poland – models including domestic and global variables

![Graph showing the probability of a banking crisis in Poland.]

Notes: Last observation 2016 Q3. The figure shows the average (weighted by signal quality) value of probability obtained on the basis of 237 models including domestic and global variables and the cut-off threshold, which when exceeded, signals the threat of a banking crisis (it has been assumed, following ESRB studies, that the cost of the absence of a signal warning against a crisis is 3 times higher than the cost of a wrong signal about a crisis if no crisis occurs). The green shaded areas denote the range of values of probability (not weighted by signal quality) for all models excluding the models which show the lowest and highest probability of a banking crisis in Poland in every period. The average value of probability (the black line) weighted by the quality of signals of the models sometimes runs below the line of 30th percentile of probabilities, because better models have indicated a lower probability of a crisis in these periods.

Source: NBP calculations based on BIS, Eurostat and NBP data.

In recent years, the role of debt securities in financing the enterprise sector has gained in importance. The value of outstanding corporate bonds currently amounts to about 23% of banks’ corporate loans. Among non-credit financial institutions, only investment funds are significant buyers of these instruments. The share of other non-credit financial institutions in the financing of the real economy is low. The sector of non-credit financial institutions does not generate imbalances.

The role of credit unions in the financing
of the economy is also small (less than 1% of loans granted to households). The difficult capital situation of a significant portion of this sector reduces scope for lending growth.

Figure 5.4. Probability of a banking crisis in Poland – models including only domestic variables

Notes: Last observation 2016 Q3. The figure shows the average (weighted by signal quality) value of probability obtained on the basis of 176 models including only domestic variables. Source: NBP calculations based on NBP, BIS and GUS data.

The current trends in the indebtedness of the non-financial sector are not accompanied by the accumulation of imbalances in asset markets. Most of the financing of the real estate sector provided by the domestic financial sector flows to the residential real estate market. This market is characterised by growing demand and a corresponding increase in supply, which remain close to equilibrium. The increase in demand is partly due to the investment demand (purchase for rental) stimulated by low interest rates. The probability of an emergence of disequilibrium as a result of supply or demand shocks is increasing. In this context, potential barriers to further growth in housing production in the future are significant. In an environment of low interest rates, an increase in prices could be a trigger for growth of speculative investment. On the other hand, the imbalance arising from the growing oversupply is observed on the commercial real estate market, especially in the office segment. However, financing of this segment by the domestic financial sector is very limited and did not change significantly in 2016.

Risk resulting from excessive mismatch between assets and liabilities, or the risk of illiquidity in markets

This risk relates mainly to credit and deposit institutions (banks and credit unions), which results from the nature of their activities (financing illiquid assets with deposits, partially available on customer’s request). To reduce the risk of a sudden outflow of deposits, these categories of institutions are covered by regulatory liquidity requirements, as well as Bank Guarantee Fund guarantees. In the case of liquidity problems, the central bank can provide these institutions with support in the form of a refinancing loan, unless the problems of a given institution result from its insolvency.

The structure of financing of the Polish banking sector limits liquidity risk. The main source of funding for domestic banks are deposits from the non-financial sector, which for several quarters have been characterised by high growth rates. For the first time since 2007, the value of non-financial sector deposits exceeds the value of lending for this sector. At the same time, the share of liabilities owed to financial institutions decreases, including owed to foreign entities.

The short-term liquidity risk in banks is low. This is indicated both by levels of regulatory liquidity ratios, and the level of liquid assets in banks. The buffer of liquid assets is greater than the EU average, and its structure is of high quality, i.e. it consists mainly of NBP bills and government bonds. However, it should be highlighted that the materialisation of liquidity risk may occur regardless of the bank in question holding significant buffers of liquid assets, if it is triggered by the bank’s financial or capital situation.
Assessment of systemic risk in the Polish financial system

Market risk is of little significance for Polish banks and results mainly from the mismatch of the balance sheet structure in terms of currency and interest rates within the banking book. The significant on-balance sheet currency mismatch in the banking sector is hedged using derivatives transactions. In this context, the observed growth in the share of short-term transactions in hedging the currency position increases banks’ sensitivity to market conditions, in particular, to the availability and prices of hedging transactions. Most banks in Poland, both commercial and cooperative, are characterised by a positive interest rate gap, which means that a decline in interest rates causes \textit{ceteris paribus} a reduction in banks’ earnings, and the growth in interest rates – an improvement. In the context of market expectations suggesting an increase in interest rates in 2018, the structure of banks’ balance sheet may foster an improvement in net interest income in the future.

In the context of the difficult financial and capital situation of the credit unions’ sector, institutions of that sector should pay special attention to liquidity risk. However, in the period analysed, the liquidity situation of credit unions was stable. The share of liquid assets in total assets has slightly increased, and most credit unions meet the supervisory liquidity requirements. The ratio of loans and credits extended by credit unions to deposits does not exceed 60%.

In the case of the majority of non-credit financial institutions, due to their business model, the liquidity mismatch between assets and liabilities plays a minor role. This is due to the following factors:

- the maturity structure of the balance sheet – in the insurance sector, due to the longer maturity of technical insurance provisions compared to assets and the inverted production cycle (payment of insurance premium in advance),
- the nature of offered products – in the case of closed-end investment funds the withdrawal of funds is possible only in certain periods,
- legislative solutions – in the case of open pension funds there is no possibility of withdrawal of funds by a participant prior to obtaining the pension rights.

In the insurance sector, the liquidity risk plays a certain role only in the case of unit-linked insurance products. However, the long-term nature of these policies limits the possibility to withdraw funds. Moreover, in the portfolios of unit-linked insurance products, liquid deposits dominated, whereas in the case of funds invested in investment funds’ units, insurance companies reduced the liquidity risk via contractual provisions.

In the case of open-ended investment funds, liquidity risk plays a certain role. After a period of decline, the share of liquid assets in investments of the majority of fund categories increased in the second half of 2016. With a statutory obligation of an immediate repayment of the value of redeemed participation units by the fund, despite the direct link between the liabilities of funds towards the participants with the value of assets, the funds may be exposed to liquidity risk in the absence of the possibility to liquidate their assets, for example, in the case of turbulences in financial markets. Among open-ended funds, debt funds had assets characterized by the lowest liquidity.

In the analysed period, financial markets functioned without disturbances. The functioning of the domestic money market was stable. The impact of the tax on assets on the functioning of markets of unsecured interbank deposits and conditional transactions was significantly weaker than di-
Risks arising from excessive concentration of exposures to entities or risk factors and related links between financial system entities

The portfolio of foreign currency loans, which is an example of the concentration of banks’ exposures to risk factors, is a sensitive area of banks’ balance sheets. This portfolio may generate risk in several areas:

- credit risk, whose additional factor – compared to other portfolios – is the foreign exchange rate,
- risk of non-rollover of hedging for the currency position (so far, even in a period of strong market turbulence, the risk has not materialised),
- liquidity risk associated with foreign exchange changes, associated with the need to roll-over hedging currency positions,
- legal risk associated with litigation between banks and borrowers.

Due to the existing buffers in the banking sector (capital) and households (income buffers), foreign currency loans do not pose a systemic risk even when large shocks are assumed. The persistently strong Swiss franc has not caused a significant deterioration in this portfolio. The percentage of impaired loans in the portfolio of FX housing loans is slightly higher than for zloty-denominated loans; however, it mainly results from the fact that the foreign currency portfolio is older. The good repayment performance of the portfolio of FX loans, despite significant foreign exchange shocks, confirms the sufficient level of income buffers allowing borrowers to absorb the effects of shocks. The value of banks’ exposures decreases annually by approximately 6.5%, along with the repayment of principal of FX loans.

In the case of the deterioration of repayment performance in that portfolio, the high levels of LTV which characterize a significant share of FX loans would be a factor increasing credit risk costs.

The concentration of banks’ credit exposures – both in terms of economic entities and in terms of industries – is not a major source of risk. The quality of receivables from the sections of the economy which have the largest share in the loan portfolio of banks has not changed significantly. Simulations performed for the purpose of this Report show that most banks have capital that allows them to absorb the impact of potential bankruptcies of the largest borrowers, although there is a group of cooperative banks which are particularly vulnerable to that risk.

Contractual financial linkages between institutions are currently not a major source of risk, although the role of these links may grow. Interlinkages between commercial banks through the interbank deposits market are small, as evidenced by the marginal contribution of the domino effect in the capital needs resulting from the stress tests. Exceptions include significant deposit links between associating banks and cooperative banks, stemming from the role of associating banks in cash settlements of cooperative banks and depositing a portion of cooperative banks’ cash surpluses in associating banks. Links between non-credit financial institutions and banks remained limited. Capital links between institutions of the non-credit financial in-
stitution sector were stronger. These linkages, apart from the relatively small influence of the financial situation of investment fund management companies on revenues of insurance companies, may also potentially generate common brand risk.\(^{167}\) The finalisation of the Pekao SA bank purchase by PZU and the Polish Development Fund will result in a significant increase of capital links between the insurance sector and the banking sector. This need not, however, lead to an increase in risk.\(^{168}\)

The deposit guarantee and resolution system is an important indirect channel of linkages between banks, as well as between banking sector and credit unions.\(^{169}\) The source of financing of potential payments of deposits and restructuring problem banks and credit unions is mostly banks continuing to operate. In this context, an ongoing restructuring of the credit union sector and the sensitivity of some large cooperative banks to shocks increases the systemic importance of those linkages. Payouts of deposits in 2014—2016, which resulted from problems in the credit unions sector, substantially affected the amount of funds which could be used in the case of potential further problems. On the other hand, payouts associated with the problems of some cooperative banks, financed from the Guaranteed Deposit Protection Fund, represented a direct charge on the earnings of other banks. In accordance with new regulations concerning deposit guarantees adopted in 2016,\(^{169}\) potential payouts of guaranteed deposits will, in the first instance, affect the resources collected \textit{ex ante} by the BFG. The necessity of rebuilding resources of the BFG would result in raising contributions of credit institutions which, in turn, \textit{ceteris paribus}, will affect their earnings and may limit the ability of those institutions to increase capital buffers. Considering their lower profitability, the additional burden will pose a greater challenge for cooperative banks.

\textbf{Risk arising from inadequate incentives influencing the behaviour of financial institutions or their customers}

The existence “of “too big to fail” (TBTF) institutions” resulting from the high concentration of entities in the sector can lead to systemic risk. Such institutions can take excessive risks by making use of their market position and expectations of getting support from the authorities. Therefore, financial supervision may, in the case of banks, impose more stringent requirements on banks with such characteristics. At the global level, similar requirements also apply to the insurance sector.

\textbf{Compared to the European average, the Polish banking sector is characterised by low concentration.} This situation, however, may change due to the growing intensity of mergers and acquisitions. They result both from the actions of some strategic investors in Polish banks, as well as the development of the country’s largest insurance group’s investment in the banking sector. The decline in banking sector profitability may strengthen the upward trend of concentration, which results from higher profitability of large institutions.

\textbf{Institutions with the highest market share should be characterised by an increased ability to absorb the effects of the materialisation of risk.} The additional capital requirements imposed by the Polish Financial Supervision Authority on banks identified as domestic (i.e. “other”) systemically important institutions contributes to strengthening the re-

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\(^{167}\)The common brand risk means a situation when clients’ confidence in entities that share a brand is damaged under the impact of a situation related to one of those entities, e.g. negative investment results reached by investment funds lead to disruption of clients’ confidence in the bank using the same brand as the investment fund management company.

\(^{168}\)See Box 7 in "Financial Stability Report. February 2016", NBP.

\(^{169}\)Act of 10 June 2016 on the Bank Guarantee Fund, the Deposit Guarantee System and Forced Restructuring.
silence of the financial system to disruptions and may reduce the risk associated with the concentration of the banking market.

In other sectors, a high and growing level of concentration occurs among credit unions. In the context of the difficult capital position of the sector, this increases the risks associated with its functioning.

The insurance sector and pension sector are characterised by relatively high concentration, but this does not generate significant risk. This is the result of a good capital position of the largest insurance companies, and institutional arrangements in the pension sector.

The risk of moral hazard may also relate to the behaviour of customers of financial institutions. In this context, possible measures to reduce the portfolio of foreign currency loans should take into account threats associated with moral hazard. Those threats stem from potential incentives for borrowers to use risky products in the future, as it would raise expectations of a similar intervention by the authorities.

5.2. Risk triggers

Risk triggers analysed in the Report refer to two main areas. The first area is related to macroeconomic trends in the environment of the Polish economy and their impact on the macroeconomic situation of Poland. This situation, in turn, materially affects the quality of loans which constitute the most significant exposure of the banks to risk, although the loan portfolio as a whole does not represent a vulnerability of the financial system. A worsening of the macroeconomic situation may also foster risk materialisation in the credit union sector as well as in some cooperative banks. The second area refers to factors significantly affecting the risk associated with the portfolio of foreign currency loans, identified as a sensitive area of banks’ balance sheets.

Factors associated with the macroeconomic situation

Despite the improvement of the current economic growth and the economic outlook in the majority of the largest economies, the persisting uncertainty in the economic environment of Poland increases the likelihood of significant negative shocks which may slow down economic growth in Poland. Greater optimism in financial markets, associated with expectations of fiscal expansion and acceleration of economic growth in the United States, combined with an increase in interest rates, leading to reallocation of global investors’ portfolios from markets of debt instruments towards equities, increases the possibility of excessive deviation of asset prices from fundamentally justified values. The level of market indicators of expected volatility is low which, coupled with the continued uncertainty regarding the directions of economic policy in major economies and the geopolitical uncertainty, indicates a potential underestimation of risk by participants of financial markets. A revision of those expectations may result in the recurrence of risk aversion and volatility in the financial markets as well as capital inflow to the safe asset markets. As a consequence, capital flows might, in turn, induce a correction of imbalances accumulated in some markets of assets which hitherto offered higher returns, where the inflow of capital was caused by the search for yield, one of the effects of the low interest rate environment.

In the real economy, the uncertainty of the economic outlook and the increase in risk aversion may reduce enterprises’ propensity to invest, which in turn will weaken, both, short- (decline in demand) and long-term (lower capital accumulation) economic growth. This effect has a significant impact on the growth outlook in the euro area,
where consumption is currently the strongest driver of the economic recovery, and the low share of investments in economic growth raises concerns related to its sustainability. Another source of uncertainty in the EU is its weakened cohesion, exemplified by the UK's decision to leave the European Union. Uncertain consequences of this process, political instability as well as structural problems of the banking sector in some countries of the euro area, only increase the fragility of the economic recovery in the EU.

The elevated level of uncertainty regarding the future economic policy, both in the United States and in the EU, further backed by growth of the protectionist and populist sentiments, may weaken the economic growth prospects, due to, among others, a slowdown of international trade.

Despite some symptoms of recovery, persisting imbalances in the largest emerging markets, especially in China (in the real estate and banking sectors) constitute a significant source of risk. An additional source of risk in the case of emerging markets may be their foreign debt (in particular, private sector debt in US dollar), in the context of the increase in interest rates in the United States and US dollar appreciation.

Continuing enhanced uncertainty in the global economy is of major importance for the stability of the domestic financial system as it influences macroeconomic situation in the environment of the Polish economy, especially in countries that are Poland’s major trading partners. The situation in those countries affects the dynamics of the Polish economy, and this, in turn, exerts an impact on the situation of domestic borrowers. The growth forecasts published for developed countries, including the euro area, in the coming years point to a strengthened economic recovery, however, concerns about the sustainability of this tendency still exist. Furthermore, the impact of the potential economic slowdown in emerging economies would be observed in Poland mainly due to its influence on the situation of Poland’s main trading partners. Such a scenario would also weaken the pace of economic growth in Poland.

An increase in risk aversion and the increased volatility in financial markets could be an additional channel. This scenario could have a negative impact on prices of Treasury securities (which represent about 15% of bank assets) as well as on the quality of the loan portfolio - due to the prevailing share of floating interest rate loans – particularly if a potential rise in market interest rates stemmed from external shocks.

Growth in market interest rates, even if expected and in line with trends in the real economy, may have a certain impact on the quality of the loan portfolio. However, the effects of the rise in interest rates would be mitigated by the growth in borrowers’ income, therefore, the assessment of net effects is hindered. A rise in interest rates may lead to materialisation of the risk related to the portion of zloty housing loans which were granted to borrowers with inadequate income buffers.

Factors associated with the portfolio of foreign currency loans

Realisation of negative scenarios that assume the slowdown of the growth in the euro area, coupled with the strong growth of risk aversion in the global markets and capital flows to markets of safe assets, could contribute to the materialisation of risk associated with the portfolio of foreign currency loans. In such a scenario, capital outflow to countries regarded as safe would probably occur, which could translate into appreciation of the Swiss franc against the euro and even stronger appreciation against the zloty, which, if it were to be permanent — could adversely af-
fect the quality of the loan portfolio. Ample income buffers of borrowers and banks’ capital buffers limit the scale of threats in this area. A rise in volatility on the foreign currency market could also have a negative impact on availability and cost of banks’ hedging against FX risk as well as contribute to the materialisation of liquidity shocks associated with the necessity to renew the hedges.

The implementation of some economic policy measures present in the public debate may become a factor of domestic nature leading to the materialisation of risk. Initiatives aiming at top-down restructuring, in particular, the conversion of such loans at a rate significantly different than the current market rate, may become a risk factor related to foreign currency loans. Effects of a similar nature could also be generated by judicial decisions in cases concerning FX loan agreements, to the extent that their economic effects are close to the loan conversion proposed in the aforementioned initiatives. Potential measures aimed at the restructuring of the FX loan portfolio should be designed so that they do not lead to a weakening of the banks’ resilience to the materialisation of threats and a reduction of their capacity to provide lending to the economy.

Other factors

Besides the risks discussed above, there are also other factors, which – although they are not strictly associated with the business or financial cycle, or the structure of the sector, may have systemic implications. These factors primarily include operational risk, in particular, legal and technological risk. Legal risk is associated with the possibility of incurring large losses or costs arising from administrative procedures or court litigations. In this context, the interaction between public policy actions aimed at consumer protection and those aimed at maintaining the stability of the financial system, becomes important. Within technological risk, the risk related to the operation of ICT systems, in particular, their exposure to failures and cyber-attacks, seems especially important. The potential materialisation of such risks may have substantial implications for financial stability through the impact on the reputation of the financial institutions affected, and in extreme cases, on their capacity to provide services and, in a broader context, on the level of confidence in financial institutions.

5.3. Resilience of the banking sector to shocks

The structure of the Polish financial system implies that adequate resilience of banks to shocks is a prerogative for maintaining stability of the financial system. In order to assess this resilience NBP carries simulations of effects resulting from given shocks and stress-tests. Neither the result of simulation for the reference scenario nor any other simulations presented in this chapter can be regarded as a forecast of the situation in the banking sector.

Single-factor simulations for materialisation of the credit exposure concentration risk

In order to assess the banking sector’s resilience to the materialization of the credit exposure concentration risk, simulations were carried regarding the impact on banks of a simultaneous bankruptcy of the three largest non-financial sector borrowers and the three largest non-financial borrowers specific for each bank.

The simulations take into account only balance sheet exposures and do not assume realisation of col-

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170 See Box 5 in “Financial Stability Report. December 2016”, NBP.
171 The simulations were carried based on the data from domestic commercial banks and their foreign branches as well as cooperative banks. Branches of credit institutions and BGK were excluded from the simulations.
lateral. It was also established that all loans will have a 100% impairment and that costs resulting from impairment provisions recognition in the first place reduce bank’s current profit not recognized as regulatory capital, and subsequently bank’s Common Equity Tier 1 capital. The simulation did not take into account the exposures to domestic subsidiaries and affiliates.

The results of the simulation of a simultaneous bankruptcy of the three largest borrowers of the banking sector demonstrate that materialisation of the concentration risk would neither significantly impact the solvency of the banks that lend to them nor their capacity to absorb shocks via capital buffers. Receivables from the three analysed borrowers are present in the portfolios of 12 banks (which exhibits 68% share in the banking sector assets). Losses arising from the bankruptcy of these borrowers (totalling around 11 billion zlotys) would not cause capital shortages in the banks, neither with a view to capital adequacy ratios, nor capital buffers.

The results of the simulation of bankruptcy of three largest borrowers from individual banks also indicate that for most banks the losses would neither threaten their solvency nor their capacity to absorb shocks via capital buffers. A total of 197 banks, with 7% share in the banking sector assets, would experience Common Equity Tier 1 capital shortages. For comparison, in June 2016 the shortage could occur in 292 banks with 11.6% share in the sector’s assets. As in the first half of the year 2016, most banks in which capital shortages would occur, are cooperative banks.

The results of the second simulation also demonstrate that, compared to June 2016, banks would need higher capital injections, mainly as a result of growth in potential losses (by 55.6%).

**Stress tests**

**Methodology and assumptions**

Stress tests carried to assess the resilience of domestic commercial banks to negative shocks that take into account macroeconomic, market and liquidity shocks. The central path of the NBP macroeconomic projection from the “Inflation Report. March 2017”, prepared under the assumption of constant interest rates, served as the reference scenario. The aim of the analysis was to quantify effects resulting from hypothetical shocks in case of domestic commercial banks in the period from the first quarter of 2017 to the end of 2019.

Stress tests were carried out in three stages,

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172 Tests were conducted on domestic commercial banks, including their foreign branches. The tests exclude branches of credit institutions and BGK.
in which impact of macroeconomic scenarios, market shock and liquidity shock were analysed respectively. In the first stage, the impact of the two macroeconomic scenarios (reference and shock) on the costs of credit risk materialisation and on net interest income of banks was examined. In the second stage, analysis of macroeconomic shock was supplemented by the impact of an additional negative market shock on banks’ capital position. In the third stage, the impact of both market and liquidity shocks on banks’ liquidity position was analysed. The hypothetical capital needs of banks in both scenarios were defined under the assumption that all analysed banks must exhibit regulatory capital at a level compliant with the capital adequacy ratios (see Box 4). Amounts of capital necessary to fulfil the combined buffer requirement were also presented. At the same time, the transitional period for the conservation buffer was taken into account and the assumption was made that the systemic risk buffer at a level of 3% will become effective from 2018. In addition, a rise in risk weights relating to foreign currency mortgage loans to households was assumed, up to a level of 150% as of 2018.

**Box 4. Capital thresholds as the point of reference in stress tests conducted by NBP**

Capital thresholds, which are the point of reference in stress tests conducted at NBP, are determined on the basis of the CRDIV/CRR package. They consist of capital ratios standards and the combined buffer requirement.

Capital ratios standards (see Figure 1) shall be understood as:

- **minimum capital requirements** as defined in Article 92 of the CRR Regulation (Pillar 1), i.e.:
  - Common Equity Tier 1 capital ratio – 4.5%,
  - Tier 1 capital ratio- 6%,
  - Total Capital Ratio (TCR) - 8%,

- **capital surcharges** imposed by way of administrative decisions pursuant to Article 133a and Article 138 of the Banking Law Act, increasing the required minimum capital ratios (minimum capital requirements) banks have to comply with (Pillar 2). Surcharges for banks in force in December 2016 were related to their significant exposures to foreign currency-denominated mortgage loans for households.

In accordance with the Act of 5 August 2015 on macroprudential supervision of the financial system and crisis management (further: Act on macroprudential supervision), banks are also required to maintain appropriate capital buffers. It was assumed over the stress test horizon that the following capital buffers will be applicable:

- **capital conservation buffer** – in 2017 it amounts to 1.25%, in 2018 it will amount to 1.875% and from 2019 it will amount to 2.5%,
- **OSII buffer** – levels currently set for individual banks identified as OSII amount to 0%, 0.25%, 0.5% or 0.75%,
- **systemic risk buffer** – from 2018, for all exposures in the territory of Poland, at the level of 3%.

It was assumed that the **countercyclical capital buffer** over the stress test horizon will continue to be 0%.

In the CRDIV/CRR package, the sum of capital buffers is defined as the combined buffer requirement. Only a portion of Common Equity Tier 1 capital, left after fulfilling Pillar 1 capital requirements and additional capital requirements from Pillar 2, can serve as a capital buffer. This means that a high Tier 1 capital ratio and
total capital ratio do not always guarantee compliance with the required capital buffer standards, because only the available excess of Common Equity Tier 1 capital can be considered as a buffer (see Figure 2.47).

Figure 1. The stylised structure of regulatory capital requirements and excess of capital

Source: NBP.

Consequences of capital shortfall

The consequences of not having capital buffers vary from the consequences of not complying with the capital ratios standards. Capital buffers, unlike capital ratios standards, have been designed as so-called “soft requirements”, where a bank, despite non-compliance with the requirements, retains a relatively high autonomy in its operation. In accordance with the provisions of the CRDIV/CRR package, banks with no capital buffers (not complying with the combined buffer requirement) have to prepare capital conservation plans in which they present how to replenish capital shortfall for capital buffers, and the plans are subject to approval by the supervision authority, and can face sanctions in the form of:

- automatic reduction of dividend payments,
- automatic reduction of interest payments on subordinated bonds classified as additional Tier 1 capital,
- restriction on payments of variable remuneration components (e.g. bonuses) or discretionary pension benefits for bank’s managerial staff that have an influence on the bank’s risk profile.

The consequences of not complying with capital ratios standards can be more severe, both for the institution itself and its management. A bank that does not comply with capital ratios standards is required to instantly notify KNF about non-compliance and has to prepare a plan setting out how to bring the ratios back to a proper level. The failure to improve capital ratios may be the reason for receivership, or trigger a recovery and resolution plan.

Monitoring of banks’ compliance with capital standards is the domain of microprudential supervision. Nevertheless, if a significant portion of the banking sector fails to meet the standards, this could have broader consequences in the form of a negative impact on the real economy. Therefore, the results of stress tests are a useful tool in systemic risk assessment from the point of view of macroprudential supervision.

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1 See Box 2 in “Financial Stability Report. December 2016.” NBP. Capital adequacy requirements and capital adequacy ratios recommended by KNF.
2 This relates, in particular, to cases of significant risks which are not included in Pillar 1 (e.g. collective debtor risk).
3 Some banks have credit exposures in the countries where national authorities have established a countercyclical capital buffer standard above 0% and for such exposures they have to maintain the countercyclical capital buffer on a reciprocal basis.
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At the end of December 2016, it amounted to PLN 5.5 million. 
4 In Poland, the Act on macroprudential supervision introduces additional sanctions for banks that failed to prepare such a plan or non-approval of the plan by the KNF: recall of the president, vice-president or another member of the management board who is directly responsible for the irregularities found, suspension of the members of the management board from their duties, reduction of the scope of the institution’s activities or its organisational units, imposition of a fine of up to 10% of revenue, imposition of a fine of not more than 20,000,000 zlotys on the president, vice-president or another member of the management board who is directly responsible for the irregularities found, revoking the authorisation to establish the bank and taking the decision to liquidate it, or withdrawing its operating licence. 
5 If a capital conservation plan has been approved by KNF and a bank is not required by the supervision authority to limit profit distribution in a more rigorous way, then the bank sets the Maximum Distributable Amount (MDA) depending on the quartile, in which its available for buffers Common Equity Tier 1 capital is, at the level of: 0.6, 0.4, 0.2 or 0, and multiplies by it the profits not included in the regulatory capital and decreased by tax amounts payable. 

In each quarter of the analysed scenarios, for banks compliant with the required capital ratios and the combined capital buffer, it was assumed that in the next quarter they would increase their loans and securities portfolios and other assets at a rate not higher than the quarterly growth of the nominal GDP. Additionally, growth rates for individual banks were dependent on the level of capital surplus above pillar 1 and pillar 2 capital requirements, increased by the combined buffer requirement. 

Figure 5.5. Macroeconomic shock scenario against the fan chart of GDP from “Inflation Report. July 2016 ”

![Graph showing GDP growth from 6-2015 to 12-2019 with a red line indicating the shock scenario.]

Note: The red line denotes the shock scenario. 
Source: NBP.

The balance-sheet value of the loan portfolio was also affected by provisions for impaired loans, whereas the value of the debt securities portfolio – by the market shock. A decreasing relation to assets was assumed for net fees and commissions income, and for other non-modelled profit and loss account items – a constant relation.

The possibility of a dividend pay-out from profits earned in the period starting from the first quarter of 2017 was also allowed. The dividend rate depended on the banks’ compliance with the criteria regarding capital adequacy ratios defined in the “KNF stance of 6 December 2016 on the dividend policy of banks”.

In the macroeconomic shock scenario a significant deterioration in the economic outlook was assumed, resulting particularly from:

- Disruption in cooperation within the European Union, which through increasing uncertainty and introduction of barriers to the free movement of goods and services within the EU, would contribute to investment reduction and drop in demand as well as price falls on the asset markets. This would lead to a decline in the GDP growth in the major economic partners of Poland. Unresolved banking sector problems in some EU countries would be an additional factor aggravating the decline.
- A significant economic slowdown in develop-

\[173\] As far as the GDP growth is positive.
Assessment of systemic risk in the Polish financial system

- Restrictions in international trade stemming from tariff changes in developed countries, especially in the United States.
- Deep correction in global asset prices, due to the significant growth in investment risk which would precipitate flight to so-called safe havens. This, in turn would lead to a significant strengthening of the Swiss franc against other currencies.

Table 5.2. Major economic indicators in the macroeconomic scenarios considered (%)

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</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>3.7</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Shock scenario</td>
<td>2.9</td>
<td>-0.4</td>
<td>0.0</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>5.3</td>
<td>4.9</td>
<td>4.6</td>
</tr>
<tr>
<td>Shock scenario</td>
<td>5.5</td>
<td>6.7</td>
<td>8.8</td>
</tr>
<tr>
<td><strong>CPI inflation y/y</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference scenario</td>
<td>2.0</td>
<td>2.0</td>
<td>2.3</td>
</tr>
<tr>
<td>Shock scenario</td>
<td>3.7</td>
<td>3.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>WIBOR3M</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference scenario</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Shock scenario</td>
<td>2.3</td>
<td>2.6</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Source: NBP.

Under these assumptions, a significant slowdown in the pace of economic growth would occur in Poland (see Table 5.2). The probability of such a combination of shocks and an economic slowdown as severe as the one resulting from the shock scenario can be assessed as minor (see Figure 5.5). A substantial scale of an economic slowdown in the shock scenario comes mainly from the scenario assumptions regarding downturn in the global trade. Due to the interconnectedness of the Polish economy with the countries exhibiting sizable share in the global trade, Germany in particular, the effects of decline in international trade coupled with problems of emerging economies weigh down on economic growth in Poland in the shock scenario.

A market shock was added to the macroeconomic shock scenario in order to assess the impact of a potential rise in foreign investors’ aversion to risk towards emerging markets and the region (resulting in capital outflow from Poland) on the situation of banks. Capital outflow would be reflected in the rise of Polish Treasury debt yields and the zloty’s depreciation. Depreciation of the zloty would, in turn, lead to an increase in the capital requirements and a deterioration in the quality of banks’ loan portfolios due to the rising zloty value of FX-denominated loans and the associated increased repayment burden for borrowers. The simulation assumed an increase in bond yields by 300 basis points and the zloty depreciation against all major currencies by 30%.

The analysis encompasses also the impact of a market shock and additional liquidity disturbances on banks’ liquidity position. The purpose of this simulation was to check whether banks exhibit adequate buffers of liquid assets in the event of developments assumed in the scenario, i.e. a depreciation of the zloty, a rise in Polish Treasury debt yields and, in addition, an outflow of part of foreign funding and a loss of confidence both from other domestic financial institutions and real economy entities, leading to a withdrawal of a portion of their deposits.

The last part of the simulation was to analyse the impact of a potential bankruptcy of a bank in the two

174 Against the bond yields and the zloty exchange rate as of the end of December 2016.
175 Among others, a withdrawal of 100% of deposits, 10% of loans and 25% of other liabilities towards foreign financial institutions was assumed, as well as an outflow of the unstable (not classified as core deposits) part of deposits from households, enterprises and the general government sector, and respectively 5%, 10% and 10% of their other deposits.
Chapter 5.

Figure 5.6. Accumulated changes in the total capital ratio in the shock scenario (% of risk-weighted assets)

Notes: Purple bars represent the amount of the total capital ratio of banks analysed at the beginning and the end of the simulation period under the shock scenario. Factors with a positive influence on the average total capital ratio over 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.

- "Retained earnings of January-December 2016" are an assumed increase in the capital of banks by a part of undistributed (at the end of December 2016) profit earned prior to the start of the simulation.
- "Earnings before impairment charges and tax on assets" are equivalent to net income from banking activity, less, among others, operating costs.
- "Tax on assets" is the estimated amount of tax on certain financial institutions, which the banks would pay in the simulation period.

The simulation assumed that banks with positive earnings and complying with the assumed minimum capital adequacy levels would pay out a dividend, the rate of which depends on the fulfilment of the criteria for capital ratios specified in the “KNF stance of 6 December 2016 on the dividend policy of banks”.

Source: NBP.

macroeconomic scenarios on the standing of other banks coming from the so-called domino effect.

**Results**

The majority of banks would meet the capital adequacy criterion adopted in the analysis, both at the level of pillar 1 and 2 as well as the combined buffer, if the reference scenario were to materialise. The average total capital ratio for the analysed sample of banks would fall from 17.2% to 15.0%, with approximately 1 pp. stemming from the assumed regulatory measures in the form of increased risk weights for FX housing loans. The ratios would also decrease in the majority of banks (see Figure 5.7). Four banks, with a total share in assets of the banking sector amounting to 5.2%, would not meet pillar 1 and 2 capital ratio requirements (including one bank classified as OSII). The capital needs of these banks at the end of the simulation period would amount to 0.8 billion zlotys (i.e. approximately 8% of the banks’ regulatory capital at the end of 2016). At the same time, 13 banks representing 23% share in the banking sector assets would not meet the combined buffer requirement. The estimated value of their capital needs would amount to 8.5 billion zlotys\(^ {176} \) (i.e. 20% of the their regulatory capital at the end of 2016 — see Table 5.3). A common feature of the banks which do not meet the capital ratio requirements is a low profitability, which limits the capacity to accumulate capital from retained earnings, and a low level of capital surpluses in the initial period of the simulation. In the case of certain banks, suspension of dividend payments arising from the MDA could turn out sufficient to

\(^ {176} \)A potential refund of so-called FX spreads, in accordance with the draft Act submitted by the President’s Office, would result in an increase of capital needs by additional 3.4 billion zlotys, which would cause a decline of the total capital adequacy ratio by 0.4 pp.
Table 5.3. The results of macro stress tests

<table>
<thead>
<tr>
<th>On average per year (as % assets)</th>
<th>Historical data for the period Q1 2016 – Q4 2016</th>
<th>Simulation results for the period Q1 2017 – Q4 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charges to loan impairment provisions</td>
<td>0.50</td>
<td>0.69</td>
</tr>
<tr>
<td>Net interest income</td>
<td>2.22</td>
<td>2.20</td>
</tr>
<tr>
<td>Net earnings</td>
<td>0.91</td>
<td>0.57</td>
</tr>
</tbody>
</table>

**Capital needs**
- Capital shortfall in term of Pillar 1 and 2 requirements (zloty billion) | 0 | 0.8 | 5.8 |
- Capital shortfall in term of Pillar 1 and 2 requirements increased by the combined buffer requirement (zloty billion) | 0.06 | 8.51 | 22.80 |

**Banks that do not meet Pillar 1 and 2 requirements**
- Number of banks | 0 | 4 | 8 |
- Share of assets in the banking sector (in %) | 0.0 | 5.2 | 12.3 |

**Banks that meet Pillar 1 and 2 requirements, but do not meet the combined buffer requirement**
- Number of banks | 1 | 13 | 20 |
- Share of assets in the banking sector (in %) | 1.3 | 8.3 | 31.1 |

**Additional information – market shock in the simulation period (zloty billion)**
- Change in bond value recognized in the profit and loss account | n/d | n/d | -1.2 |
- Change in bond value recognized in capital | n/d | n/d | -18.4 |
- Zloty depreciation impact (impairment charges to FX loans to households) recognized in the profit and loss account | n/d | n/d | -3.6 |

1 The scenario is based on the central path of the NBP macroeconomic projection from “Inflation Report. March 2017”
2 “Net interest income” includes fees and commissions income on extended loans, but does not include interest income on debt securities.
3 “Capital needs” result from the macroeconomic shock and market shock and the domino effect. The detailed description of required minimum capital levels (pillar 1 and 2 requirement, and the combined buffer requirement) is included in Box 4.

Note: The result of the simulation for the reference scenario or other simulations contained in this section should not be considered as a forecast of the condition of the banking sector.
Source: NBP.
fulfil the combined buffer requirement.

The materialisation of the shock scenario would result in a situation, where some banks would record losses and would have to cover them from the available capital. As a result of the losses and higher risk weights relating to FX housing loans, the average total capital ratio for the analysed group of banks would fall from 17.2% to 13.5%. The diversification of banks with regard to total capital ratios would increase substantially (see Figure 5.7) – certain entities would be much more affected if the shock scenario were to unfold. Eight banks, with a total share in assets of the banking sector amounting to 12.3%, would lack capital to fulfil the capital requirements at the level of pillar 1 and 2. They would have to increase their regulatory capital at the end of the simulation period by 5.8 billion zlotys (i.e. approximately 25.7% of the banks’ regulatory capital at the end of 2016). At the same time, 20 banks, representing 31.1% share in the banking sector assets, would not meet the combined buffer requirement. The estimated value of their capital needs would amount to 22.8 billion zlotys\(^{177}\) (i.e. 46% of their regulatory capital at the end of 2016 – see Table 5.3). Losses arising from interbank market exposures would result in a slight increase in commercial banks’ capital needs which, however, would not lead to a domino effect.

The liquidity shock simulation has shown a slight deterioration in the banking sector’s resilience. If a very restrictive shock scenario were to materialise, a group of domestic commercial banks with a share of about 5% in assets of the sector would not have sufficiently high surpluses of liquid assets to cover liabilities resulting from foreign capital outflow, zloty’s depreciation and decline in customers’ confidence (see Figure 5.8). Their shortfall of liquid assets would total approximately 17 billion zlotys. In a simulation presented in the previous edition of the Report it amounted to 4% and 16 billion zlotys, respectively.

\[^{177}\] A potential refund of so-called FX spreads, in accordance with the draft Act submitted by the President’s Office, would result in an increase in capital needs by an additional 6.6 billion zlotys, which would lead to a decline of the total capital adequacy ratio by 0.8 pp.
The results of stress-tests and single-factor loss absorption capacity simulations indicate that materialisation of the restrictive scenario assuming significant economic slowdown, coupled with additional fiscal burdens, would lead to a significant decline in banks’ capital ratios. Consequently, over a dozen commercial banks would become permanently unprofitable and a part of them (mostly small and medium-sized ones) would face regulatory capital shortages in relation to capital ratio requirements. A considerably higher number of banks (including some large ones) would not meet the combined buffer requirement if the risk were to materialise. In such conditions, lending could be curbed, which would aggravate the negative impact of the shock on the real economy and, consequently, on the credit risk borne by banks.

However, according to the NBP’s assessment, the systemic risk associated with the disruptions in financial intermediation provided by banks is limited. It results from the fact that in the shock scenario a big group of banks would only fail to meet the combined buffer requirement, but they would still remain solvent and could continue lending.

The liquidity shock simulations have shown that the banking sector’s resilience is good, despite a slight deterioration in comparison to the assessment presented in the previous issue of the Report. There is, however, a group of banks with an elevated liquidity risk profile.

In the analysed scenarios, legal solutions, presented in the public debate, assuming conversion of FX loans at a historical rate were not taken into account. The introduction of these proposals, particularly those resulting in high costs for banks, would adversely affect banks’ resilience and their capacity to absorb negative shocks.

**Resilience of cooperative banks to shocks**

Average capital ratios of cooperative banks are comparable to those of commercial banks, with liquidity ratios being even higher. Nevertheless, cooperative banks sector, faces a series of challenges, which could negatively affect their resilience to disturbances. Sector’s low profitability impedes accumulation of the capital, which serves as the cornerstone of business development and loss-absorption capacity. Low profitability stems from low cost efficiency (high CTI ratio), resulting from small scale of activity rendered by number of cooperative banks, as well as low interest rate environment, negatively affecting net interest income, which constitutes the major part of cooperative banks’ profits.

Particular attention has to be drawn to the situation of large cooperative banks. These banks are characterised by worse loan portfolio quality (especially in the segment of corporate loans) and visibly low coverage of impaired loans by provisions. Shall receivables associated with these loans be recovered, the need to recognize additional provision costs could substantially affect financial standing...
of some of these banks. Furthermore, the results of simulation point to a considerable concentration risk in a number of cooperative banks, especially large ones.

The stability of the cooperative banks sector is being underpinned by the functioning of the Institutional Protection Schemes (IPS). Banks participating in the IPS provide mutual capital and liquidity support, what allows for stabilisation in banks exhibiting worsened financial standing and avoidance of resolution proceedings. With a view to that, broad participation of cooperative banks in the IPS remains desirable. The situation in cooperative banks remaining outside IPS, as well as associating banks, shall be closely monitored.

5.4. Resilience of other financial institutions to the materialisation of risk

Similarly to the case of banks, the key for resilience of the credit union and insurance sectors and to the materialisation of risk are the capital position and profitability of business operations. Liquidity buffers are also of importance for the resilience of the credit unions sector. In the case of pension fund management companies and investment fund management companies, legal conditions, in particular the separation of investment fund management companies from the funds as such, play a vital role, which helps to ensure the continuity of the provision of services to customers, regardless of the financial situation of the managing entities.

The credit unions sector is characterized by relatively low resilience. The capital condition of the credit unions sector remains difficult, although varied – the smallest unions are characterized by the best capital adequacy. At the end of 2016, the average reported capital adequacy ratio of the sector was significantly below the required statutory minimum. The real capital situation of some credit unions is probably even more difficult, since they do not fully meet the KNF recommendations concerning asset valuation. In 2016, the credit unions sector showed a loss stemming mainly from weak financial results of medium-sized and large credit unions. The sector continues to exhibit low efficiency.

Resilience of the insurance sector to shocks is good, as evidenced by the high capital level. The domestic insurance sector had a large surplus of own funds over the capital requirements, and the vast majority of insurance companies met the new capital adequacy requirements. Own funds of life insurance companies exceeded capital requirements more than three times and non-life insurance companies – more than twice. However, the sector’s profitability deteriorated, which was driven by weaker investment performance of life insurance companies, the introduction of the tax on certain financial institutions, as well as technical losses in the portfolio of car insurance in non-life insurance companies. Changes in the pricing policy of non-life insurers inhibited the deterioration of loss ratios, which should contribute to an improvement in profitability.

Most of the liabilities of insurance companies did not generate interest rate risk, as insurance products did not contain the rate of return guarantee. The high resilience of the Polish insurance sector to market shocks was confirmed by stress tests conducted by EIOPA in 2016.

In the case of other sectors analysed in the Report (investment funds and open pension funds), institutional arrangements ensured the possibility to continue to provide services to customers even in the event of bankruptcy of the companies that manage them (TFI and PTE. These solutions in-
clude, in particular, the separation of the balance sheet of investment funds and investment fund management companies, as well as bearing the entire investment risk by the participants. The financial and capital situation of the TFI and PTE sectors only affects the capacity to cover losses arising from non-performance or improper performance of obligations related to the management of funds.

5.5. Recommendations

In addition to identifying and assessing risk occurring in the financial system, the role of the Report is to offer measures and solutions aimed at containing such risks. This is one of the methods to fulfil the statutory mandate of performing activities to eliminate or contain the systemic risk and to support the stability of the domestic financial system (Article 3 paragraph 2 items 6a and 6b of the Act on NBP). In the opinion of Narodowy Bank Polski, the implementation of the following recommendations is key to the preservation of the stability of the Polish financial system:

1. The implementation of the recommendation of the Financial Stability Committee of 13 January 2017 should continue. According to the FSC, the portfolio of FX housing loans generates systemic risk only in the context of potential effects of legal solutions raised in the public debate – especially ones involving a forced restructuring of the portfolio through conversion of these loans to zloty at a rate significantly different from the current market rate - and in the context of potential operating risk, in particular, legal risk. The risk of an economic nature, including market risk, is not systemic; however, it may become systemic in the context of the risk sources indicated above and in connection with them.

2. Measures that weaken the resilience of the banking sector to shocks should be avoided. Poland’s economic environment continues to show strong uncertainty. In such an environment, which increases the possibility of macroeconomic shocks adversely affecting Poland’s economic growth, preserving high resilience of the banking sector is vital for the stability of the financial system. In this context, measures aimed at restructuring the FX loan portfolio should be designed so that they do not lead to a weakening of banks’ resilience to the materialisation of threats and a reduction of their capacity to provide lending to the economy. In this context, there is a growing need for coordination of public policy measures aimed at consumer protection and measures aimed at the preserving the stability of the financial system.

3. In order to strengthen the cooperative banking sector, it is desirable to further integrate it in the framework of the created institutional protection schemes (IPS), with as wide as possible participation of cooperative banks in these schemes. An reconstruction of their business model, oriented towards efficiency growth, limiting operating costs and focusing on the areas of activities where banks have the right potential to manage the risk is also warranted. The actions leading to the improvement of resilience should in particular apply to some of the large cooperative banks. Cooperative and associating banks should pursue a timely implementation of measures and
organisational and legal instruments within the IPS. A comprehensive and timely implementation of all legal mechanisms as well as appropriate financial arrangements is key for the safety of the functioning of the IPS. To obtain the full advantages and planned effects stemming from the introduction of the IPS, the participation of cooperative banks should be as broad as possible, while the mechanisms of supervision, reporting and risk management should also be properly used. The functioning of IPS could be one of the aspects of a deeper integration of the cooperative banking sector, which can enable an increase in its efficiency and contribute to its stable development.

4. The restructuring measures in the credit unions sector should be continued. These aim to enhance the operational efficiency and increase capital in the case of credit unions whose restructuring is feasible. The measures undertaken should minimise the public costs of restructuring. Despite the insignificant role of the credit unions sector in financing the economy, its situation is relevant from the systemic risk perspective because of its connectedness with the banking sector through the system of deposit guarantees and resolution, as well as because of the significant number of its clients. The capital position of many credit unions remains difficult. The current trends in the area of profitability and capital position of these credit unions do not indicate that over time these credit unions have managed to resolve their problems independently. For this reason, the restructuring should continue. After the restructuring, credit unions should operate based on the model of a strong common bond among members of each credit union.

In the cases of those credit unions which are not able to operate further, their exit from the market should be carried out in a manner which minimises public costs, using the methods of a full takeover or partial takeover of selected property rights or selected liabilities by domestic banks, using support tools provided by the BFG.

5. Banks should factor in their lending policy the possibility that interest rates may rise in the future. Banks should ensure that borrowers taking out long-term floating interest rate 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 around 3 percentage points lower than the average calculated from 2004. An acceleration of economic growth may lead to a rise in market interest rates, which may bring about a faster increase in loan servicing costs than the growth rate of borrowers’ income. For this reason, borrowers should have income that will allow them to service the loan even at a significantly higher level of interest rates than the current one.

The measures taken by the KNF, in particular, the stance provided to banks in November 2016 on informing the client on the interest rate risk as well as measures taken within the scope of on-site inspections, should contribute to reducing the threats in this area. In response to the measures, banks tightened their lending policy in the area of creditworthiness assessment.

6. Banks should pursue a prudent lending policy in the segment of commercial property loans.
The situation in the major segments of commercial property market (office and retail property) shows that imbalances have been mounting, which in the environment of continually rising supply may result in growth of credit risk. Banks should demonstrate particular prudence in examining the quality of loan collateral, the feasibility of assumptions concerning cash flows generated by the property and the borrower’s loan repayment capacity.
Glossary

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.

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.
Baseline credit assessment (BCA) – a main measure, developed by Moody’s, designed for the assessment of the banks. Calculated in accordance with the new, implemented in March 2015, methodology, the measure replaced the financial strength rating. It presents the probability of default of the bank without any external support and its scale depends on the financial profile of bank’s activity, qualitative factors, such as the level of business’ diversification and complexity, and corporate practices, as well as the status of the macroeconomic environment in which the bank operates.

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 deposits – stable part of non-financial sector’s deposits.

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 (CDS) – 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).

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

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

Domestic banking sector – domestic commercial banks and cooperative banks.

Domestic commercial banks – domestically incorporated banks operating in the legal form of 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.

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

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

**Hedonic housing price index** – accounts for differences in housing attributes (i.e. location, usable area, standard) sold in each quarter. The index should react to those changes in the sample smoother than the average price growth or the median. The Hedonic price is the average transaction price from the base period multiplied by the hedonic index. For more information see the article by M. Widłak (2010) „Metody wyznaczania hedonicznych indeksów cen jako sposób kontroli zmian jakości dóbr”[“Methods of computing hedonic price indices as the way to control changes in goods quality”], Wiadomości Statystyczne no. 9.

**Housing loans**– loans on residential real estate for individuals and debts coming out from that kind of loans that were bought.

**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.

**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 G7 Volatility Index, JPM EM Volatility Index** — 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. Traditionally, leverage is also described as a ratio of assets to Tier 1 capital.

**Loss ratio** – the ratio of gross insurance claims and benefits paid, increased by changes in the amount of provisions for gross outstanding claims, to gross premium earned.

**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).

**LTG package** – tools used to calculate technical provisions stemming from insurance contracts containing long-term guaranteed rates of return, which can be applied by insurance companies pursuant to the Solvency II directive. Their application should mitigate the volatility in balance sheets of insurance companies, which can arise from mark-to-market valuation of assets and liabilities. The LTG package in the directive contains the matching adjustment (MA) to the relevant risk-free interest rate term structure (provided for life insurance obligations) and the volatility adjustment (VA) to the relevant risk-free interest rate term structure (for other obligations than those calculated with the use of MA).

**M1 liquidity ratio** – according to KNF Resolution No. 386/2008 on the establishment of liquidity standards binding for banks, in case of banks with total assets over 200 million zlotys. It is defined as the sum of primary and supplementary liquidity reserves less the value of unstable external funds. The minimum value of the ratio is 0.00.

**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.

**Minimum Capital Requirement (MCR)** – corresponds to an amount of eligible basic own funds below which policy holders and beneficiaries are exposed to an unacceptable level of risk were insurance and reinsurance undertakings allowed to continue their operations.

**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.

**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.

**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.

**Own funds of insurers** – sum of basic eligible own funds and ancillary own funds. Basic eligible own funds include the excess of assets over liabilities, as determined for solvency purposes, as well as subordinated liabilities. Ancillary own funds include other items than basic own funds which can be called on demand and serve to absorb losses.

**Polonia** – reference rate calculated on the basis of average weighted interest rate of unsecured O/N deposits submitted on the domestic interbank market.

**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.

**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.

**Small- and medium-sized enterprises** – enterprises that employ fewer than 250 persons.

**Solvency Capital Requirement (SCR)** – corresponds to one-year Value-at-Risk (with confidence level 99.5%) of change of basic own funds of an insurance or reinsurance undertaking.

**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 to premiums earned, net of reinsurance.

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 provisions – the amount of insurance liabilities arising from insurance contracts.

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.

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. High level of the index indicates an elevated risk aversion.

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.
## Abbreviations

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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AC</td>
<td>Auto Casco</td>
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<td>APP</td>
<td>Asset Purchase Programme</td>
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<td>BAEL</td>
<td>Badania Aktywności Ekonomicznej Ludności</td>
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<tr>
<td>BFG</td>
<td>Bank Guarantee Fund</td>
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<tr>
<td>BGK</td>
<td>Bank Gospodarstwa Krajowego</td>
</tr>
<tr>
<td>BGŻ</td>
<td>Bank Gospodarski Żywnościowej</td>
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<tr>
<td>BIK</td>
<td>Credit Information Bureau</td>
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<tr>
<td>BION</td>
<td>Risk Assessment Framework (risk-based and prospective approach for insurance supervision)</td>
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<td>BOŚ</td>
<td>Bank Ochrony Środowiska</td>
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<td>BZ WBK</td>
<td>Bank Zachodni WBK</td>
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<tr>
<td>CDS</td>
<td>Credit Default Swap</td>
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<tr>
<td>CIRS</td>
<td>Cross-currency Interest Rate Swap</td>
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<tr>
<td>CIT</td>
<td>Corporate Income Tax</td>
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<tr>
<td>COR</td>
<td>Combined Operating Ratio</td>
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<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
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<tr>
<td>CRE</td>
<td>Commercial Real Estate</td>
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<tr>
<td>CRD</td>
<td>Capital Requirements Directive</td>
</tr>
<tr>
<td>CRR</td>
<td>Capital Requirements Regulation</td>
</tr>
<tr>
<td>CTA</td>
<td>Cost to Assets</td>
</tr>
<tr>
<td>CTI</td>
<td>Cost-to-income ratio</td>
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<tr>
<td>EBA</td>
<td>European Banking Authority</td>
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<tr>
<td>ECAI</td>
<td>External Credit Assessment Institutions</td>
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<tr>
<td>ECB</td>
<td>European Central Bank</td>
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<tr>
<td>Ecofin</td>
<td>Economic and Financial Affairs Council</td>
</tr>
<tr>
<td>EEA</td>
<td>European Economic Area</td>
</tr>
<tr>
<td>EIOPA</td>
<td>European Insurance and Occupational Pensions Authority</td>
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<tr>
<td>ESRB</td>
<td>European Systemic Risk Board</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>EURIBOR</td>
<td>Euro Interbank Offered Rate</td>
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<tr>
<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>EURO STOXX BANKS</td>
<td>Stock index of the biggest banks in the euro area</td>
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<tr>
<td>Fed</td>
<td>Federal Reserve System</td>
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<tr>
<td>FI</td>
<td>Investment fund</td>
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<tr>
<td>FIZ</td>
<td>Closed-end Investment fund</td>
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<tr>
<td>FOMC</td>
<td>Federal Open Market Committee</td>
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<tr>
<td>FRA</td>
<td>Forward Rate Agreement</td>
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<tr>
<td>FSC</td>
<td>Financial Stability Committee</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>HH</td>
<td>Households</td>
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<tr>
<td>H-H</td>
<td>Hui-Heubel ratio</td>
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<tr>
<td>IBNR</td>
<td>Incurred But Not Reported</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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<tr>
<td>IPS</td>
<td>Institutional Protection Scheme</td>
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<td>IRB</td>
<td>Internal Ratings Based Approach</td>
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<tr>
<td>IRS</td>
<td>Interest Rate Swap</td>
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<tr>
<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>LGD</td>
<td>Loss Given Default</td>
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<td>LIBOR</td>
<td>London Interbank Offered Rate</td>
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<td>LiV</td>
<td>Loan-to-value</td>
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<td>MA</td>
<td>Matching Adjustment</td>
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<tr>
<td>MCR</td>
<td>Minimum Capital Requirement</td>
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<tr>
<td>MDA</td>
<td>Maximum Distributable Amount</td>
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<tr>
<td>MdM</td>
<td>“Home for the Young”</td>
</tr>
<tr>
<td>MF</td>
<td>Ministry of Finance</td>
</tr>
<tr>
<td>MPC</td>
<td>Monetary Policy Council</td>
</tr>
<tr>
<td>MREL</td>
<td>Minimum Requirement for own funds and Eligible Liabilities</td>
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<tr>
<td>NBP</td>
<td>Narodowy Bank Polski</td>
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<tr>
<td>NEG</td>
<td>Negative rating outlook – expected downgrade</td>
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<tr>
<td>NIF</td>
<td>Non-credit financial institution</td>
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<tr>
<td>NSFR</td>
<td>Net Stable Funding Requirement</td>
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<td>Abbreviation</td>
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<tr>
<td>O/N</td>
<td>Overnight</td>
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<tr>
<td>OC</td>
<td>Third party liability insurance</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OFE</td>
<td>Open Pension Fund</td>
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<tr>
<td>OIS</td>
<td>Overnight Index Swap</td>
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<td>OSII</td>
<td>Other Systemically Important Institutions</td>
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<tr>
<td>PKO BP</td>
<td>Powszechna Kasa Oszczędności Bank Polski</td>
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<tr>
<td>PM</td>
<td>Primary market</td>
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<tr>
<td>POLONIA</td>
<td>Polish Overnight Index Average</td>
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<tr>
<td>PSR</td>
<td>Polish Accounting Standards</td>
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<td>PTE</td>
<td>Pension fund management company</td>
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<tr>
<td>PZU</td>
<td>Powszechny Zakład Ubezpieczeń</td>
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<tr>
<td>REIT</td>
<td>Real Estate Investment Trust</td>
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<tr>
<td>RnS</td>
<td>“First family home”</td>
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<tr>
<td>ROA</td>
<td>Return on Assets</td>
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<td>ROE</td>
<td>Return on Equity</td>
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<td>RORC</td>
<td>Return on Regulatory Capital</td>
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<tr>
<td>S&amp;P</td>
<td>Standard &amp; Poor’s</td>
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<tr>
<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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<tr>
<td>S/W</td>
<td>Spot week</td>
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<td>SACP</td>
<td>Stand-Alone Credit Profile</td>
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<td>SCR</td>
<td>Solvency Capital Requirement</td>
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<td>SKOK</td>
<td>Credit unions</td>
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<td>SM</td>
<td>Secondary market</td>
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<td>SME</td>
<td>Small and medium-sized enterprise</td>
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<td>STA</td>
<td>Stable rating outlook</td>
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<td>T/N</td>
<td>Tomorrow next</td>
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<td>TCR</td>
<td>Total Capital Ratio</td>
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<td>TFI</td>
<td>Investment fund management company</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>VA</td>
<td>Volatility Adjustment</td>
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<tr>
<td>VaR</td>
<td>Value at Risk</td>
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<td>VAT</td>
<td>Value Added Tax</td>
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<td>VIX</td>
<td>Chicago Board Options Exchange Market Volatility Index</td>
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<td>WIBOR</td>
<td>Warsaw Interbank Offered Rate</td>
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<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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<tr>
<td>WIG–Banki</td>
<td>Warsaw Stock Exchange index of banks</td>
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<tr>
<td>WSE</td>
<td>Warsaw Stock Exchange</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>
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<tr>
<td>ZUS</td>
<td>Social Insurance Institution</td>
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