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This Report presents the analysis and assessment of threats to 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, highly adverse and low-probability 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. Systemic risk is a 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 (Article 4(15) of the Act on Macroprudential Supervision of the Financial System and Crisis Management).

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 in Poland. 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 threats to banking system stability.

Financial system stability is of particular interest to NBP due to its statutory tasks to eliminate or reduce 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 Narodowy Bank Polski). While fulfilling these tasks, NBP participates in macroprudential supervision of the financial system, and in the event of a direct threat to financial system stability it may also participate in the implementation of crisis management measures. The aim of macroprudential supervision is, in particular, to strengthen the resilience of the financial system to the materialisation of systemic risk and thus to support long-term sustainable economic growth of Poland (Article 1(2) of the Act on Macroprudential Supervision of the Financial System and Crisis Management).

Financial system stability is an important precondition for the central bank to implement its primary task, i.e. maintaining price stability. The financial system plays a key role in the transmission of monetary impulses to the real economy. Financial system stability may hamper the efficient implementation of the monetary policy. The analysis of the financial system also constitutes a necessary element of an efficient regulatory and supervisory policy in the development of which NBP plays an important role, which together with the monetary policy, contributes to maintaining sustainable economic growth. Another reason for NBP’s actions supporting the stable functioning of the financial system is the implementation of its task to organise payments (Article 3(2)(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 and safe operation of these systems.

The “Financial Stability Report” is addressed to financial market participants, other policymakers, as well as to other persons and institutions interested in the subject. 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 who undertake excessive risks, without the need of the intervention of public en-
tities into market mechanisms. Thus, the communication policy of the central bank is an important instrument for maintaining financial system stability. The Report is also submitted to the Financial Stability Committee, which is the macroprudential supervision body.

Identification of systemic risk requires analysing the situation in the financial system in a way comprising not only sectoral analysis, but also the processes influencing the whole financial system, including intralinkages, as well as interactions of the financial system with its domestic and global environment. The structure of systemic risk analysis is set by the intermediate objectives of macroprudential supervision. The Financial Stability Committee, bearing in mind the recommendations of the European Systemic Risk Board as well as taking into account the specific nature of the Polish financial system, detailed the following intermediate objectives of macroprudential supervision:

- mitigation of risk arising from excessive growth or size of debt or leverage,
- mitigation of risk arising from excessive maturity mismatch of assets and liabilities or of the risk of illiquidity of financial markets,
- mitigation of risk arising from excessive concentration of exposures to entities or risk factors and the related interconnectedness between financial system entities,
- mitigation of risk arising from misaligned incentives influencing the behaviour of financial institutions or their clients,
- ensuring the adequate resilience of the financial infrastructure.

Systemic risk assessment comprises the identification of potential areas of weakness (vulnerabilities) in the financial system, factors amplifying or mitigating risks as well as an assessment of the resilience of the analysed financial institutions to the materialisation of risks. In addition, the Report discusses the possible sources of shocks which may lead to the materialisation of risks.

The areas related to the first four intermediate objectives are analysed. In the area of the fifth intermediate objective, i.e. the 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 – “Report on Oversight of the Polish Payment System” and, in part, in “Assessment of the functioning of the Polish payment system”.

The analysis conducted in this Report is based on data available up to 28 September 2019 (cut-off date). The Report was approved by the Management Board of Narodowy Bank Polski at a meeting on 28 November 2019.

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Executive summary

The Polish financial system functioned stably. The sources of risk to financial stability remain similar to those identified in the previous issue of the Report; however, the intensity of some risks has changed. Uncertainty over macroeconomic developments in Poland’s economic environment has also increased. In NBP’s view, the resilience of the domestic financial system to the risk materialisation of the identified sources remains high.

The Polish banking system remains resilient to shocks due to accumulated capital and low leverage. The average total capital ratio remains above 18%, while the average risk weight is higher than in most EU countries. Part of the accumulated capital is composed of capital for covering capital buffers (totaling approx. 57 bn zloty), which helps absorb potential losses in the banking system amid continued lending to the economy. High capital ratios are accompanied by leverage which is lower than in most EU countries.

The persistence of uncertainty in Poland’s external economic environment points to an increased probability of negative external shocks which may slow the country’s economic growth. The results of stress tests indicate that Poland’s banking sector remains resilient. Only a small group of banks would report minor capital shortfalls relative to Pillar 1 and Pillar 2 capital requirements. The remaining banks would be solvent and could continue lending to the economy.

The lowered profitability of Polish banks, especially smaller institutions poses challenges. The profitability of Polish banks is still above the EU average but has fallen significantly in recent years – despite the adjustment measures taken by banks – and remains below the estimated cost of raising capital on the market. In such a situation banks’ capacity to increase capital, meet the MREL requirement and also finance their development may pose a challenge for banks in the future. Return on equity is particularly low among smaller and medium-sized banks, which enhances their sensitivity to negative shocks and reduces their capacity to absorb losses and rebuild capital in the future.

The capital ratios of certain credit institutions, including commercial banks, are low, which reduces their resilience and capacity to absorb potential further losses. Although direct interbank exposures are not significant, the problems individual banks are facing may have a negative impact on other banks via a channel of indirect linkages. If problems of individual banks materialise, this may have negative financial consequences for the remaining banks as it will be necessary to increase financing of the deposit guarantee scheme or the resolution. In special situations, such problems may also undermine confidence in other banks and the whole banking system.

The risk of the portfolio of foreign currency mortgage loans has risen, which stems from a possible increase in the number of agreements challenged in court by some borrowers following, among others, the judgement of the EU Court of Justice (see Box 2.1). As national courts are at liberty to determine whether credit agreements are abusive towards borrowers and their effects, within the limits allowed
by the provisions of national law and content of claims, it is difficult to calculate the potential costs for the banking system. If they turned out to be high, this would be an additional burden on the financial results of banks with large exposures to these loans, thus amplifying other risks associated with low profitability and low capital of certain banks. Due to the length of lawsuits, potential risk materialisation will be spread over time, however in the coming quarters banks’ financial results may be affected by the creation of higher provisions and charges to provisions. Their scale will depend on the approach taken by banks and auditors.

For many years, the pace at which total lending to the non-financial sector has grown has been close to the nominal rate of growth of nominal GDP and is safe from the point of view of Poland’s financial stability. As a result, the countercyclical buffer remains at the level of 0%. However, certain credit categories need to be closely monitored. This applies to consumer loans and zloty-denominated housing loans.

As regards consumer loans, attention has to be paid to the relatively high growth rate and the portfolio of unsecured high-value loans with long maturities. The expected slowdown in the pace of economic growth and fall in demand for work increases the probability of materialisation of loan losses, and high-value loans are already characterised by higher risk than other consumer loans. Many lenders also have no experience with repayment of this type of loans in the deteriorating economic conditions, which may make it difficult for banks to adequately assess credit risk. At the same time, exposure to high-value and long-term consumer loans is concentrated in several banks, which under a negative scenario may join institutions in a difficult capital position.

Given the high and rising activity on the real estate market, special caution has to be exercised in granting housing loans. The value of new loans extended after the second quarter of 2019 rose markedly and reached the highest level since 2008. However, at the current juncture there are no signs of excessive growth of housing loans as simultaneously a considerable portion (including FX housing loans) of the portfolio is repaid. The value of new loans to wage bill remains stable, and although it rises somewhat in relation to GDP, it remains markedly lower than in the previous period of robust activity on the real estate market prior to 2008. The increase in the average loan value is related to the increase in real estate prices and in wages. The recent regulatory action, including the LTV limit requirements and creditworthiness assessment methods, helped limit credit risk in this segment. Low interest rates contribute to accessibility of credit, and robust activity on the real estate market and higher home price growth may provide an impulse for speculative demand.

The cooperative banking sector as a whole is functioning in a stable manner, although it still faces a number of challenges associated with the financial distress of individual entities and the need to define its long-term strategy. Cooperative banks in most cases meet the supervisory and liquidity requirements; however, in the case of certain banks firm action has to be taken to define their business model. The sector’s low efficiency associated with its business model and its low integration rate pose challenges to cooperative banks’ profitability and their capacity to expand in the future.
The level of concentration in the banking system remains moderate, and direct financial linkages between banks are limited. Consolidation of the banking sector in the future may result from low rates of return on equity, especially in small and medium-sized banks, which may encourage mergers and acquisitions to improve economies of scale. An increase in the sector’s consolidation and concentration may be brought by the announced sale of one of the largest banks active on the domestic market. The outcome of the transaction will also have an influence on the ownership structure of the Polish banking sector.

The role of the state is increasing in the domestic financial system. It manifests itself through: (1) ownership of a number of large financial entities, including in the banking and insurance sectors, and (2) a significant representation of the government sector in the decision-making body of microprudential supervision of the entities and (3) the growing share of government bonds on financial institutions’ balance-sheets. At the current juncture, there are not reasons to expect that the environment will change; therefore, the resulting challenges to financial stability – analysed in the previous issues of the Report – remain valid.

Adjusting the WIBOR and WIBID reference rates to the requirements of the BMR remains an important issue for the domestic financial system. However, the associated risk – outlined in the previous issue of the Report – has diminished after the extension of the transitional period for the above-mentioned adjustment has been agreed with the EU and preparations by the system organizer GPW Benchmark have intensified.
Recommendations

In addition to identifying and assessing risk in the financial system, the role of the Report is to offer measures aimed at eliminating or mitigating systemic risk. This is one of the methods to fulfil the statutory mandate of NBP which includes acting to maintain domestic financial stability (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 will support the maintenance of the stability of the Polish financial system:

1. **The difficult capital position of certain credit institutions calls for higher efficiency of their self-restructuring effort, and if it fails, one should take restructuring actions as provided by law.** These processes need to be speeded up due to the expected economic slowdown, which will not be conducive to improving banks’ income. Through an increase in the overall cost of funding the deposit guarantee system and restructuring processes, the accumulation of problems of single entities may have negative financial consequences for the remaining banks, and in particular situations, may lead to a decline in confidence in the whole banking sector.

2. **Banks and auditors should cooperate effectively in order to develop a coherent approach to the creation of provisions and charges to provisions for legal risk related to FX housing loans.** This will allow banks to better assess the impact of this risk on their financial situation and capital needs, thus reducing the negative impact that the current uncertainty has on the market valuation of banks and their possibility and cost of obtaining funding. Decisions regarding the direction of changes in this area may also have a significant impact on the stability of the financial system.

3. **In order to strengthen the cooperative banking sector, it is necessary to intensify measures aimed at further integrating this sector and improving the resilience of associating banks.** Greater integration will allow a reduction of operating costs of cooperative banks, which is particularly important when faced with the challenges related to the rapidly developing financial services market and technological changes. Due to the key role of associating banks in the IPS and their strong financial ties with cooperative banks, it is necessary to ensure the safe functioning of these banks. This requires, among others, an improvement in their capital levels.

4. **In order to increase the resilience of banks and help them to fulfil the MREL requirements on time, it is desirable to enable banks to supply regulatory capital with debt instruments (AT1).** The Tier 1 capital of domestic banks is currently composed entirely of core equity. Due to legal and regulatory reasons, the issue of instruments that meet the criteria of inclusion in additional Tier I capital (AT1) is practically impossible in Poland, although such instruments are defined in the CRR and issued by other EU member states. Amid the declining ability of banks to accumulate capital through retained earnings and the necessity to fulfil the MREL requirements, it is desirable to enable banks to make use of other available forms of financing.
which, in accordance with the CRR, could be included in regulatory capital. National regulations should ensure adequate quality of bank’s capital. But at the same time they should not excessively reduce accessibility to financing, thus weakening the competitiveness of.

5. **It is advisable that banks should analyse their approaches to the pricing of risk related to the consumer loan portfolio, particularly high-value and longer-term loans.** The favourable economic conditions, lasting several years, and accompanying this, the relatively low level of loan losses, might hinder the banks in the assessment of credit risk for this portfolio, leading to an underestimation of the risk pricing. The banks should analyse in detail and verify the purposes of these loans. In the case of a long maturity of the loan, the likelihood of changes in interest rates and income of the borrower is greater, which is why the banks should approach the assessment of creditworthiness more cautiously in such cases.

6. **The banks should continue their prudential policy towards real estate lending.** This is important in the context of rising activity in the residential real estate market. Banks should require borrowers to have adequate income buffers, enabling the repayment of the loan even in the case of significantly higher interest rates than at present, regardless of the formula of calculating the interest rate of the loan and the value of the collateral.

7. **Amid a growing role of the government sector in the financial system in recent years, it is desirable to reduce the risk that may arise as a result of a divergence of objectives between the supervisory and ownership functions.** The effective separation of the supervisory and ownership functions could be achieved by the reintegration of financial market supervision into the structures of NBP. Such a change would be in line with global trends consisting in placing the microprudential supervision in the central bank.

8. **Due to the importance of the WIBOR reference rate for the stability of the financial system in Poland and the close relationship between the WIBOR and WIBID indexes, it is advisable that GPW Benchmark S.A. should submit KNF an application for an authorisation to administer them, which will fulfill the requirements of the BMR.** In view of the completion of the consultation with the banks, they should begin preparing for the change in the method of calculation of these benchmarks.
1. Financial institutions’ economic environment

1.1. Macroeconomic developments

In the first half of 2019, the GDP growth in many economies in the world remained relatively low. In the eurozone, the rate of economic growth – reduced by weaker external demand – remained at a low level (1.3% y/y in Q1 and 1.2% y/y in Q2). On the other hand, the economic situation in the United States continued to be favourable, despite a decline in GDP growth in Q2 (to 2.3% y/y compared to 2.7% y/y in Q1 and, on average, 2.8% y/y in 2018 H2), which was mainly due to a decline in exports and a weakening of private investment growth. Also in China economic growth continued to slow down gradually and in 2019 Q3 GDP grew by 6.0% y/y (compared to 6.4% y/y in Q1 and 6.2% y/y in Q2), which was the lowest growth rate in nearly 20 years.

The November NBP projection indicates that the GDP growth rate in the external environment of the Polish economy will slightly decrease in 2020, with the economic growth in the eurozone remaining at a low level. At the same time, inflation outside Poland will remain moderate. The trade policy of major world economies remains the source of uncertainty for the economic situation abroad.

In the environment of a relatively low economic growth rate abroad, the GDP growth rate in Poland in the first half of 2019 slowed down slightly, but remained at a relatively high level (4.7% y/y and 4.5% y/y in 2019 Q1 and 2019 Q2, respectively). The main driver of growth was a rising consumer demand, supported by a good situation on the labour market, which resulted in good sentiment of households. Growing investments, in particular fixed capital formation, also contributed significantly to GDP growth.

The annual dynamics of consumer prices remain close to the NBP inflation target (in September 2019 the CPI inflation amounted to 2.6% y/y), despite a relatively high economic growth and the occurrence of supply shocks reflected in higher prices of unprocessed food than in the previous year.

Despite a slight weakening of labour demand, the unemployment rate in Poland decreased again, and in the second quarter of 2019 reached a historically low level (3.5%, seasonally adjusted, LFS measure). This was accompanied by a stable wage growth in the national economy (7.0% y/y in nominal terms in 2019 Q2).

The continued good situation on the labour market translated into a further improvement in the financial situation of households. The steady increase in households’ disposable income (in real terms, by 3.8% y/y in 2019 Q2) and optimistic consumer sentiment contributed to continued growth of consumption and retail sales. At the same time, the financial assets of households continued to grow (nominally by 7.2% y/y in 2019 Q3), and households increased their exposure to safe forms of saving with considerably high liquidity (cash and short-term deposits) and to housing investments. This was accompanied by further growth in households’ financial liabilities (nominally by 5.7% y/y in 2019 Q2).
As a result, the level of net financial assets of households increased nominally by 5.3% y/y at the end of 2019 Q2. At the same time, their debt-to-disposable-income ratio remained at a moderate level (59.6% in 2019 Q2).

In the first half of 2019, the situation of the sector of non-financial corporations was still favourable, and their financial results improved in annual terms. Domestic demand was the main source of growth of sales revenue, which in the second quarter of 2019 increased by 7.4% y/y. In the context of significant increases in the prices of labour, third party services and energy, the sales costs growth rate was higher than the revenue growth rate (and it was equal to 7.9% y/y), which translated into a decrease in net sales revenue (by 1.2% y/y) and a decrease in the sales profitability ratio in annual terms (to the level of 4.6%). However, a clear improvement in the net income on financial operations helped to achieve a 4.6% y/y increase in the net income of the corporate sector. At the same time, the percentage of profitable enterprises remained at a high level and was similar to that recorded in the corresponding period of 2018 (74.9% compared to 74.4%).

In the first half of 2019, the non-financial corporate sector was still characterised by high liquidity and debt servicing capacity. This is confirmed by a high share of companies declaring timely repayment of liabilities towards banks (94.3% in the second quarter of 2019). In 2019 the structure of financing companies’ operations remained stable, and the overall debt indicator expressed as the ratio of liabilities and provisions for liabilities to total assets remained at a safe level of around 50%. Also, the increase in corporate debt towards financial institutions remained moderate and the debt-to-GDP ratio remained at a low level (around 40.2% at the end of the first quarter of 2019).

The condition of the general government sector in the first half of 2019 was very good. The surplus of the sector was higher than in the same period of 2018 (0.6% and 0.4% of annual GDP according to ESA2010, respectively), mainly due to the favourable economic situation. The high growth rate of tax revenues and social security contributions (approx. 10.6% y/y) helped to compensate the increase in expenditures related to the payment of the so-called thirteenth pension (approx. 0.5% of GDP).

According to the November NBP projection, GDP growth in 2019-2021 will decline gradually (to 4.3% y/y in 2019, 3.6% y/y in 2020 and 3.3% y/y in 2021). Economic growth will be hampered by an economic slowdown abroad and the lower pace of utilisation of EU funds used for financing investments in fixed assets. The magnitude of the slowdown in GDP growth will be mitigated by fiscal changes introduced by the government, which will have a positive impact on households’ disposable income. As a result, consumer demand, supported by a favourable labour market situation for workers, will continue to be an important driver of growth. CPI inflation in 2019 will remain moderate (it will amount to 2.3% y/y on average) and after an increase in 2020 (to 2.8% y/y), it will be close to 2.5% y/y at the end of the projection horizon. The main source of uncertainty for the projection are the future global economic situation, the prices of energy raw materials on the global market and regulations concerning the domestic electricity market.
1.2. Global factors

The world-wide economic growth slowdown, as expected by NBP\(^4\) and most international financial institutions\(^5\), is in the medium term the main source of external risk to the economic situation of Poland and the condition of the Polish financial system. The worsening of the international economic outlook is a result of weaker global trade and declining levels of investment and economic activity. In addition, uncertainty about the direction and impact of the economic policies of the world’s major economies is increasing, which is reflected, among other things, in low and more often even negative short-term and long-term government and corporate bond yields (see Figure 1.2). The weakening prospects for GDP growth are confirmed by the declining readings of indicators reflecting expectations concerning the future economic outlook (such as PMI, BCI or CCI\(^6\))(see Figure 1.1). The expected low economic growth will be conducive to maintaining low interest rates by the main central banks in the long run.

Figure 1.1. Growing uncertainty of economic policy, weakening sentiment and economic activity

![Graph showing economic indicators]


Figure 1.2. Profitability structure on the global debt instruments market

![Graph showing profitability structure]

Source: Bloomberg, NBP calculations.

The global financial markets still underestimate the price of risk in certain segments, the repricing of which may lead to higher risk for financial institutions. A loose monetary policy and the low in-

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\(^5\) See European Commission, Summer 2019 Economic Forecast; World Economic Outlook, IMF, October 2019; Interim Economic Outlook, OECD, September 2019.

\(^6\) Purchasing Managers’ Index, Business Confidence Index, Customer Confidence Index.
Financial institutions’ economic environment

terest rate environment encourage investors to purchase assets with higher credit risk and lower liquidity, characterised by higher expected yields (the so-called search for yield), which is conducive to increased valuation of these assets. As a result, the yields of financial instruments do not reflect the actual risk of these investments. The share of government bonds with negative yields is also increasing. The fall in bond yields is an incentive to increase debt – both in the private and public sectors. As a consequence, the value of bonds issued by companies with lower rating and high level of debt is increasing. These instruments are mainly purchased by non-bank financial institutions. High valuations amid high investment risk and low liquidity of assets purchased, may – in case of shock – cause a materialization of systemic risk in the form of a negative price spiral on global financial markets.

The banking sectors in some EU countries still face major challenges – the main being very low profitability of banks, below the estimated cost of capital. Even though low interest rates allow banks to obtain cheaper market funding, they also have a negative impact on the possibility to increase interest income, which – given the high level of operational costs – results in continued lower profitability of banks. The pace of improvement in the capital adequacy of banks has slowed down recently. Despite a gradual increase in asset quality, banking sectors in countries such as Greece, Italy and Portugal are still burdened with high levels of impaired loans. In some EU countries, there is also an accumulation of cyclical imbalances on the residential real estate market, along with high level of household indebtedness. A sharp fall in prices in this market or a strong slowdown in global economic growth could cause the materialization of credit risk in the EU banking sector.

In the medium term, European banks also face challenges related to:

• the need for higher investment in ICT infrastructure and new technologies to maintain a competitive edge and increase resilience to cyber risk;
• the need to adapt business models to sustainable finance requirements;
• implementation of the regulatory requirements package (CRD V/CRR II/BRRD), which may require capital increases in many EU banks and issuance of financial instruments to meet the MREL requirements;
• implementation of final Basel III proposals.

Further deterioration in the condition of the EU banking sector may lead to a reduction in the supply of credit to the economy and a slowdown in economic growth.

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7 BBB and lower, see e.g. Joint Committee Report on Risks and Vulnerabilities in the EU Financial System, Autumn 2019.
8 See ESRB. ESRB issues five warnings and six recommendations on medium-term residential real estate sector vulnerabilities, 23 September 2019.
9 According to the EBA’s assessment of December 2017 on the impact of the implementation of Basel III on EU banks, compliance by banks with the new requirements will result in an average increase in the minimum capital requirement of 24.4% (around EUR 135 billion). The biggest adjustment costs will be borne by large, systemically important global banks and by banks using internal models. Cf. EBA, Basel III reforms: impact study and key recommendations, Paris 2019.
The materialisation of the risk factors described above may stem from numerous interrelated events (see Figure 1.3). Distortions in international trade (e.g. between the USA and China, the European Union or Japan) will cause economic slowdown in, among others, the USA, the euro area and emerging markets. In turn, the UK’s exit from the EU without an agreement establishing future relations can disrupt the functioning of European supply chains, e.g. in the car industry. Growing geopolitical tensions, for example in the Middle East, may also lead to a decline in world GDP growth as a result of shock-related increases in oil prices. These events may lead to turbulences in financial markets. The growth of geopolitical tensions also results in the emergence of increased demand for safe assets (e.g. German and US Treasury bonds of Germany, assets denominated in CHF), which deepens the negative yields of these assets. The potential loosening of fiscal and monetary policies of the world’s major economies may limit the decline in global growth, but it may also have negative effects. Expansionary fiscal policies in countries with high debt levels will lead to increased risks to the sustainability of public debt. Low interest rates may ease debt servicing costs, but they will also encourage further debt accumulation, including by companies implementing inefficient investment projects. A significant slowdown in economic growth could reduce debt sustainability and trigger price falls in financial markets. In addition, political events in the EU – in particular Brexit or fiscal problems in certain countries – may result in price falls on European markets of Treasury securities and corporate debt. This, in turn, will
result in losses for financial institutions with exposures to these markets and may undermine the availability of funding, increasing the severity of the shock. Also, it cannot be ruled out that the loose monetary policy of the major central banks will not achieve the expected effects (so-called quantitative failure), which may cause a negative reaction of the financial markets. Moreover, a search for yield investors’ behaviour increases the potential for an increase in risk aversion in the financial markets.

**The main external risk to the stability of the Polish financial system is a significant global economic slowdown.** Its effect, materialising through the credit channel in the medium term, will be a slowdown in the rate of GDP (including exports) growth in Poland and, consequently, an increase in impaired loans in the balance sheets of Polish banks. On the other hand, turbulences in financial markets may immediately result in, through the market channel, the weakening of the zloty exchange rate, an increase in market interest rates, a decrease in the prices of financial assets or an increase in the costs of funding for banks. The effects of materialisation of such risks on the banking sector are quantified in stress tests (see Chapter 5).

### 1.3. Developments in the domestic financial market

#### 1.3.1. Global markets

**The price of risk in the global financial market remained moderate and in some segments - under-valued** (see Figure 1.4). The temporary increase in the price of risk in the third quarter of 2019 was a result of increased concerns about the weakening of economic activity around the world, including the outbreak of recession in some developed economies as well as growing geopolitical tensions. The scale of volatility was limited by expectations of loosening of monetary policy by major central banks.

**Figure 1.4. Risk index on the global financial markets**

![Risk index on the global financial markets](image)

Notes: Risk indicator based on normalised distribution of empirical measures of selected risk categories, according to weights established on the basis of an analysis of main components: stock exchange volatility – index VIX, bond volatility – index MOVE, currency volatility – index JPM G7 volatility, economic risk – TED spread, credit risk – credit spread of corporate bonds; grey area means a risk neutral level, below 22 points – risk appetite, above 55 points – risk aversion; grey area marks the risk-neutral level, below 22 points – risk appetite, above 55 points – risk aversion.

*Source: Bloomberg data, NBP estimates based on Morgan Stanley Research “EM Risk Indicator: A Regime-Switching Model Approach”.*
1.3.2. Financial market in Poland

The yields on Polish Treasury bonds were falling significantly. The observed increase in prices of long-term Treasury bonds resulted mainly from price trends on the global markets and weakening market expectations for interest rate increases in Poland reflected, among others, in lower quotations of FRA contracts. This trend was also supported by the relatively low supply of these bonds on the primary market, in view of the good fiscal position of the budget. The pricing of credit risk of T-bonds as measured by CDS quotations did not significantly change. On the other hand, the difference between the yields of Polish bonds, issued both in zloty and euro, against German Bunds, decreased (see Figure 1.5). The exposure of non-residents to the domestic market of Treasury securities was still decreasing, albeit at a slower pace than in the beginning of the year (see Figure 1.6).

**Figure 1.5.** Yields on 10-year Treasury securities against CDS quotations and spread to German Bunds

**Figure 1.6.** Structure of investors in the domestic Treasuries market

Notes: The spread in the yields of Polish bonds in zloty and euro, and German Treasury bonds in percentage points. Source: Thomson Reuters.

Source: Ministry of Finance.

Lack of expectations for interest rate increases in Poland resulted in the yield curve flattening. Increased expectations for the easing of monetary policy by major central banks and concerns about the growth prospects of the domestic economy after a series of poorer data from Germany, strengthened market expectations for keeping interest rates in Poland unchanged for the next two years (see Figure 1.7). This was also reflected in a reduction in the difference between IRS rates and the central bank reference rate, both in Poland and in the euro area and in the countries of the CEE region (see Figure 1.8).

The zloty exchange rate against major currencies weakened as a result of increased geopolitical risk on the global financial market. This was also due to market concerns about the impact of the Court of Justice of the European Union judgement on foreign currency-indexed mortgages on the financial
situation of domestic banks (see Box 2.1). The volatility and range of changes in the PLN/EUR exchange rate significantly increased, but still remained at a moderate level (see Figure 1.9). The cost of obtaining CHF for PLN in CIRS basis transactions, thanks to which domestic banks could hedge financing of, among others, foreign currency denominated mortgage loans, remained stable and low.

**Figure 1.7.** Changes in the expected rate of WIBOR 1M implied from FRA

**Figure 1.8.** Spread between the rates of IRS 10Y and the central bank reference rates for selected currencies

The pricing of shares in Poland decreased as a result of growing concerns about the weakening of economic activity, which was in line with global market trends (see Figure 1.10). Valuations of banks listed on the Warsaw Stock Exchange were additionally burdened with concerns about the impact of the judgement of the Court of Justice of the European Union on their financial situation.
1.4. Situation in the real estate market\textsuperscript{10}

The residential real estate market continued to see heightened activity. The largest cities continued to experience strong demand, including investment demand. Problems with housing supply are the result of the reduced availability of developable land and strong demand in the entire sector (infrastructure investment, commercial real estate, residential real estate). Consequently, growing home construction costs are passed on by real estate developers to consumers. Housing production continues to be very profitable for homebuilders. The observed supply-side tensions indicate than the equilibrium in this market seem less stable than it used to be. Lending growth is lower than in the previous expansion phase (years 2006-2008), and high demand is in 70\%\textsuperscript{11} financed with buyers’ own funds.

Space supply continued to exceed demand in major segments of commercial real estate market (office and retail space). Yet, there are some signs of stabilisation in the office real estate market where vacancies are recorded in poorer quality office buildings. The office real estate market experiences high construction and investment activity – new commercial developments are launched.

\textsuperscript{10}For more information on the current situation on the real estate market in Poland, see “Information on home prices and the situation in the residential and commercial real estate in Poland in 2019 Q2”, available on the NBP website: \url{https://www.nbp.pl/home.aspx?f=/publikacje/rynek_nieruchomosci/index2.html}

\textsuperscript{11}Average value, net of cyclical fluctuations from the first quarter of 2017 to the second quarter of 2019 is 68\%.
1.4.1. Residential real estate market

Average transaction prices per square meter of housing were rising at a strong pace in the first half of 2019, both in the primary and the secondary market (see Figure 1.11). This was largely driven by rising prices of the factors of production. Prices per square meter of housing determined with the use of the hedonic price index (prices of housing of similar characteristics and quality) rose in the second quarter of 2019 in the six and ten largest cities by 13.5% and 10.5% in year-on-year terms and by 5.1% and 3.0% in quarter-on-quarter terms, respectively. Also, average rental rates were on the rise (see Figure 1.12). Average nominal transaction prices in the groups of cities exceeded the figures recorded at the end of the previous recovery phase, amid significantly higher incomes.

**Figure 1.11.** Transaction prices of dwellings in the primary market (PM) and secondary market (SM) in selected groups of cities in Poland

![Graph showing transaction prices in various cities](image1)

*Note: Six cities include Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław, and 10 cities include Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin and Zielona Góra.*

*Source: NBP.*

**Figure 1.12.** Average (offer and transaction) rates of home rental in selected groups of cities in Poland

![Graph showing rental rates in various cities](image2)

*Source: NBP.*

The first half of 2019 saw a further increase in housing demand, both consumption and investment. The estimated availability of residential mortgage loans remained stable. The estimated availability of loan-financed housing in Warsaw and in the six cities slightly declined on account of rising prices. At the end of the second quarter of 2019, the average housing availability in the largest cities remained at the level 0.82 sq.m. for the average monthly wages in the enterprise sector, thus was by 0.33 sq.m. higher than the minimum recorded in the third quarter of 2007.
The impact of the regulatory environment on consumer housing demand has declined. At the beginning of 2018, the impact of the government-subsidized housing scheme “Housing for the Young” faded away. At present, under the housing scheme “Housing Plus”, BGK Nieruchomości is running housing development projects on land owned by local government units and private entities. In July 2018, a new element of the scheme “Housing for the Start” was launched with a view to subsidizing the rental of new housing. So far, these schemes have had little impact on the housing market.

Investment demand for housing is driven by households’ expectations of higher rates of return on home rental than rates of return on financial assets. Owing to low interest rate on deposits and Treasury bonds, housing investment – despite low liquidity – continues to be seen as an attractive investment (see Figure 1.13). Yet, the use of zloty loans reduces the rate of return on investment. As a result, an increased use of households’ own funds for the purchase of rental housing has been observed.

Figure 1.13. Return on home rental (average in seven cities) compared to households’ deposits, residential mortgage loans, 10-year Treasury bonds and capitalisation rates on commercial real estate (office and retail space)

Note: The figure presents the difference in the rate of return of individual assets in percentage points (in the case of Treasury bonds, the current yield to maturity was taken into account). This analysis does not take into account the high transaction costs in the housing market and the potentially long exit time for such an investment. Seven cities include Warsaw, Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław.

Source: NBP, GUS.

Figure 1.14. Commenced construction of dwellings for sale and rental per 1,000 inhabitants in selected groups of cities in Poland

Source: GUS.

12 Under the closed government scheme of subsidizing the construction of owner-occupied housing “Housing for the Young” in the years 2014-2018 the total of 104.7 thousand borrowers benefited from subsidies totalling approx. PLN 2.75 billion, including PLN 0.85 billion in the secondary market housing.
No impact of speculative demand in the housing market has been observed so far due to slight increases in home prices amid high transaction costs and no expectations of their high increase in the future.

So far the supply of dwellings has adjusted flexibly to demand, but recently there have been signs of barriers to further supply growth. This was due to increases in the prices of production factors, that is land, building materials and, in particular, labour costs. The increase in the supply of dwellings was supported by the continued estimated high profitability of housing development projects (see Figure 1.15). Taking into account the current level of demand, the time needed to sell the entire housing stock put on the primary market, despite having slightly extended, is still less than one year (see Figure 1.16). Sales in the primary market are shifting towards earlier production stages, which means that the buffer absorbing some of the demand shocks is being reduced.

The above phenomena indicate that the equilibrium in the housing market is becoming less stable. Potential supply or demand shocks may increase the likelihood of imbalances. In particular, should the supply of dwellings drop significantly amid persistently strong demand, this could lead to a larger rise in housing prices, and then the risk of their decline. At present, the real estate development and construction sectors are at the biggest risk.

**Figure 1.15.** ROE on investment projects in six cities in Poland

![Image of Figure 1.15]

*Source: NBP estimates based on Sekocenbud, Statistics Poland.*

**Figure 1.16.** Time needed to sell the available stock, the number of dwellings put on the primary market, sold and remaining on offer in the six largest markets in Poland

![Image of Figure 1.16]

*Note: The six largest cities include: Kraków, Łódź, Poznań, Tricity Agglomeration of Gdańsk-Sopot-Gdynia, Warsaw and Wrocław.*

*Source: JLL/REAS.*
2. Banking sector

2.1. Lending

The growth rate of lending to the non-financial sector remained moderate\(^\text{13}\) (see Figure 2.1, left-hand panel) and close to the nominal GDP growth rate. Loan growth remained supported by, among others, high economic growth, favourable developments in the labour market, low interest rates and capital surpluses in banks.

**Figure 2.1.** Growth rate of nominal GDP (left-hand panel) and selected categories of loans to the non-financial sector (right-hand panel), y/y

![GDP and Loans Chart](chart.png)

Notes: Left-hand panel: loans* – nominal growth rate, 3-month moving average; loans** – growth rate after adjusting for foreign exchange rate changes, 3-month moving average. Right-hand panel: growth rate after adjusting for foreign exchange rate changes.

*Source: Statistics Poland, NBP.*

The growth rate of zloty housing loans stabilised at a relatively high level (see Figure 2.3), however no signs of an easing of lending policy by banks were observed. The value of new housing loans granted in the first half of 2019 was visibly higher than in the previous periods. The ratio of new loans to GDP and wage bill also increased, but it was still much lower than in 2008 (see Figure 2.3). High demand for housing loans was underpinned by an increase in borrowers’ salaries, which had a positive impact on their creditworthiness. Higher lending was also attributable to rising prices of residential real estate, which translate into ever higher share of higher amount loans (over 300 thousand zlotys) in new credit flows. Loan-financed housing demand was primarily driven by the buyers satisfying their

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\(^{13}\) Percentage changes in loan volumes referred to in Chapter 2.1 relate to data after adjusting for foreign exchange rate changes. Unless otherwise indicated, the period analysed in Chapter 2 covers the period from 31 December 2018 to 30 June 2019.
residential needs. The scale of investment purchases of apartments increased\textsuperscript{14}, but these were mainly financed with own means.

As declared, in the first half of 2019 banks did not change their credit standards, but tightened some of the credit terms (e.g. increased interest margin and non-interest costs).\textsuperscript{15} In the first half of 2019, the share of new loans with LTV ratio above 80% was slightly higher than in the second half of 2018\textsuperscript{16}, but from 2017 onwards (after completion of phasing-in downpayment requirement under Recommendation S) it has not exceed 45% of new loans.

\textbf{Figure 2.2.} Value of selected loan categories to GDP

\textbf{Figure 2.3.} Changes in stock and growth rate of housing loans, y/y

\textbf{Notes:} The ratio of stock of selected loan categories to cumulated nominal GDP from the last four quarters.

\textbf{Source:} NBP.

FX housing loans are being systematically repaid (see Figure 2.3) – their value declines both in relation to the GDP (see Figure 2.2) and as share of the non-financial sector loan portfolio, nevertheless still represent a significant part of this portfolio (around 11%). Over 80% of these loans are denominated in Swiss franc. The balance sheet value of these, expressed in zloty, remained under the influence of currency exchange rate fluctuations. Their value expressed in the foreign currency, however, has been decreasing gradually at a rate similar to that observed in the previous years (see Figure 2.5).

\textsuperscript{14} See “Information on home prices and the situation in the residential and commercial real estate market in Poland – 2nd quarter 2019”, September 2019, NBP.

\textsuperscript{15} For more information on the factors influencing changes in lending policy and its developments, see: “Senior loan officer opinion survey on bank lending practices and credit conditions. 2nd quarter 2019”, April 2019 and “Senior loan officer opinion survey on bank lending practices and credit conditions. 3rd quarter 2019”, July 2019, NBP.

\textsuperscript{16} See “AMRON-SARFiN Report 2/2019. Ogólnopolski raport o kredytach mieszkaniowych i cenach transakcyjnych nieruchomości” (Nationwide report on housing loans and real estate transaction prices), August 2019, ZBP.
The annual growth rate of consumer loans was still relatively high. It was mainly a consequence of the business cycle phase and reflected the structure of GDP growth in which private consumption prevailed. Consumer confidence remained high and a demand for loans was increasing in line with growing wages (see Figure 2.4).

**Figure 2.4.** Value of new consumer and housing loans to nominal GDP and wage bill

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Consumer loans/GDP* (left axis)</th>
<th>Housing loans/GDP (left axis)</th>
<th>Consumer loans/wage bill** (right axis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2Q 2008</td>
<td>6%</td>
<td>5%</td>
<td>4%</td>
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<td>4Q 2008</td>
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Notes: Loans/GDP – the ratio of new consumer/housing loans originated in a given quarter to quarterly nominal GDP; loans/wage bill – the ratio of new consumer/housing loans originated in a given quarter to total value of remuneration in the national economy in a given quarter.

Source: NBP calculations based on Statistics Poland, NBP and ZBP data.

**Figure 2.5.** The value of CHF loans in relation to banking sector assets and GDP

<table>
<thead>
<tr>
<th>Quarter</th>
<th>CHF loans (left axis)</th>
<th>CHF loans/assets* (right axis)</th>
<th>CHF loans/GDP** (right axis)</th>
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Notes: CHF loans/assets* – the value of CHF housing loans expressed in zlotys in relation to banking sector assets at the end of a given quarter; CHF loans/GDP** – the value of CHF housing loans expressed in zlotys in relation to nominal GDP calculated cumulatively in four quarters.

Source: NBP, Statistics Poland.

In response to a high demand for consumer loans banks adjusted the supply accordingly, but have not materially eased lending policy in this segment. Due to increased external burdens weighing on the long-term profitability, banks remained inclined to increase exposure to high margin consumer loans. Nevertheless, some banks tightened credit standards and particular credit terms (e.g. increased interest rates and non-interest costs and reduced maximum loan amount available), justifying it by, among others, an elevated risk related to economic outlook and a rise in impaired loans. Some banks tightened credit terms as a result of the UKNF post-inspection recommendations. However, there are also symptoms of easing via extending a maximum maturity of consumer loans by some banks. The share of loans with maturity over 5 years has been gradually increasing and amounted to approx. 58% at the end of June 2019.

The risk of the consumer loan portfolio is largely related to both a continued growth of high-value and long-term loans and a high market concentration. For several years high-value consumer loans (over PLN 100,000 upon origination) have been gradually increasing as a share of new lending, which in 2018 amounted to 14%. Despite rapid growth of high-value consumer loans, their share in the entire...
non-financial sector loan portfolio remains relatively low and totaled around 4%. This loan segment is however distinguished by a high market concentration – in case of several banks these loans constitute a considerable share of their assets and thus can pose a substantial risk.

**Figure 2.6.** Share of consolidation loans in consumer loans by amount ranges

![Graph showing share of consolidation loans](image)

*Source: UKNF.*

**Figure 2.7.** Growth rate of selected loans to the non-financial sector at cooperative banks, y/y

![Graph showing growth rate of selected loans](image)

*Source: NBP.*

Long-term consolidation loans represent a significant part of high-value consumer loans (see Figure 2.6). Therefore, the rapid growth of higher amount loans in recent years may be partly explained by a higher propensity of borrowers to refinance their debt in a low interest rate environment. Considering that high-value loans, to a greater extent than other consumer loans, bear a variable interest rate, some borrowers may find it difficult to repay these liabilities if interest rates were to increase. At the same time, sole proprietors represent a higher share of borrowers in the segment of high-value loans (see Figure 2.8). On the one hand, it may be a consequence of higher creditworthiness of this group of borrowers. On the other hand, this may indicate that high-value consumer loans are used to finance business activity and would mean that the risk profile of these loans is different from that of other consumer loans.

In the case of lending to enterprises, no risk-altering developments were noticed (see 2.9). Favorable economic conditions has not translated into increased loan demand from enterprises. The growth rate of loans in the first half of 2019 slowed down, and according to the survey data, the share of companies using loans remained low.¹⁷ Banks tightened both credit standards and terms slightly via e.g. increasing interest margins, lowering the maximum loan amount and shortening the maximum maturity. These actions were justified by, among others, an increase in the industry sectors risk, the construction in...

¹⁷ See “Szybki Monitoring NBP. Analiza sytuacji sektora przedsiębiorstw. Nr 04/19” (“NBP Quick Monitoring Survey - Economic climate in the enterprise sector. Issue No 04/19”), October 2019, NBP.
particular. The declared tightening of lending policy was reflected, among other things, in a decrease in the share of approved loan applications. Guarantees provided by the Bank Gospodarstwa Krajowego continued to limit the risk related to lending to small and medium-sized enterprises (SMEs). Loans covered by the de minimis guarantees accounted for approximately 15% of total loans extended to enterprises in the first half of 2019 (compared to 12% in the previous half-year period).

**Figure 2.8.** Structure of high-value consumer loans (left-hand panel) and other consumer loans (right-hand panel) by source of income of borrowers

![Graph showing the structure of consumer loans by source of income](image)

*Source: NBP.*

Lending developments in cooperative banks differed from those identified in the banking sector perceived as a whole. First of all, cooperative banks did not experience such a fast growth of consumer loans as commercial banks. Housing loans remained to grow at a higher rate than in commercial banks (see Figure 2.7) – which could be attributable to a low base effect, but may also point to expanding activity in less risky loans segments.

Macroeconomic forecasts and structural factors indicate that the risk of an excessive increase in total lending is low. It can be expected that slowdown in the economic growth would reduce a demand for loans. In addition to the persistently structurally low propensity of enterprises to use credit in their business activity, the expected slowdown in the pace of growth of fixed capital formation may have a dampening effect on a demand\(^\text{19}\), whereas a supply may be limited due to the declarations of a further credit policy tightening. Given the persistence of increased external burdens, it can be expected that the growth of consumer loans would continue to be supported by banks' efforts to increase their exposure to high-yielding products.

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\(^{18}\) See “Inflation Report”, November 2019, NBP.
**Figure 2.9.** Cumulated index of changes in banks’ credit standards – loans to households (left-hand panel) and corporate loans (right-hand panel)

Notes: Upward slope of the index indicates an easing in credit standards in a given period, whereas downward slope indicates a tightening.

*Source: NBP.*

Note: Box 2.1. Consumer and FX housing loans in the context of judgements of the Court of Justice of the European Union

The Court of Justice of the European Union (CJEU) does not give preliminary rulings on the substance of the dispute because it does not fall within its jurisdiction. In accordance with Article 19(3)(b) of the Treaty on European Union and Article 267 of the Treaty on the Functioning of the European Union, the CJEU shall give preliminary rulings on the interpretation of EU law or the validity of acts passed by the EU institutions. Although judgements of the CJEU under this procedure are binding only on the national court asking the question, they also aim at harmonising the interpretation of EU law in all Member States and provide guidance to other courts in relation to similar factual settings.

**Ruling of the CJEU in Case C-383/18 Lexitor**


The Polish court asked the CJEU whether, under EU law, a consumer who has repaid a consumer...
loan early is entitled to a reduction in the total cost of the loan, including costs which do not depend on the original duration of the credit agreement. The question concerned three cases which were brought together for joint examination and resolution by a national court. All these cases are characterised by similar factual circumstances. The credit institutions sued in the Polish court concluded consumer loan agreements with consumers and, at the same time, charged a commission for granting those loans, which were not dependent on the duration of the loan agreement. After the early repayment of the loans, consumers transferred the claims they were entitled to in respect of the full early repayment to the Lexitor company. Lexitor then asked the lenders to reimburse part of the commissions paid by the consumers. Since there are differences in Polish case-law as to whether, in the event of early repayment, the reduction in the total cost of credit also applies to costs that are not dependent on the duration of the contract, the national court decided to refer the question to the CJEU for a preliminary ruling on how the scope of consumer rights should be interpreted under Directive 2008/48.

The CJEU ruled that the relevant provisions of Directive 2008/48 must be interpreted as meaning that the consumer’s right to a reduction in the total cost of a loan in the event of early repayment covers all the costs were imposed on the consumer. Referring to the context and objectives of Directive 2008/48, the CJEU considered that limiting the possibility to reduce the total costs to costs explicitly linked to the duration of the agreement would entail the risk that the consumer would be charged higher one-off payments at the time of conclusion of the loan agreement.

The CJEU ruling did not indicate that a reduction in the total cost of a loan in the event of early repayment should be proportionate to the remaining duration of the agreement. The scale of the reduction in the total cost of the loan in the case of the three disputes to which the Polish court has referred in its request for a preliminary ruling will be determined by that court. In the case of other consumer loan agreements, the amount of the reduction due to early repayment will be determined either by banks – as part of the complaint handling process, by common courts – in the case of consumer complaints, or – in circumstances where practices violating collective consumer interests have been found – by decisions of the Office of Competition and Consumer Protection (UOKiK). On 19 September 2019, the President of the UOKiK, referring to the stance of the Financial Ombudsman and the President of the UOKiK of 16 May 201621 issued an administrative decision addressed to one of the loan companies22, upon which it obliged it, i.a. to reimburse consumers for part of the preparatory fee, in proportion to the period by which the duration of the loan agreement had been shortened. The obligation refers to the consumers who, after 16 May 2016, had repaid their loans in full before the deadline indicated in their agreements and submitted a complaint. In the press release of 11 September 2019, the President of the UOKiK also expressed his expectation that the total loan costs would

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be reduced proportionally to the shortening of the loan duration.23

**Ruling of the CJEU in Case C-260/18 Dziubak**

On 3 October 2019, the CJEU gave a preliminary ruling in case C-260/18 Dziubak24, in relation to a request submitted in August 2018 by the District Court in Warsaw concerning the interpretation of Directive 93/13.25

The Polish court asked the CJEU i.a. whether after deeming the foreign exchange clause unfair it is permissible under EU law to abolish the indexation to CHF and convert an agreement into a PLN loan bearing the interest rate applicable to CHF. In the case pending before the District Court in Warsaw, the borrowers question the validity of the foreign exchange clause in a CHF-indexed loan agreement due to its unfair nature. The Polish court considered whether the agreement could be further performed after removing the exchange rate clause from it. Since the court had doubts as to the interpretation of EU law, it decided to refer four questions to the CJEU for a preliminary ruling, one of which concerned whether it would be permissible under Directive 93/13 to uphold the agreement after removing the unfair clause, if particular clause is inextricably linked to provisions defining the main subject matter of the contract.

The CJEU ruled that where a national court finds that, under national law, it is not possible to maintain the agreement in force without the abusive terms contained in it, Directive 93/13 does not preclude its annulment. The CJEU considers that the agreement may be upheld after certain terms have been found unfair, provided that, under national law, such upholding is legally possible without unfair terms, which must be verified by a national court using an objective approach. Directive 93/13 does not set out criteria for the possibility of continuing the agreement without unfair terms – these criteria must be inferred from national law. However, the CJEU underlined the objective of the Directive, which is to restore a real balance between the parties.

According to the CJEU, exchange rate clauses relate to the main subject matter of the agreement, which may affect the national court’s assessment of the possibility of upholding the agreement after the clauses have been declared abusive. In the view of the CJEU, the annulment of the clauses contested by the borrowers in the given case would not only lead to the abolition of the indexation mechanism and exchange rate differences, but also to the disappearance of the exchange rate risk, which is directly embedded in the agreement as the loan is indexed to the foreign currency. In other cases (C-118/17 Dunai), the CJEU has already ruled that the exchange rate clauses define the main subject matter of the loan agreement, therefore the objective possibility of maintaining the validity of the loan agreement in question after the exchange rate clause has been declared unfair appears uncertain in these circumstances. However, the CJEU does not have a jurisdiction to decide whether a

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given provision relates to the main subject matter of an agreement, as this issue concerns the substance of the dispute and is within the competence of national courts.

The CJEU ruling will not have a direct effect on all indexed loans contracts. The assessment of the abusiveness of indexation clauses and its possible consequences for the validity of specific agreements (in particular whether an agreement will remain in force after the possible removal of the indexation clause) will continue to be carried out solely by Polish courts and severally, with regard to the specific content of agreements and taking into account individual circumstances accompanying their conclusion.

The ruling of the CJEU in case C-260/18 Dziubak should be regarded neither as a final substantive resolution on the case pending before the Polish court nor on all FX loans. The CJEU did not rule on the abusiveness of the exchange rate clause in the indexed loan agreement but only indicated that the invalidation of such an agreement as a consequence of considering this particular clause abusive would be in accordance with EU law. Agreements concerning FX housing loans concluded by banks operating in Poland are very diverse with respect to the provisions included, and there are no grounds to draw conclusions on to what extent the applied contractual provisions are identical or similar to the provisions in the agreement which was analysed by the CJEU. Since national courts, within the limits set by Polish law and civil actions, maintain discretion when assessing the abusiveness and determining its effects, it is difficult to determine how the case-law will develop. Therefore, it is highly difficult to reliably estimate the potential magnitude of the financial impact at this stage.

2.2. Credit risk

In the context of a good and stable situation of households and enterprises, credit risk has not changed significantly. However, the situation in particular credit categories varied and depended mainly on the lending policy of banks.

Loan losses in the last quarters were also affected by non-economic factors, including the implementation of IFRS 9. In accordance with this standard, since 2018 banks have been making provisions not only for impaired loans (the so-called Stage 3) but also for expected credit losses within next 12 months where no significant increase in credit risk has been observed since the loan origination (the so-called Stage 1) and for expected losses over the entire life cycle of the loan when credit risk has increased significantly (the so-called Stage 2). Therefore, provisions are created earlier – before the materialisation of credit risk, in contrast to the previous IAS 39 standard. At the initial stage of implementation, banks have so far applied the IFRS 9 principles inconsistently, and there is a need to develop uniform practices. In addition, some institutions are further improving their systems for estimating

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26 For more information about changes in accounting rules and bank reporting in Poland, see Box 2.2 in “Financial Stability Report. December 2018”, NBP, p. 36.
expected losses, which is reflected in the volatility of the reported amounts and credit risk indicators. These factors make it difficult to accurately assess changes in credit risk taken by the banking sector.\textsuperscript{27}

The amount of credit risk provisions was also affected by changes in ownership and acquisitions of other banks’ loan portfolios, which resulted in the need to unify the rules of credit risk assessment and establish additional provisions.

2.2.1. Credit risk of loans to households

In the last quarters, the indicators describing the credit risk of the housing loan portfolio – the largest credit portfolio of Polish banks – improved. Loan losses, the share of loans in arrears and impaired loans decreased (see Figure 2.10, Figure 2.11 and Figure 2.12). In the first half of 2019 the aggregate loan losses in the whole banking sector were nominally the lowest since the end of 2008 (despite a significant increase in the loan portfolio in this period). The share of restructured (forborne) loans in the last few quarters decreased slightly, and at the end of the second quarter of 2019 amounted to 2.1%.

**Figure 2.10.** Loan losses and their relation to net value of loans in the portfolio of household loans

**Figure 2.11.** Impaired loan ratios for particular categories of household loans

The exceptionally low loan losses on this portfolio were caused by both the very good situation of the household sector (see Chapter 1) and the tightening of lending standards in this market segment.

\textsuperscript{27} The draft amendment to Recommendation \textit{R concerning the principles of credit risk management and recognition of expected credit losses} developed by UKNF is to ensure greater consistency as regards the manner of implementing the IFRS 9.
in recent years. Banks have increased the requirements for maximum burden of income by loan repayments by increasing the buffers for interest rate increases and minimum expenditures used by banks to assess creditworthiness (see Figure 2.13). Although the share of loans with the highest LTV ratios increased slightly in the first half of 2019 (above 80%), the share of these loans decreased significantly in the longer term (Figure 2.14).

Figure 2.12. Shares of consumer loans (left panel), housing loans (middle panel) and loans for individual entrepreneurs (right panel) in consecutive arrears classes

Notes: Arrears for consumer loans – estimates.
Source: NBP.

Credit risk of the portfolio of foreign currency housing loans has not changed significantly. The portfolio was characterised by a slightly higher percentage of impaired loans than the PLN portfolio, however, this was mainly a result of the "ageing" of the FX loan portfolio related to a very low value of newly extended foreign currency loans and a relatively high growth rate of PLN loans (see Figure 2.16). In the third quarter of 2019, the costs of servicing loans in Swiss franc were adversely affected by the appreciation of the Swiss franc exchange rate to zloty. However, the impact of an increase in the Swiss franc exchange rate (in relation to the loan origination date) on the amount of loan instalments denominated in this currency was mitigated by low interest rates in this currency (see Figure 2.15). The risk of a non-economic nature related to this loan portfolio is, however, the possibility for some borrowers to challenge the loan contracts in courts (see Box 2.1).

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29 In the first three quarters of 2019, zloty lost 5.5% against the Swiss franc.
Figure 2.13. Selected minimum requirements accepted by the bank when assessing the credit-worthiness of a customer applying for a housing loan

![Graph showing minimum requirements for different types of loans and living costs.](image)

Notes: The figure shows the average for banks participating in the survey, weighted by the value of loans granted. Cost of living - for a family of three with a child. Interpretation of income buffer - the customer should be able to service the loan with an increase in interest rate by this amount. Buffer data for December of the years shown in the figure.

Source: NBP estimates based on an additional non-reporting study by UKNF.

A significant portion of Swiss franc-denominated housing loans was characterised by low collateral levels. This could pose a risk for banks in the event of deteriorated quality of loans, and if large-scale debt collection was necessary. At the end of 2018, estimated shares of loans with LtV over 100% and 120% were 34% and 21% respectively. The influence of individual factors on the change in LtV indices in 2019 was multidirectional – its decrease was influenced by the increase in real estate prices (see Chapter 1) and repayment of loans, and the increase – depreciation of the Polish zloty against the Swiss franc. However, thanks to the good quality of these loans’ portfolio, the impact of high LtV ratios on financial results was low.

In the last quarters, credit losses on consumer loans increased. This was not accompanied by a deterioration in loan repayment performance (see Figure 2.10, Figure 2.11 and Figure 2.12), nor was there an increase in the share of forborne loans. The increase in credit losses was partially related to the in-

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30 See the results of the housing and consumer loans portfolio surveys as at the end of 2018. - Annex to “Raport o sytuacji banków w 2018” (The report on the situation of banks in 2018), UKNF, Warsaw, 2019.
crease in coverage of impaired loans by provisions (see Figure 2.19), which may indicate a more conservative provisioning policy. Compared to 2016-2017, the level of losses may also have been affected by a smaller number of debt sale transactions\footnote{In accordance with the results of additional non-reporting studies carried out by UKNF, the value of sales of consumer loans decreased from 4.4 bn zlotys to 2.2 bn zlotys in 2014-2018.} and their lower prices.

The portfolio of high-value consumer loans bears a slightly higher risk, but its current profitability is still high thanks to the margin level, as is the case with other consumer loans. At the same time, the risk profiles of high-value consumer loan portfolios of individual banks vary.\footnote{According to the results of an additional non-reporting study carried out by UKNF at the end of 2018, in 9 banks surveyed with 32% share of consumer loans, the ratio of impaired loans to high-value loans (over PLN 100,000 upon origination) was lower than in other consumer loans. The opposite situation occurred in 16 banks – the quality of high-value loans was worse than of the remaining loans.} The average credit risk indicators for the whole banking sector are strongly influenced by several banks with low quality of this portfolio.

Figure 2.15. Current CHF housing loan instalment compared to the instalment in the month of loan origination against the values of these loans and wage growth

![Graph showing comparison of current CHF housing loan instalment to instalment in the month of loan origination against the values of these loans and wage growth.](image)

Notes: A Swiss franc-denominated housing loan with maturity of 25 years, repaid in constant total instalments or constant principal instalments; the instalment calculated on the basis of the Swiss franc exchange rate and the LIBOR 3M rate of 30.08.2019 and average spread on Swiss franc-denominated loans and loan origination. Points on a horizontal axis mark the month of loan origination. Bars present the zloty value (at the end of August 2019) of Swiss franc-denominated housing loans taken out in a given month marked in the horizontal axis. The grey line shows wage growth in the corporate sector from loan origination to August 2019.

Source: NBP estimates based on NBP, Thomson Reuters, Statistics Poland and BIK.

Figure 2.16. Impaired loan ratios and value of foreign currency and zloty housing loans

![Graph showing impaired loan ratios and value of foreign currency and zloty housing loans.](image)
The lower quality of high-value consumer loans is also caused by the fact that very high value consumer loans that were granted in the previous years were still present in the balance sheets of banks. Despite their small share in the portfolio, these loans (over PLN 300 thousand upon origination) have a significant negative impact on the quality of the portfolio of high-value loans (see Figure 2.17). Most of these loans were granted before 2015 (see Figure 2.18).

Also loans taken out by households whose main source of income is economic activity have a negative impact on the risk indicators for high-value loans. The quality of loans for this group of customers is significantly lower than the average, and their share in high-value loans is higher than in other consumer loans (see Figure 2.8).

**Figure 2.17.** Impaired loan ratios and value of consumer loan portfolios broken down by the amount of individual loan granted

**Figure 2.18.** The value of newly extended consumer loans broken down by the amount of individual loan granted

After the increase in credit losses at the end of 2018, credit risk ratios in loans for individual entrepreneurs did not change substantially (see Figure 2.10, Figure 2.11 and Figure 2.12). The high increase in credit losses at the end of 2018 was mainly associated with changes in the models of provisions

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33 According to the results of the aforementioned study, the ratio of impaired loans for all loans with a value exceeding PLN 100 thousand upon origination was 14.7%, including 35.1% for loans with a value exceeding PLN 300 thousand and 11.3% for other large-value loans (PLN 100-300 thousand). For loans up to PLN 100,000 the ratio amounted to 9.8%.

34 According to the results of a supplementary question to the Senior loan officer opinion survey on bank lending practices and credit conditions, at the end of 2018, the ratio of impaired loans for this group of borrowers in high-value loans (over PLN 100 thousand upon origination) amounted to 25.2% compared to 13.5% for other loans (in the entire portfolio of consumer loans, these amounts reached respectively 14.4% and 8.8%). The data was collected for 15 banks, whose total share in the consumer loans segment amounted to 86%.

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following the introduction of IFRS 9, especially in one of the banks specialising in loans to those entrepreneurs,\textsuperscript{35} affecting the average figures of the banking sector. Also, the acquisitions of other banks’ loan portfolios and the related increase in credit risk provisions were of importance. These developments resulted in a significant increase in the coverage of impaired loans by provisions, which continued in the first half of 2019 (see Figure 2.19).

**Figure 2.19.** Coverage of impaired loans by provisions by loan category

<table>
<thead>
<tr>
<th>Period</th>
<th>Consumer loans</th>
<th>Housing loans</th>
<th>Loans to entrepreneurs</th>
<th>Loans to individual farmers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-2010</td>
<td>40%</td>
<td>45%</td>
<td>50%</td>
<td>55%</td>
<td>60%</td>
</tr>
<tr>
<td>12-2010</td>
<td>45%</td>
<td>50%</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td>6-2011</td>
<td>50%</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
</tr>
<tr>
<td>12-2011</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
</tr>
<tr>
<td>6-2012</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
</tr>
<tr>
<td>12-2012</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
</tr>
<tr>
<td>6-2013</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
</tr>
<tr>
<td>12-2013</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
<td>95%</td>
</tr>
<tr>
<td>6-2014</td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
<td>95%</td>
<td>100%</td>
</tr>
<tr>
<td>12-2014</td>
<td>85%</td>
<td>90%</td>
<td>95%</td>
<td>100%</td>
<td>105%</td>
</tr>
<tr>
<td>6-2015</td>
<td>90%</td>
<td>95%</td>
<td>100%</td>
<td>105%</td>
<td>110%</td>
</tr>
<tr>
<td>12-2015</td>
<td>95%</td>
<td>100%</td>
<td>105%</td>
<td>110%</td>
<td>115%</td>
</tr>
<tr>
<td>6-2016</td>
<td>100%</td>
<td>105%</td>
<td>110%</td>
<td>115%</td>
<td>120%</td>
</tr>
<tr>
<td>12-2016</td>
<td>105%</td>
<td>110%</td>
<td>115%</td>
<td>120%</td>
<td>125%</td>
</tr>
<tr>
<td>6-2017</td>
<td>110%</td>
<td>115%</td>
<td>120%</td>
<td>125%</td>
<td>130%</td>
</tr>
<tr>
<td>12-2017</td>
<td>115%</td>
<td>120%</td>
<td>125%</td>
<td>130%</td>
<td>135%</td>
</tr>
<tr>
<td>6-2018</td>
<td>120%</td>
<td>125%</td>
<td>130%</td>
<td>135%</td>
<td>140%</td>
</tr>
<tr>
<td>12-2018</td>
<td>125%</td>
<td>130%</td>
<td>135%</td>
<td>140%</td>
<td>145%</td>
</tr>
<tr>
<td>6-2019</td>
<td>130%</td>
<td>135%</td>
<td>140%</td>
<td>145%</td>
<td>150%</td>
</tr>
</tbody>
</table>

**Figure 2.20.** Loan losses and their relation to net values of corporate loans

Note: The increase in coverage in the first quarter of 2018 was affected by the implementation of IFRS 9, and its decrease in the second quarter of 2018 by large operations of transferring loans to off-balance sheet records.

*Source: NBP.*

**Credit risk for individual farmers has increased over the last few years but still remains moderate.** The increase in risk is evidenced by the deterioration in quality, increased credit losses and arrears in loan repayment (see Figure 2.10 and Figure 2.11). The risk related to this portfolio – although a small one in the whole sector – is of material importance for cooperative banks, where loans for individual farmers constitute 27% of loans for the non-financial sector and 13% of assets. The increase in credit risk in this market segment results, among others, from the economic downturn in agriculture\textsuperscript{36} and also from a sharp drop in the value and share of subsidized loans in loans to the agricultural sector (from 60% at the end of 2013 to 26% at the end of June 2019). These loans have a lower credit risk due to interest surcharges, guarantees and partial capital repayments provided by the Agencja Restrukturyzacji i Modernizacji Rolnictwa (Agency for Restructuring and Modernisation of Agriculture).


The drop in the value of preferential credits may have been due to a reduction in the subsidy to their interest rate.

**In the incoming quarters the burden of credit risk provisions on loans to households should stabilise or slightly increase.** The likely slowdown in economic growth and the increase in unemployment\(^{37}\) (which will still remain low) may contribute to the increase in the burden. On the other hand, the ability of households to service loans will be positively affected by additional revenue growth due to the extension of the 500+ scheme and lower personal income taxes.

### 2.2.2. Credit risk of the corporate loans portfolio

**Figure 2.21.** Shares of corporate loans in consecutive arrears classes from 31 days to one year

**Figure 2.22.** Impaired loan ratios in particular sections of the national economy and their shares in the loan portfolio

\[^{37}\text{See “Inflation Report”, November 2019, NBP.}\]

\[^{38}\text{See “Szybki monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (”NBPG Quick Monitoring Survey – Economic climate in the enterprise sector”), October 2019, NBP.}\]

**Source:** NBP.

Note: Data are based on the so-called large exposure reporting. Changes in June 2018 - June 2019: Green colour – a decline in the impaired loan ratio, red colour – a rise of more than 1 percentage point, yellow colour – a rise of less than 1 percentage point. 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.

Thanks to the good condition of enterprises\(^{38}\), the indicators describing the risk for this sector have not changed significantly. The slight increase in credit losses in the first half of 2019 (see Figure 2.20)
resulted mainly from high loan provisions for one of the large companies from the food industry. At the same time, short arrears did not change significantly (see Figure 2.21), and the values of the impaired loan ratio and share of forborne loans have slightly decreased.

Major changes in loan quality concerned mainly the sectors with a small share in the loan portfolio, while the ratio for the largest industries did not change significantly (see Figure 2.22). The quality of loans for power, gas and water supply, especially in the wind energy sector, has improved significantly after the earlier deterioration. The increase in the impaired loan ratio in agricultural loans is in line with the increase in the risk of loans to individual farmers. On the other hand, the deterioration in the quality of loans for the mining industry was caused by the impact of a statistical factor in the form of a decrease in the industry’s indebtedness (a decrease in the denominator of the impaired loan ratio), with a simultaneous slight decrease in the value of impaired loans.

**Figure 2.23. Impaired corporate loan ratios, by type of banks**

![Graph showing impaired corporate loan ratios by type of banks](image1.png)

Notes: Data excluding SK Bank.

*Source: NBP.*

**Figure 2.24. Coverage of impaired corporate loans by provisions, by type of banks**

![Graph showing coverage of impaired corporate loans by provisions](image2.png)

Notes: Data excluding SK Bank. The increase in coverage in 2017 in cooperative banks was caused by changes in accounting. Until September 2017, coverage ratios in cooperative banks calculated on the basis of the nominal value of loans.

*Source: NBP.*

After a significant increase in previous years, the risk of the corporate loan portfolio in cooperative banks has slightly decreased. The quality of loans stabilized, the coverage of impaired loans increased (see Figure 2.23 and Figure 2.24) and the share of loans with short repayment arrears decreased. The quality of loans is still particularly low in some big cooperative banks and banks not associated in IPS. In turn, coverage of impaired loans by provisions is the lowest in big cooperative banks, which might indicate that they are underestimated.

The most likely scenario for the forthcoming quarters is a slight growth of loan losses in the corporate loan portfolio. The main factor behind it will be the forecasted gradual decrease in the growth rate
of the GDP. Forecasted deterioration of the corporate economic situation\textsuperscript{39} also point to a possibility of increased loan provisions. On the other hand, the portfolio risk may be positively influenced by tightening lending policy in the recent quarters, mainly towards SMEs.

2.3. Market risk

The main sources of market risk are a significant share of mark-to-market government bonds in the assets of banks and the mismatch between the repricing dates of the interest-bearing assets and liabilities. The sensitivity of banks also results from the need to rollover FX derivatives transactions used to offset the open foreign currency balance sheet position. However, trading activity of banks remains limited – this is indicated by a small share of assets held for trading in banks’ assets (which further decreased in the last half of the year) and a low value of the capital requirement due to market risk\textsuperscript{40} (see 2.25).\textsuperscript{41}

The portfolio of banks’ debt securities, which is exposed to increase in market interest rates, comprises primarily of assets considered as liquid and safe: government bonds (approximately 75% of the portfolio’s value) and NBP bills (approximately 11%). Banks mitigate interest rate risk related to government bonds\textsuperscript{42} by maintaining a relatively short duration (about 2 years\textsuperscript{43}) and accounting classification (see Table 2.1). The duration of this portfolio is decreased through, among others, significant investments in floating-rate government bonds, whose share has stabilized in recent months at approx. 43% of this portfolio. Moreover, approx. 29% of the debt securities portfolio is valued at amortized cost and not in fair value. Financial results and banks’ equity sensitivity to changes in bonds market prices due to variation in interest rates is partially limited through derivatives transactions too.

\textsuperscript{39} See “Szybki monitoring NBP. Analiza sytuacji sektora przedsiębiorstw” (“NBP Quick Monitoring Survey – Economic climate in the enterprise sector”), October 2019, NBP.

\textsuperscript{40} The regulatory market risk requirement regards partially to risks unrelated to trading activity, as well as market credit risk valuation adjustment (CVA).

\textsuperscript{41} The value and structure of both the capital requirement and the portfolio of held for trading assets are only approximations of the risk stemming from banks’ trading activities, understood pursuant to the definition of the CRR. More precise data will be available after the entry into force of the amendment of the Regulation, i.e. Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and Regulation (EU) No 648/2012 (hereinafter: CRRII Regulation).

\textsuperscript{42} Treasury bonds constitute about 99% of the entire portfolio of government bonds. The remaining part consists of bonds of governments other than Polish.

\textsuperscript{43} The Ministry of Finance estimates in the monthly newsletter “State Treasury Debt”, no. 6/2019, MF, Warsaw. The domestic banking sector holds Treasury bonds with a shorter duration than the duration of all outstanding bonds issued by the Treasury (as at June 2019 it amounted to approximately 3.6 years).
Figure 2.25. Capital requirement for market risk and held for trading accounting portfolio share of total banking sector assets

Notes: Domestic banking sector with foreign branches excluding BGK. Only requirements for which banks were obliged or now are obliged to maintain regulatory capital surcharge are shown.

Source: NBP.

The excess of Polish zloty assets over Polish zloty liabilities with shorter repricing dates (positive interest rate gap) means that banks’ net interest income is sensitive to decrease in interest rates. However, the likelihood of changes in market interest rates in the coming quarters is assessed by market participants as low (see Chapter 1.3.2). In addition, the cumulative one-year interest rate gap and the so-called bank-managed interest rate gap (see Figure 2.27) are close to their levels at the end of 2018, which would suggest a stabilization in exposure to interest rate risk in the sector’s balance sheet.

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 Profit and Loss</th>
<th>Fair Value through Other Comprehensive Income</th>
<th>Amortized Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central banks</td>
<td>0.0</td>
<td>0.1</td>
<td>30.0</td>
<td>13.7</td>
<td>43.8</td>
</tr>
<tr>
<td>Banks and branches of foreign credit institutions</td>
<td>0.4</td>
<td>0.0</td>
<td>3.7</td>
<td>2.4</td>
<td>6.5</td>
</tr>
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<td>Central government</td>
<td>19.0</td>
<td>0.2</td>
<td>211.2</td>
<td>76.5</td>
<td>306.9</td>
</tr>
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<td>Municipalities</td>
<td>0.0</td>
<td>0.0</td>
<td>9.2</td>
<td>11.7</td>
<td>20.9</td>
</tr>
<tr>
<td>Other financial institutions</td>
<td>1.0</td>
<td>0.5</td>
<td>8.6</td>
<td>6.0</td>
<td>16.1</td>
</tr>
<tr>
<td>Other monetary institutions</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Non-financial sector</td>
<td>0.4</td>
<td>0.4</td>
<td>6.5</td>
<td>6.0</td>
<td>13.2</td>
</tr>
<tr>
<td>Total</td>
<td>20.8</td>
<td>1.2</td>
<td>269.2</td>
<td>116.3</td>
<td>407.4</td>
</tr>
</tbody>
</table>

Notes: Domestic banking sector excluding BGK data as of end of June 2019.

Source: NBP.

Cooperative banks are more sensitive to interest rate changes as a result of the bigger share of their net interest income in net income from banking activity and the high value of short-term deposits (mainly deposits with the associating banks). Higher and more concentrated in short repricing dates
positive interest rate gap of the cooperative banks implies that the transmission of interest rate changes on their interest margin is faster than in commercial banks. Although a higher share of the bank-managed interest rate liabilities than in the case of commercial banks could translate into greater flexibility in setting interest margins by cooperative banks, strong competition for customer deposits may force dependence of the bank-managed interest rate on the changes in market interest rates. In contrast to commercial banks, the negative impact of a decrease in interest rates on the net interest income of the loan portfolio would be only modestly compensated by an increase in the valuation of securities. The portfolio of debt securities held by cooperative banks (about 15% of their assets) is to a limited extent exposed to changes in market interest rates, as 63% of it consists of NBP bills, and additionally a large part of this portfolio (about 60%) is valued at amortized cost.

**Figure 2.26.** Foreign currency position in relation to assets of banks with at least 5% share of FX housing loans in assets (left-hand panel) and in relation to assets of other domestic banks (right-hand panel)

Notes: Mortgage banks are allocated to the group comprising the parent company. On- and off-balance-sheet net foreign position related to own funds of the domestic banking sector without BGK.

*Source: NBP.*

Closed foreign exchange position of banks results in low risk of losses stemming directly from fluctuations in foreign exchange rates (see Figure 2.26). The value of assets denominated in foreign currencies decreases (mainly due to repayment of FX housing loans by borrowers), and with it the open foreign currency balance sheet position of the sector. The mismatch between foreign currency assets and liabilities of banks with a significant share of FX housing loans in relation to their assets decreased to about 2% of assets (see left-hand panel in Figure 2.26), which is the lowest level since 2011. Nevertheless, the open balance sheet position of these banks in Swiss franc, despite a downward trend, amounted to approx. 7% of their assets at the end of June 2019 and had to be hedged with FX derivative transactions. Other banks are characterized by virtually closed foreign currency balance sheet position.
(see right-hand panel in Figure 2.26). On the other hand, increased uncertainty on global financial markets may increase volatility in the renewal cost of FX swap and CIRS transactions and the value of margin requirements.

The exposure of banks to the Treasury debt is also connected with concentration risk, the level of which did not change in the analyzed period. In the first half of 2019, the average share of government bonds in the assets of the domestic banking sector amounted to over 17%, slightly more than the average in 2018. The share in the assets of the sector of banks holding government bonds with the value higher than 24% of their assets amounted to approx. 7.6% and decreased as compared to December 2018 (see Figure 2.28). Ratings sustained by credit rating agencies\(^4\), improved financial performance of the public sector in recent years and good capital levels of banks allow to conclude that currently the risk associated with the banks’ government bond portfolio remains low. In the longer term, the growth of this portfolio observed in recent years increases the risk of a negative feedback loop between the public sector and the banking sector (see Chapters 5.1.3 and 5.1.4).

**Figure 2.27.** Interest rate gap in relation to interest-bearing assets

**Figure 2.28.** Distribution of assets of the domestic banking sector by share of government bonds in banks’ assets

Notes: Domestic banking sector excluding BGK.

*Source: NBP.*

Notes: Domestic banking sector with foreign branches excluding BGK. Limit values of ranges were selected on the basis of the distribution of government bonds in the assets of domestic commercial banks in December 2015, i.e. before the introduction of the tax on certain financial institutions. The median of that distribution was approx. 8%.

*Source: NBP.*

\(^4\) In 2019, Fitch, Moody’s and S&P affirmed the previous credit ratings of Poland and described their outlook as stable.
2.4. Funding and liquidity structure

In the first half of 2019, the structure of financing of the banking sector was stable and similar to that observed in previous periods. It is favourable due to lower dependence of banks on the more expensive and more volatile wholesale market. Deposits from the non-financial sector and, to a much lesser extent, liabilities to financial entities remained the main source of financing for banks (60% and 12% of the total balance sheet, respectively, see Figure 2.29). The role of other funding sources, including deposits of the general government in particular, and own issues of debt instruments remained insignificant.

Maturity mismatch of assets and liabilities remains the primary source of the funding risk of banks (see Figure 2.30). However, it was limited by the high stability of the deposit base resulting, among others, from a high share of guaranteed retail funds and their diversified ownership. At the end of June 2019, household deposits accounted for over 75% of non-financial sector deposits.

Figure 2.29 Structure of the banking sector liabilities

![Diagram of banking sector liabilities]

Source: NBP.

Figure 2.30 Term structure of assets and liabilities of the banking sector

![Diagram of term structure of assets and liabilities]

Note: Under the “No stated maturity” item, the liabilities include amounts that cannot be allocated to a specific maturity, mainly checking and saving accounts and savings accounts as well as smaller items (e.g. income tax liabilities, provisions).

Source: NBP.

The systematically growing share of current deposits\(^4\) increases the maturity mismatch in the balance sheet, but did not materially affect liquidity risk in the banking sector. Since late 2017, the dynamics of growth of non-financial sector deposits, including retail deposits, has been increasing (see Figure 2.31). For the first time since the beginning of 2017, the value of fixed-term deposits of households has also increased. It should be stressed, however, that the term structure of deposits does not

\(^4\) The category of “current deposits” includes all funds payable on demand, accumulated both on checking and saving accounts and saving accounts.
have a material impact on their stability. The risk of outflow of current and fixed-term deposits is similar, as majority of fixed-term deposits is withdrawn on demand. The mobility of fixed-term deposits is also additionally affected by the dynamic development of electronic distribution channels for financial services provided by banks. The only cost of withdrawing a fixed-term deposit is the loss of interest, which is currently low due to the low level of interest rates. The experience of Polish banks has shown so far that in normal conditions household deposits are characterised with a relatively good stability.

The share of funds obtained from financial institutions in the structure of liabilities of the banking sector, including mainly funds from foreign entities, is systematically decreasing. The importance of the interbank market in financing banks’ operations is limited to short-term liquidity management. A significant part of deposits from the financial sector is made up of funds received from foreign banks, including parent entities or related companies. The amount of funds obtained from domestic non-banking financial institutions has been stable over the last two years, but its share in the total funds obtained from the financial sector is growing (at the end of June 2019, it amounted to 52% of funds compared to 28% at the end of 2010).

The share of funds raised from foreign related financial institutions in liabilities towards foreign financial institutions was falling gradually (see Figure 2.32). On the one hand, such change decreases the risk of concentration, while on the other hand, it may increase the rollover risk. The maturity structure is still dominated by liabilities with a maturity over 1 year.

**Figure 2.31** Annual growth rate of non-financial sector deposits

**Figure 2.32**. Structure of banks’ liabilities towards foreign financial institutions

Notes: Data for residents with prior elimination of effects from changes in currency exchange rates.

Source: NBP.

Changes in the structure of liabilities contributed to the stabilisation of the funding gap. At the level of the entire banking system, it remained closed. The funding gap in commercial banks was slightly
above the sector average, whereas cooperative banks were traditionally characterised by a deeply negative funding gap reflecting their business model (see Figure 2.33). The surplus of funds in relation of loans was mainly deposited by cooperative banks in associating banks and, to a significantly lesser extent, in safe debt securities (among others, in government bonds and NBP bills).46

**The liquidity position of the banking sector was favourable.** The average share of liquid assets in the total balance sheet stabilised at a high level. The concentration and diversity of banks in terms of value and share of liquid assets on the balance sheet remained high (see Figure 2.34).

*Figure 2.33. Funding gap*

*Figure 2.34. Share of domestic government securities and NBP bills in assets of commercial banks*

*Source: NBP.*

*Notes: Data excluding BGK.*

*Source: NBP.*

**The levels of short-term liquidity ratio (LCR) and long-term liquidity ratio (NSFR) confirm the good liquidity situation of the Polish banking sector.** At the end of June 2019, all commercial banks complied with LCR at the minimum level (see 2.35). The standard was also met by all cooperative banks, which are obliged to maintain the LCR on individual basis, and both IPSs47 required to meet the LCR

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46 More on the subject in: Box no. 4.1.2 Situation of cooperative banks in Poland, „Rozwój systemu finansowego w Polsce w 2018 r.” (“Development of the financial system in Poland in 2018”), November 2019, NBP, p. 121.

47 Institutional protection systems (IPS) are created by cooperative banks and associating banks on the basis of agreements concluded between them, defining, among others, mechanisms of supporting liquidity and solvency of system participants, mechanisms of risk control within the system and values of parameters determining participation in the system. At the end of June 2019, two institutional protection schemes were in place, and the assets of the banks forming them constituted about 10% of assets of banks obliged to meet capital and liquidity standards under CRDIV/CRRR and about 91% of assets of the cooperative banking sector.
on a consolidated basis. At the end of June 2019, the average LCR for the whole banking sector was 151%. Despite the shortages of liquid assets in some currencies, surplus of such assets denominated in PLN is sufficiently high to enable banks to cover potential liquidity needs in those currencies. (at the end of June 2019, the surplus in PLN amounted to PLN 103 billion, and the total combined shortage in CHF and EUR – PLN 1.8 billion).

**Figure 2.35.** Distribution of commercial banks’ assets (left-hand panel) and cooperative banks’ assets with LCR on an individual basis (right-hand panel) in the respective intervals of LCR

![Distribution of LCR ranges](image)

Note: Data for commercial banks with BGK and associated banks excluded. The assets of cooperative banks which have to comply with LCR on an individual basis had an approximately 8% share in the total assets of cooperative banks and associating banks.

*Source: NBP.*

**Despite a maturity mismatch of assets and liabilities, most commercial banks complied with the long term liquidity standard.** This was supported by the standards’ assignment of high stable funding weights to retail deposits – irrespective of their maturity. The average value of the net stable funding ratio for commercial banks amounted to approximately 123% at the end of June 2019. Some mortgage banks had ratios below 100%, but this instead of implying an excessive liquidity risk in their funding rather reflects the mismatch between the NSFR standard and the business models of specialist banks. In the longer term, the degree of non-compliance with the NFSR standard at mortgage banks in Poland should decrease with the increase in the value of issues of covered bonds. The scale of the mismatch may be subject to short-term fluctuations depending on the value of covered bonds with a residual maturity of less than 6 months and purchases of tranches of housing loan portfolios from parent banks.

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Banking sector

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48 Banks participating in the Institutional Protection Scheme (IPS) may be exempted, upon KNF’s consent, from the obligation to comply with the LCR standard on an individual basis. They apply the consolidated ratio for the whole protection system, pursuant to Article 8 of CRR.

In the medium term, developments affecting the financing structure of the banking sector and contributing to the reduction of the structural maturity mismatch between assets and liabilities will be as follows:

- **Debt issuance for the needs of meeting the MREL requirement**, which will increase the share of long-term sources of financing in the structure of liabilities of the banking sector. So far, this process has not reached a large scale, probably due to the postponed deadline for meeting the requirement.\(^\text{50}\) Issue of eligible liabilities may be a challenge due to, among others, the relatively low level of development of the domestic debt securities market, difficult and more expensive access to international markets, especially for smaller banks and those that have not been active on the debt market so far, and increased financing costs related to higher expectations of investors, whose receivables could be subject to write-down or conversion.

- **Gradual spread of the pooling model by mortgage banks operating on the Polish market.**\(^\text{51}\) The model consists in transferring portfolios of housing loans by universal banks to their related mortgage banks. Since the beginning of 2017, universal banks have transferred loans with a total value of about PLN 14 billion, which constituted about 35% of the current total balance sheet of all mortgage banks. Such a solution makes it possible to shorten the maturity of assets held by universal banks.

2.5. Earnings

In the first half of 2019, the profitability of the banking sector slightly decreased. In that context, the increase in profitability of some large cooperative banks is noteworthy. The level of profitability ratios of the sector was adversely affected by significant losses incurred by individual banks\(^\text{52}\) in the fourth quarter of 2018 (see Figure 2.37).\(^\text{53}\)

**Profitability of individual banks continued to vary considerably (see Figure 2.36).** The largest commercial banks exhibited significantly higher profitability than the others (see Figure 2.38) – five largest institutions\(^\text{54}\), controlling close to 50% of banking sector’s assets, generated more than two thirds of its profits.\(^\text{55}\) The persistence of the phenomenon indicates the existence of economies of scale. This may encourage owners of banks operating in Poland to take decisions leading to an increase in the balance


\(^{51}\) Currently four mortgage banks operate on the Polish market. It can be expected that in the near future their number will increase, as evidenced by the statements of representatives of some universal banks.

\(^{52}\) Especially Idea Bank’s losses. More information on the bank’s earnings can be found at www.relacje.ideabank.pl.

\(^{53}\) Without taking into account Idea Bank’s loss in the fourth quarter of 2018, the return on assets ratio would be 0.77% (instead of 0.69%).

\(^{54}\) Excluding BGK.

sheet total of their banks (in particular through acquisitions of other entities) or to sell Polish subsidiaries due to their inability to achieve adequate levels of return on capital.

**Figure 2.36.** ROA at domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel)

Notes: Annualized data.

*Source: NBP.*

The number of banks with negative profitability and their share in the banking sector’s assets remained low. In total, 34 institutions with a share of 7.6% in the assets of the sector recorded a negative profitability (compared to 28 entities with a share of 8.0% at the end of 2018). The losses of a few of those institutions burdened their capital considerably, which jeopardized the prospects for continuance of their activity. In addition, several entities (also including commercial banks) had incurred losses continuously for several quarters despite implementing restructuring programmes in this period.

A further growth in net interest margin resulted primarily from the continued gradual increase of the share of more profitable products in the loan portfolio. The gradually repaid FX housing loans were replaced by new zloty loans with a higher margin, including consumer loans. These loans remained the most profitable product and their effective interest increased (see Figure 2.40). On the other hand, the effective interest on liabilities did not change despite a further increase in the share of current accounts (generally with lower interest rates) in banks’ liabilities. As market expectations indicate that interest rates are highly unlikely to increase, a further rise in interest margin depends on banks’ ability to continue changing their balance sheet structure towards higher-interest-bearing loans and lower-interest-bearing liabilities.
The impact of factors strengthening and weakening the profitability of the banking sector was balanced in the first half of 2019 (see Table 2.2 and Figure 2.39). Profitability was negatively affected by the increasing burden of taxes, operating expenses and credit risk provisions (for more information on provisions see Chapter 2.2), while the increase in net interest margin and a slight rise in leverage had the opposite effect. Different trends could be observed among cooperative banks, where interest margins continued to decline (inter alia, due to decreasing efficiency of loan portfolios and the inability to adjust deposit costs on an adequate scale), the burden of impairment losses on earnings increased more than average in the banking sector, and profitability was supported by improved cost efficiency.

The decrease in cost efficiency of banks as compared to the previous year was driven by the increase in BFG contributions (see Table 2.2). The contribution to the resolution fund doubled, and the vast majority of banks (calculated according to their share in the contribution) booked it entirely as cost at the beginning of the year. Commercial banks were much more heavily burdened with the contribution to this fund than cooperative banks, which pay a lump sum contribution depending on their size. The contribution to the deposit guarantee fund was set at a lower level than in 2018 and is paid in stages and charged to costs in subsequent quarters of the year.

A further decrease in profitability of the banking sector can be expected in the coming quarters. This will be driven by the costs of ongoing and future disputes with customers regarding irregularities.

56 The BFG Council set the total amount of contributions to the bank guarantee fund for 2019 at 791 million zlotys (1.240 billion zlotys in 2018) and to the resolution fund at 2 billion zlotys (960 million zlotys in 2018).
in selling loans and other financial instruments, including the presence of abusive clauses in agreements and reimbursement of fees and commissions. The potentially highest costs may be caused by the possible widespread recognition by courts of indexation clauses used in foreign currency loan agreements as abusive (see Box 2.1). The possibility to reliably estimate the costs associated with disputes in such cases is limited because it is not known how many customers will choose to pursue their claims, and each claim will be settled by the courts on the basis of individual agreements and the specific circumstances surrounding their conclusion. Nevertheless, banks would probably decide in the next quarters to create additional provisions associated with this risk, estimated on a portfolio basis (not only for individual cases in which clients filed claims). In the short term, banks will also create provisions for the return of part of the revenues from consumer loans granted, which have been repaid early. The need to refund part of the fees and commissions to borrowers is confirmed by the ruling of the CJEU in Case C-383/1857, and also the position of the Office of Competition and Consumer Protection and the Financial Ombudsman58. In the coming quarters this may also lead to a decrease in interest income on loans extended before the CJEU ruling.

**Figure 2.39.** RORC of the domestic banking sector with a decomposition of its changes

![Graph showing RORC of the domestic banking sector with a decomposition of its changes](image)

Notes: RORC – annualized data; decomposition elements – semiannual changes in annualized ratios calculated as natural logarithm of ratio quotient as of the end of the given period and preceding period.

*Source: NBP.*

**Increased competition from non-bank entities (including cross-border operators) linked to the entry into force of Payment Services Directive 2 (PSD2)**59, which facilitates the supply of payment services, may contribute to a further decline in non-interest margin. Banks may respond by expanding their product offer and tailoring it better to customer needs, which will require incurring costs of develop-

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59 PSD2 was implemented in the Polish legal system by the Act of 10 May 2018 amending the Payment Services Act and certain other acts, *Journal of Laws of 2018*, item 1075.
In the long run, an increase in the funding costs will be driven by the issuance of bank debt instruments necessary for compliance with MREL, including instruments qualified as additional Tier 1 (AT1) and Tier 2 capital. Hitherto domestic issues of Polish banks, scanty so far, indicate that raising funds in such a way is usually more expensive than funding with retail deposits. In turn, attempts at winning investors on foreign markets, where most Polish banks have not so far been active, may be hampered by competition from European banks. The factor facilitating the issuance will be the persistence of low interest rate environment in the world and the related search for yield by investors.

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Table 2.2. Selected operating indicators of the banking sector

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<tbody>
<tr>
<td>As % of average assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net interest income</td>
<td>2.49</td>
<td>2.50</td>
<td>2.51</td>
<td>2.52</td>
<td>2.53</td>
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<tr>
<td>Net non-interest income</td>
<td>1.09</td>
<td>1.07</td>
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<td>1.00</td>
<td>0.99</td>
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<tr>
<td>Net income from banking activity</td>
<td>3.58</td>
<td>3.57</td>
<td>3.51</td>
<td>3.52</td>
<td>3.52</td>
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<tr>
<td>Operating costs</td>
<td>2.06</td>
<td>2.07</td>
<td>2.05</td>
<td>2.09</td>
<td>2.07</td>
</tr>
<tr>
<td>of which: contributions to BFG funds</td>
<td>0.12</td>
<td>0.12</td>
<td>0.12</td>
<td>0.16</td>
<td>0.15</td>
</tr>
<tr>
<td>tax on certain financial institutions</td>
<td>0.21</td>
<td>0.21</td>
<td>0.21</td>
<td>0.21</td>
<td>0.21</td>
</tr>
<tr>
<td>Net charges to credit risk provisions</td>
<td>0.49</td>
<td>0.48</td>
<td>0.50</td>
<td>0.51</td>
<td>0.52</td>
</tr>
<tr>
<td>Pre-tax earnings</td>
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<td>1.09</td>
<td>1.02</td>
<td>0.98</td>
<td>1.00</td>
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<td>Corporate Income Tax (CIT)</td>
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<td>0.27</td>
<td>0.30</td>
<td>0.30</td>
<td>0.31</td>
</tr>
<tr>
<td>Net earnings</td>
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<td>0.82</td>
<td>0.72</td>
<td>0.68</td>
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<table>
<thead>
<tr>
<th>As % of net income from banking activity</th>
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<tbody>
<tr>
<td>Net interest income</td>
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<tr>
<td>Net non-interest income</td>
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<tr>
<td>Net income from banking activity</td>
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<td>Operating costs</td>
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<tr>
<td>of which: contributions to BFG funds</td>
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<td>tax on certain financial institutions</td>
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<td>Net charges to credit risk provisions</td>
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<td>Pre-tax earnings</td>
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<td>Corporate Income Tax (CIT)</td>
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<td>Net earnings</td>
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<table>
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<tr>
<th>As % of Tier 1 capital (RORC)</th>
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<tr>
<td>Pre-tax earnings</td>
</tr>
<tr>
<td>Net earnings</td>
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<table>
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<tr>
<th>As % of accounting capital (ROE)</th>
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<tbody>
<tr>
<td>Pre-tax earnings</td>
</tr>
<tr>
<td>Net earnings</td>
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</tbody>
</table>

Notes: Annualized data. Ratios based on Tier 1 capital or accounting capital do not cover BGK and branches of credit institutions. “Net charges to credit risk provisions” before 2018 include both charges to impairment provisions and to IBNR provisions.

Source: NBP.
**Figure 2.40.** Estimated profitability of consumer loans (upper left-hand panel), housing loans (upper right-hand panel), other loans to households (lower left-hand panel) and corporate loans (lower right-hand panel)

Notes: Annualized data

The values of the adjusted net interest margin shown in this figure should be regarded only as an approximation 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, the cost of capital to cover the capital requirements, fee and commission 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 are the estimated net gains/losses on closing an open on-balance FX position (related to granting Swiss franc-denominated housing loans), assuming that rolled-over 3-month CHF/USD and USD/PLN swaps are used.

“The adjusted margin after subtracting the tax” was calculated by subtracting the nominal rate of the tax on certain financial institutions of 0.44% (re-scaled to factor in the term of the tax) from the adjusted net interest margin.

*Source: NBP.*
Box 2.2. Determinants of the long-term changes in profitability of the Polish banking sector

The profitability of the domestic banking sector has been declining gradually for several years. Average return on equity of Polish banks continues to exceed the averages of the most developed countries of the European Union (EU15), albeit to a lesser degree, but since 2016 it is running significantly below the average ROE in other CESEE countries (see Figure 2.41). The profitability of banks in Poland is also lower than other financial institutions and non-financial enterprises (see Figure 2.42). For many banks, return on equity is lower than the estimated costs of capital (see Chapter 2.6). This may raise doubts as to whether such profitability is sufficient to maintain a competitive position and further development, including through the implementation of innovation (see Box 2.3).

This box aims to analyse the causes of the fall in profitability of the domestic banking sector since the end of 2011, in other words, since the moment when profitability began to steadily decline (see Figure 2.41). The analysis focuses on the changes in the return on regulatory capital and includes its most important determinants, i.e. the level of leverage, net interest income and net non-interest income, cost of credit risk, cost efficiency and external (e.g. tax) burdens.

Figure 2.41. ROE of banking sectors of EU countries

Figure 2.42. ROE of financial institutions and nonfinancial corporations in Poland

Notes: Annualised data. Poland has been excluded from the averages for CEE4 and CESEE.

Source: ECB Statistical Data Warehouse.

Notes: Annualised data.

Source: NBP calculations based on data from UKNF, Statistics Poland and NBP data.

One of the factors weakening the profitability of the domestic banking sector was the decline in leverage (understood as the ratio of assets to Tier 1 capital). The post-crisis reform of prudential regulations (the implementation of the CRD/CRR package) caused an increase in the required levels of regulatory capital in all EU countries. In Poland, this was strengthened by the cautious approach

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61 Excluding BGK.

62 The analysis aims to capture the long-term trends, which is why possible one-off events or cyclical fluctuations which occurred during this period have not been taken into account.
of the national supervisory authorities regarding the rules for determining capital ratios (in particular, for exposures arising from granting foreign currency housing loans) and payment of dividends, as well as the limited scale of implementation of advanced methods of estimating risk exposures by banks. These factors were reflected in a decrease in the leverage of the domestic banking sector.

**Figure 2.43. Factors affecting RORC**

Notes: The purple bars represent the level of annualised return on regulatory capital (RORC) of the analysed banks at the beginning and end of the period under analysis. The factors increasing the average return on regulatory capital in the period under analysis are represented by the green bars, and the red bars represent the factors reducing it. The impact of factors is calculated as a change in the annualised ratios between the end of 2011 and the first half of 2019. The definition of the multipliers as in 2.39, with the exception of the BFG contribution multiplier and the other cost multiplier, the product of which is equal to the cost multiplier from Figure 2.39. 

*Source: NBP.*

**The environment of low/declining interest rates also had a negative impact on the profitability of the domestic banking sector.** The strength of this impact was smaller than what would result from the scale of the fall in interest rates (see Figure 2.44). The short-term effect of the reduction in NBP interest rates was a fall in the net interest margin as a result of the automatic adjustment of interest on zloty-denominated assets and liabilities with a variable interest rate and a fall in the maximum permissible level of the nominal interest rate. In the long term the banks were able to partly restore the level of net interest margin. The was due to the increase in the share of more profitable credit products (e.g. consumer loans) or the reduction in less profitable credit products (e.g. foreign currency housing loans) as well as the decrease of the interest on liabilities. The net interest margin in Poland remained relatively high compared to other EU countries, which was also related to the fact that the level of interest rates in Poland was still significantly higher than 0, and for this reason was far from the zero lower bound, unlike the euro area countries in particular.
In the period under analysis, the decline in net non-interest margin, and in particular the decline in fee and commission margin, which is the second most important source of banks’ income (after net interest margin), had a significant negative impact on the profitability of banks. The Polish banking sector stood out in this respect from other EU countries (see Figure 2.45). Part of this decline was due to statutory and regulatory activities aimed at increasing consumer protection by reducing the costs incurred by them (e.g. fees for card transactions and FX spreads in loan repayments) or eliminating transactions unfavourable for them from the market (including certain insurance or investment products). The fall in net fees and commissions income was also due to the requirement of the supervisory authority regarding the suitable structure of incentives (e.g. concerning remuneration of distributors of investment funds) and accounting recognition of certain types of income over time (instead of one-time recognition as a whole). One can also raise the hypothesis that the increase in competition between financial institutions and the actions of clients aimed at avoiding incurring certain costs contributed to the decline in net non-interest margin. Perhaps banks also tried to actively shape the tables of fees and commissions in such a way as to discourage clients from certain behaviour (e.g. to reduce the use of bank branches in favour of electronic banking) and, thanks to this, reduce operating costs (e.g. by downsizing the branch network).

The burden of charges to credit risk provisions did not have a significant impact on changes in the

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**Figure 2.44.** Net interest margin and net non-interest margin in the Polish banking sector

**Figure 2.45.** Fee and commission margin of banking sectors in EU countries

Notes: Annualised data.
Source: NBP.

Notes: Annualised data. Margin is calculated in their relation to average assets. Poland has been excluded from the averages for CEE4 and CESEE.
Source: ECB Statistical Data Warehouse.
profitability of the banks. Maintenance of the quality of the portfolio was supported by the favourable economic situation (for most of the period) and the tightening (or at least the absence of excessive loosening) of the standards and terms for granting loans (due to both the banks’ own business decisions and as a result of the actions of the supervisory authorities). The entry into force of the new accounting standard IFRS 9 since 2018, which introduces the requirement to create also provisions for expected credit losses (and not only for those incurred, as was the case in the earlier IAS 39 standard), has also not caused a significant increase in charges to credit risk provisions so far.

The domestic banking sector has improved its cost efficiency despite the increase in non-tax financial burdens imposed by the state. Some of these burdens served to increase the stability of the banking sector – the contributions paid by the banks to the Bank Guarantee Fund were increased. This was, among others, the result of new regulations introduced in the European Union on deposit guarantees and bank resolution. In addition, the target levels of deposit guarantee fund and resolution fund adopted in Poland were relatively high. In the period under analysis, the banks were also charged with the costs of resolution and payment of deposits in relation to the problems of certain monetary financial institutions (in particular cooperative entities). In the recent period banks also incurred the costs of creating infrastructure serving to seal the tax gap through the split payment mechanism and the creation of the Teleinformation Clearing House System (STIR). As a result of the post-crisis reforms of prudential regulations, the costs of prudential reporting and compliance incurred by the banks have also increased.

Table 2.3. Effective tax rate of the banking sector in Poland compared to European countries

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PL</strong></td>
<td>20.1</td>
<td>18.3</td>
<td>24.1</td>
<td>26.8</td>
<td>25.9</td>
</tr>
<tr>
<td><strong>EU15</strong></td>
<td>27.5</td>
<td>26.8</td>
<td>32.1</td>
<td>27.4</td>
<td>25.4</td>
</tr>
<tr>
<td><strong>CEE4</strong></td>
<td>42.9</td>
<td>23.8</td>
<td>19.8</td>
<td>16.9</td>
<td>16.3</td>
</tr>
<tr>
<td><strong>CESEE</strong></td>
<td>45.8</td>
<td>19.6</td>
<td>16.4</td>
<td>16.2</td>
<td>15.3</td>
</tr>
</tbody>
</table>

Statistics of the distribution of effective rates of tax on income from continued operations in EU countries

<p>| | | | | | |</p>
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PL (percentile)</strong></td>
<td>0.5</td>
<td>0.3</td>
<td>0.7</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>median (percentile 0.5)</strong></td>
<td>20.0</td>
<td>20.0</td>
<td>19.6</td>
<td>19.0</td>
<td>18.9</td>
</tr>
<tr>
<td><strong>third quartile (percentile 0.75)</strong></td>
<td>25.0</td>
<td>27.2</td>
<td>24.7</td>
<td>26.8</td>
<td>24.4</td>
</tr>
<tr>
<td><strong>percentile 0.9</strong></td>
<td>33.6</td>
<td>40.9</td>
<td>34.8</td>
<td>28.2</td>
<td>29.0</td>
</tr>
</tbody>
</table>

Note: Data does not cover tax on certain financial institutions, but includes the impact of non-recognition of this cost

Source: EBC Statistical Data Warehouse.

The tax burden on banks has increased significantly compared to 2011. In particular, in 2016 the tax on certain financial institutions was introduced, which taxes banks’ assets (decreased by 4 billion zlo-

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tys, own funds, government bonds and other selected balance sheet items). The effective tax burden has also been increased by excluding the recognition of certain categories of costs (in particular the tax on certain financial institutions and the BFG contributions) as deductibles in corporate income tax. As a result of these changes, the effective CIT rate for the domestic banking sector rose from 21% to 27%, and after taking into account the additionally paid tax on certain financial institutions, to 48%.

On the basis of the available data, one may cautiously argue that the tax burden of the Polish banking sector (even when not taking into account the above tax) is one of the highest in the EU (see Table 2.3).

To summarize, it can be said that the new regulations and financial burdens have had a much greater impact on the profitability of the banks than other factors, in particular, those related to the economic and financial cycle. Individually, these regulations and burdens have mostly a positive impact on the stability of the sector or are well justified by the achievement of other important objectives of state policy (such as consumer protection). However, when combined, they significantly burden the banks’ results and limit their internal capital accumulation capacity.
Box 2.3. Expenditure on technological innovation in the Polish banking sector – survey results

The rapid development of information technology has led to the appearance on the market of new business models and solutions which change significantly the terms of providing financial services in the banking sector. New regulations on payment services have opened up the banking market to competition from entities outside the sector. Combined with the cross-border availability of products and services offered within the EU, this increases competitive pressures on banks in Poland and strengthens the importance of the technological transformation of banks. In such an environment, expenditure on innovation is of particular importance for improving banks’ efficiency, ensuring their stability and preserving the market position of individual banks against competing banks, including cross-border banks, as well as non-bank entities from the FinTech sector and other payment institutions regulated by relevant provisions on payment services.

Figure 2.46. Expenditure on innovation in groups of banks by asset size (left panel) and by profitability (right panel)

Notes: Data for za 2019 according to banks’ forecasts.

Groups of banks: left panel – assets at end of 2018: small – assets less than PLN 3 bn, medium – assets between PLN 6 bn and 25 bn, large – assets between PLN 45 bn and 110 bn, the largest – assets above PLN 130 bn; right panel – profitability average annual ROA in the years 2016-2018): negative – ROA below 0, small – ROA below 0.1%, moderate – ROA between 0.25% and 0.81%, large – ROA above 0.97%.

Source: NBP calculations based on survey results.

The fall in profitability of the sector and the growing diversification of banks in this regard (see Chapter 2.5 and Box 2.2) may raise concerns about whether individual institutions, and also the Polish banking sector as a whole, has sufficient funds at its disposal to invest in development and innovation. In order to investigate the scale of expenditure on innovation, the identification of key technologies implemented by the banks and their plans to develop innovation, UKNF, in cooperation

6 Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal (the so-called PSD 2 Directive) and the Act of 10 May 2018 amending the act on payment services and certain other acts – introducing the provisions of the directive into Polish law.
with NBP, carried out a survey among banks. The survey concerned expenditure on both simpler development activities and solutions allowing banks to reduce costs, often referred to as “digital transformation”, as well as more innovative applications of information technology, which could potentially change bank’s business model of the. This box presents the first results and conclusions of the survey, which are relevant from the point of view of stability of the financial sector.

On the level of the whole sector, the share of expenditure on investment in innovative technology in the operating costs of banks is rising. However, at the same time these investments are highly concentrated amongst largest and most profitable banks (see Figure 2.46 and Table 2.4). In 2018, the group of the most profitable banks accounted for 81% of expenditure on innovation of the banking sector (of the banks surveyed; with the share of these banks in the assets of the sector at the level of 76%). In the same year, the expenditure of the group of banks with the largest assets accounted for 56% of all expenditure (with the share of these banks in the assets of the sector at the level of 62%), while the expenditure on innovation of the group of banks with a majority share of foreign capital accounted for 53% of all expenditure (with the share of these banks in the assets of the sector at the level of 52%).

Analysis of the diversification of banks in terms of scale of expenditure on innovation confirms the above-average role of this expenditure in the largest and most profitable banks. (see Figure 2.47). The survey included banks with various business models and, consequently, with different cost structures, which may significantly affect the deviations of the values of certain indicators, e.g. for mortgage banks or banks specialising in consumer loans. However, a group of 8 banks stands out clearly on the graph (the 5 largest banks in terms of assets and 3 large banks) characterised by above-average commitment to technological investment and above-average profitability.

Table 2.4. Share of expenditure on innovation in the operating costs adjusted by the banking tax and contributions to BFG

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.3%</td>
<td>5.2%</td>
<td>6.2%</td>
<td>6.4%</td>
</tr>
</tbody>
</table>

Source: NBP calculations based on survey results.

Expenditure on innovative technology in the Polish banking sector served mainly to reduce costs. In 2018, 19 banks indicated that their objective to investments in innovation was to reduce costs (see Figure 2.48). However, the remaining objectives reported were less important: improving customer experience (16 banks), increasing revenues (15 banks) and reducing risk (15 banks). The survey answers of the banks indicate that technological investments were mostly gradual and to a large extent aimed to automate and digitize existing business processes, which should ultimately increase cost

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69 The survey covered 26 commercial banks (including universal, specialist and associating banks), whose total assets exceed 91% of the total assets of the Polish banking sector.

70 The banks could choose more than one goal.
effectiveness, as well as enable the introduction of more advanced solutions in the coming periods. At the same time, some banks surveyed (40% in 2018) declared that they would make use of the possibility of reducing corporate income tax in relation to expenditure on developing IT systems and ICT innovations, e.g. by deducting the R&D costs from the tax base or amortize the cost of development works completed with a positive result.

**Figure 2.47.** Share of expenditure on innovation in the operating costs of individual banks: against the average value of ROA

The purchase of external services remains the most important channel of obtaining innovative solutions in banking and exceeds the second most important category, i.e. in-house, several times in terms of expenditure values (see Figure 2.49). Against this background there are no significant differences between the groups of banks when looking both in terms of the size of assets and in terms of profitability. Other sources of obtaining innovative solutions are of limited importance, although in the group of banks with a majority share of foreign capital, in accordance with expectations, the implementation of solutions from the capital group plays a certain role. However, for these banks this is also only the third most important channel of financing innovation (after purchasing external services and own funds).

The banks did not indicate the existence of any expenditure on innovation that they would not be able to implement. Therefore, in this sense no financial innovation gap was reported in the Polish banking sector. This may confirm the thesis about two-tier system with dually developed banks in Poland. The sector’s leaders invest in innovation at a satisfactory level and achieve economies of scale. However, smaller entities do not base their development strategies on extensive investment in technology.
To summarize, the results of the survey seem to confirm the thesis about the growing disproportions in development between banks in Poland, and at the same time one may be expect that the diversification of the development paths in the banking sector in Poland will grow in view of the significant disproportions of the current investment outlays on innovation. In the medium-term this may prompt weaker banks with a lower level of efficiency to consolidate, or it may become the driver for takeovers of weaker entities by larger entities, which in the long run could result in increased concentration in the banking sector.

Source: NBP calculations based on survey results.

**Figure 2.48.** Number of banks declaring expenditure on innovation for a given purpose

**Figure 2.49.** Ways of obtaining innovative solutions as indicated by banks

Source: NBP calculations based on survey results.
2.6. Banks’ capital position

Capital endowment\textsuperscript{71} of most banks enabled them to comply with the existing Pillar 1 and Pillar 2 prudential requirements as well as requirements on capital buffers. At the end of June 2019, four banks did not meet capital ratios standards, including two small commercial banks and two cooperative banks (with aggregate share in banking sector assets of 1.5%). The combined buffer requirement was not satisfied by 21 banks\textsuperscript{72} (with aggregate share in banking sector assets below 7.7%), including five commercial banks (see Figure 2.50). The total shortage of regulatory capital resulting from failure to meet both of the aforementioned requirements amounted to approx. 3.5 billion zlotys.

Figure 2.50. Distribution of assets of domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel) by the ratio of excess of Common Equity Tier 1 after fulfilling the combined buffer requirement to total risk exposures amount

Source: NBP.

Excess of capital allowed banks to continue lending and provided adequate safeguard against unexpected losses (see Figure 2.50 and Figure 2.51). The excess of Common Equity Tier 1 capital over

\textsuperscript{71} Unless otherwise stated, the analysis includes data from unconsolidated statements of commercial banks with their foreign branches and cooperative banks (foreign branches’ assets account for approx. 0.3% of the banking sector’s assets and slightly below 1% of the three banks that have foreign branches). The analysis excludes branches of foreign credit institutions and BGK, as it is not subject to the CRDIV/CRR regulatory package to the same extent as other banks. Branches of credit institutions are not obliged to meet capital standards on their own – their exposures are not included in aggregated exposures of the sector in Poland, but are part of exposures of institution in the home country and the banking sector in that country.

\textsuperscript{72} The consequences of non-compliance with the capital requirements and combined buffer requirement are specified in Box 4 in “Financial Stability Report. June 2017”, NBP, p. 122.
Pillar 1 and Pillar 2 capital requirements and the combined buffer requirement (co-called MDA pillow) decreased since December 2018, mainly due to the increase in the conservation buffer, to the target level of 2.5% of total risk exposure amount, and structural changes in the sector.\(^7\) Another factor causing the excess to decrease was a reduction of the Common Equity Tier 1 add-back resulting from the application of transitional provisions to mitigate the impact of the entry into force of IFRS 9.\(^7\)

**Figure 2.51. Excess of Common Equity Tier 1 capital**

The figure includes only banks or capital groups with excess of Common Equity Tier 1. The total deficit of Common Equity Tier 1 as of the end of June 2019, on unconsolidated basis, amounted to approx. 3.5 billion zlotys, and on the prudentially consolidated basis – around 3.6 billion zlotys.

Source: NBP.

\(^7\) Structural changes in the sector in the first half of 2019 included the following transactions: Bank Millennium SA acquired Euro Bank SA and pursuant to the provisions of Article 36 and Articles 40–48 of the CRR, entailed the necessity to reduce the Common Equity Tier 1 capital of the buyer; HSBC Bank Polska S.A. became a branch of a foreign credit institution and, upon the transformation, the regulatory capital and exposures of this institution ceased to be a part of the sector in Poland; RBS Bank (Polska) S.A. which had been systematically reducing its activity in Poland for several years, ceased its activity. In total, these transactions resulted in a decrease in Tier 1 capital of the sector by about 2.1 billion zlotys (about 1.3%).

\(^7\) At the end of June 2019 the value of this adjustment at commercial banks totalled 5.3 billion zlotys and was present in the regulatory capital of 19 banks. Compared to the end of 2018, the amount of the add-back decreased by approximately 400 million zlotys. More on the impact of the entry into force of IFRS 9 in Box 4 in “Financial Stability Report. June 2018”, NBP.
The above factors also shaped the size of the sector’s excess of capital on a prudentially consolidated basis. The scale of activity of entities from outside the banking sector (e.g. leasing companies) under prudential consolidation was small. For several capital group, the activities of such entities have a negative impact on their excess of capital and thus the aggregated excess of Common Equity Tier 1 capital after meeting the combined buffer requirement was 9.7 billion zlotys lower for the consolidated sector than for the unconsolidated sector (see 2.51).

Figure 2.52. Main components of regulatory capital and capital ratios

![Graph showing main components of regulatory capital and capital ratios](image)

Note: Additional Tier 1 capital (AT1) is almost non-existent and the Common Equity Tier 1 capital corresponds to the amount of Tier 1 capital.

Source: NBP.

Figure 2.53. Capital requirements

![Graph showing capital requirements](image)

Notes: Since 2014 the capital requirement for market risk covers the requirement for the following risks: position in debt instruments, position in equities, foreign exchange, CVA, specific risk in securitization, specific risk in the correlation trading portfolio; the requirement for counterparty credit risk before 2014 cannot be isolated from the credit risk requirement; the equivalent of the Pillar 2 capital requirement corresponds to surcharges for banks significantly involved in household loans in foreign currencies to unhedged households, this equivalent does not constitute part of total exposure amount, it only increases TCR.

Source: NBP.

The increase in Common Equity Tier 1 capital was also driven by the issue of shares by commercial banks and the increase in the balance of membership capital in cooperative banks permanently classified as regulatory capital, which together exceeded two times (by 0.6 billion zlotys) the amount of

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75 The analysis of the sector on a prudentially consolidated basis includes banking capital groups prudently consolidated at the highest domestic level of consolidation and the remaining individual banks.

76 At the end of June 2019, 14 capital groups in the domestic banking sector were obliged to comply with the capital adequacy standards on a subconsolidated basis (consolidated at the national prudential consolidation level). The unconsolidated assets of banks included in those capital groups constituted about 80% of the banking sector’s assets, and after prudential consolidation the share of assets of capital groups was higher by 2 p.p.
bought back and redeemed shares and withdrawn membership capital. One larger issue of new shares took place in one large commercial bank and mortgage banks developing their activities. An additional source of an increase in Common Equity Tier 1 capital was an increase in the so-called other comprehensive income (by 0.5 billion zlotys) resulting from the favourable valuation of financial assets in bank portfolios. In addition, the issues of new subordinated debt or new subordinated loans in Tier 2 capital exceeded (by 0.7 billion zlotys) the amount of debt maturing or being repaid.

Average levels of the sector’s capital ratios have changed only slightly (see Figure 2.52). The same factors that influenced aggregated amount of excess of capital also shaped the level of these ratios. Changes in the level of total risk exposure amount had a much smaller impact on the behaviour of capital ratios in the first half of 2019.

In the first half of 2019, there were minor changes in the total risk exposure amount. As regards credit risk, there were no significant changes in average risk weights or changes in the distribution of exposures by exposure classes and risk weights (see Figure 2.54) that would indicate large-scale optimisation. Also, the coverage of credit exposures with the IRB approach did not increase significantly. The increased total risk exposure amount (see Figure 2.53) resulted mainly from the continuation of lending activity, and the changes in the exposure structure had the following sources:

▪ The rise in the share of exposures with 0% risk weight in cooperative banks is mainly related to the increase in the level of reciprocal exposures of members of a given institutional protection scheme (IPS), who had the approval of KNF to apply this preferential risk weight.

▪ The progressing increase in the share of exposures with a risk weight of 35% in commercial banks is mainly the result of classifying a large part of new housing loans into the class of exposures secured by mortgages on immovable property and assigning a preferential risk weight (in comparison to retail exposures with a risk weight of 75%). Banks have this possibility because most of these loans are fully and completely secured by mortgages on residential property in accordance with the requirements of the CRR. This is facilitated by compliance with the requirements of Recommendation S, thanks to which the majority of new housing loans have LTV below 80%.

▪ The increase in the share of exposures with a risk weight of 75% in the retail exposure class was mainly a result of an increase in the balance of consumer loans in banks' portfolios, whereas in the group of commercial banks it also resulted from the effect related to the transfer of portfolios of housing loans to mortgage banks.

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77 See Articles 124 and 125 as well as 208 and 229 of the CRR.
78 In accordance with the ustawą z dnia 29 sierpnia 1997 r. o listach zastawnych i bankach hipotecznym (Act of 29 August 1997 on Covered Bonds and Mortgage Banks), a mortgage bank must use in its activities, including the purpose of a capital adequacy calculation, a mortgage lending value of a real estate that is more conservative (lower) than the market value of the real estate and thus, when determining the capital requirement for credit risk using the standardised approach, the portion of the exposures that a normal commercial bank
Figure 2.54. Distribution of credit exposures by credit risk weight in the group of domestic commercial banks (left-hand panel) and cooperative banks (right-hand panel)

Notes: Values of exposures after risk mitigation techniques and credit conversion factors were used; before risk weighting and the use of the SME supporting factor.

Source: NBP.

Figure 2.55. Leverage ratio at commercial banks (left-hand panel) and cooperative banks (right-hand panel)

Notes: The leverage ratio prior 2014 is based on estimates.

Source: NBP.
The sector’s leverage ratio remained on safe level well above 3%, that is set as the future minimum regulatory level⁷⁹ (see Figure 2.55). Nevertheless, in several smaller institutions, mostly in banks belonging to IPS, the leverage ratio oscillated around 3%. Following the entry into force of the CRR II in 2021, ratios in this group of banks may improve due to the possibility to exclude from the total exposure measure items related to reciprocal exposures of IPS members (if such items, after the approval of the supervisory authority, receive in calculation of capital requirement for credit risk a 0% risk weight).

Figure 2.56. Estimated implied cost of capital of banks listed on GPW compared to their return on equity and regulatory capital

Notes: Banks included in the WIG-banking index are included. The assets of selected banks at the end of June 2019 accounted for close to 80% of the banking sector. Return on Regulatory Capital (RORC) based on Tier 1 capital after eliminating one-off events. Values of the indices shown in this figure are weighted average values.

Source: NBP calculations based on Bloomberg data.

In the forthcoming years, increasing of the regulatory capital will remain a challenge for banks. In the conditions of reduced profitability and the possibility of costs associated with the materialisation of legal risk (see Chapter 2.5 and Box 2.1), retained earnings are unlikely to be sufficient to meet the capital and MREL requirements in a timely manner. The factor limiting the possibility to obtain equity capital from external sources is still the fact that the profitability of banks remains below the estimated implied cost of capital (see Figure 2.56). Under these conditions, subordinated debt instruments will be a potential source of regulatory capital for banks. However, at present, there are still legal obstacles in

⁷⁹The minimum value of the leverage ratio at the level of 3% will (from 2021) become a complementary capital requirement to the risk-based measures applied so far under Pillar 1 of capital adequacy. More information: Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and Regulation (EU) No 648/2012.
For smaller banks and those that have not yet attempted to issue debt on foreign markets, competing for an investor on the global debt market will be a challenge and will involve additional costs (for example the cost of obtaining an external credit rating). Moreover, in the coming years, competition may be enhanced by the combination of two factors: low yields of debt instruments and the possibility of early redemption by banks of a significant part of their instruments issued in the past years and classified as Additional Tier 1 capital. In such circumstances, existing issuers may wish to renew financing at a lower cost.

An obstacle to the issuance of instruments classified as Additional Tier 1 capital (AT1) is, among others, the lack of transparent solutions in domestic law allowing the issuer to cancel particular obligations resulting from the issued instrument, which would not constitute a default of the issuer, as well as the lack of transparent solutions regulating the contractual conversion of the issued instrument into shares and the possibility of permanent or temporary write off nominal value of the instrument. The distribution of profits regulated by the Ustawa z dnia 15 września 2000 r. Kodeks spółek handlowych (the Act of 15 September 2000 Code of Commercial Companies) also needs to be adjusted to ensure that the coupons from the AT1 instrument are paid from available distributable items. It also seems necessary to adjust the provisions of the Ustawa z dnia 28 lutego 2003 r. Prawo upadłościowe (the Act of 28 February 2003 Bankruptcy Law) with respect to the grounds for considering the issuer insolvent (Article 11), i.e. how to include liabilities resulting from AT1 instruments in cash obligations. A common limitation for the foreign issues of bonds classified as Tier 2 capital and additional Tier 1 capital are still unfavourable tax regulations pertinent to withholding tax.

In accordance with Article 52(1)(i) of the CRR, a call option embedded in an instrument that is classified as Additional Tier 1 capital may be exercised no earlier than five years after the date of issue.

Figure 2.57. Comparison of total return indices of financial instruments classified as Additional Tier 1 and Tier 2 capital and total return indices on treasury debt of the euro zone countries and USA

Notes: iBoxx Eurozone Sovereign Overall TRI and iBoxx USD 1-10Y Sovereign Overall TRI Treasury debt indices standardised (1.01.2014 = 100). Indices of instruments classified as Additional Tier 1 capital and Tier 2 capital are indices from the group of Markit iBoxx Contingent Convertible Liquid Developed Markets AT1 TRI Index and Markit iBoxx Contingent Convertible Liquid Developed Markets T2 TRI Index.

Source: Bloomberg data and NBP calculations.

In the case of cooperative banks, the factor limiting their ability to increase Common Equity Tier 1 capital, in addition to low profitability, is often the lack of real incentives for members to increase their financial engagement into the cooperative bank.

2.7. Market assessment of banks

The market assessment of the Polish banking sector has deteriorated over the last six months. Share prices of most Polish banks followed trends on the global stock exchanges and slightly dropped (see 2.58). Uncertainty related to the pending ruling of the CJEU on the method of settling disputes between banks and borrowers holding loans indexed to foreign currencies (see Box 2.1) has additionally contributed to a slump in the share prices of banks holding significant portfolios of such loans. Also, the publication of a scientific study by the employees of the Supreme Court Research and Analyses Office concerning foreign currency loans caused deep, although short-term, drops in these banks. The average "price-to-book-value" ratio for banks listed on the WSE continued the downward trend and decreased to 1.1 (see 2.59). This was the worst result since May 2009. However, the two times higher value of this indicator for Polish banks compared to European banks shows that investors remain convinced of the greater potential to generate profits by Polish banks, although this advantage has significantly decreased from the maximum values recorded in 2010.

Figure 2.58. Prices of WIG-banki and EURO STOXX Banks indices (left-hand panel) and of shares of Polish banks (right-hand panel)

Notes: Prices of indices and bank shares re-scaled to 100 at the start of the financial crisis of 15 September 2008. To maintain comparability of charts, lines representing the change in share prices of two banks were presented to the value of 200.

Source: NBP calculations based on Thomson Reuters.

**Domestic factors had a varied impact on the valuation of Polish banks.** Good macroeconomic conditions and optimism among entrepreneurs and households limited the negative impact of the unstable situation on global markets. However, market analysts signaled that significant tax burdens and persistently low interest rates may deteriorate banks’ earnings. The perceived increased legal risk related to the ruling of the CJEU had a similar effect.

**The rating agencies confirmed the good situation of the Polish banking sector and upgraded the ratings of the majority of the rated banks** (see 2.5). Confirming the stable outlook for the banking sector in Poland, Moody’s stressed its high liquidity, domestic deposit funding from the non-financial sector and maintaining high quality capital.84 Fitch, on the other hand, confirming Poland’s rating at A-level, pointed to positive support for this rating from a stable banking system. It also pointed out the possibility of some banks incurring losses related to the CJEU ruling in the longer term.85

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The market assessment of Polish banks did not change considerably after the publication of the CJEU ruling on 3 October 2019. On that day, the quotations of bank shares were characterised by significant volatility. At the end of the session, the value of the WIG-banki index was lower by 1% than the previous day’s value, and the biggest drop in the price in a single bank was about 5%. These drops were accompanied by a significant worsening of stock quotations on the global stock exchanges. On 2 and 3 October 2019, the FTSE, DAX and EURO STOXX Banks indices, among others, lost about 3% of their value. In the days that followed, the shares of Polish banks made up for their losses. No significant change in the prices of shares of banks with significant portfolios of loans indexed to foreign currencies at the date of the ruling indicates that stock market investors assume that potential costs of banks would be spread over a longer period of time. Credit rating agencies have a similar view. Moody’s and S&P, while maintaining Poland’s rating, indicated that bank losses may be material but will be spread over time and largely depend on the jurisdiction of Polish courts, while Fitch confirmed the ratings of three banks, including two with significant portfolios of foreign currency-indexed loans.

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86 The events mentioned in the paragraph took place after the adopted cut-off date. The period covered by the analysis was extended by two weeks due to high interest in the CJEU ruling and uncertainty on the market prior to its announcement.
Table 2.5. Ratings of Polish banks rated between 1 April and 30 September 2019

<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>
</tr>
</thead>
<tbody>
<tr>
<td>Santander Bank Polska¹</td>
<td>baa2 (baa3)</td>
<td>A2 (A3)</td>
<td>P-1 (P-2)</td>
<td>STA (POS)</td>
</tr>
<tr>
<td>mBank²,³</td>
<td>baa3 (ba1)</td>
<td>A3 (Baa1)</td>
<td>P-2 (P-2)</td>
<td>NEG (POS)</td>
</tr>
<tr>
<td>Bank Millennium⁴</td>
<td>baa3 (ba1)</td>
<td>Baa1 (Baa2)</td>
<td>P-2 (P-2)</td>
<td>STA (POS)</td>
</tr>
<tr>
<td>Getin Noble Bank⁴</td>
<td>ca (caa1)</td>
<td>Caa1 (B2)</td>
<td>NP (NP)</td>
<td>NEG (NEG)</td>
</tr>
<tr>
<td>mBank Hipoteczny²,³</td>
<td>brak (brak)</td>
<td>A3 (Baa1)</td>
<td>P-2 (P-2)</td>
<td>NEG (POS)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fitch</th>
<th>Viability rating</th>
<th>Long-term rating</th>
<th>Short-term rating</th>
<th>Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getin Noble Bank⁴</td>
<td>b- (b-)</td>
<td>B- (B-)</td>
<td>B (B)</td>
<td>NEG (STA)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S&amp;P</th>
<th>Stand-alone credit profile (SACP)</th>
<th>Long-term rating</th>
<th>Short-term rating</th>
<th>Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>mBank⁵</td>
<td>bbb (bbb)</td>
<td>BBB (BBB+)</td>
<td>A-2 (A-2)</td>
<td>DEV (NEG)</td>
</tr>
</tbody>
</table>

2. mBank (mBank Hipoteczny): improvement of asset quality and profitability of the bank.
3. Bank Millennium: raising the rating of the majority investor (Portuguese BCP).
4. Getin Noble Bank: significant deterioration of profitability and capital position.
5. mBank – possibility of selling the majority stake in the bank.
6. mBank (mBank Hipoteczny): the outlook is downgraded to negative due to the possibility of selling a majority stake in the bank.

Note: In brackets, data as of the end of March 2019. Definitions of ratings – in the glossary.


Box 2.4. Activities of branches of credit institutions in Poland

In recent years there has been a noticeable increase in the number of branches of credit institutions operating in Poland – at the end of June 2019, there were more active branches of credit institutions than domestic commercial banks. At the same time, the share of branches of credit institutions in the assets of the Polish banking sector increased (see Figure 2.60). However, the importance of these institutions in the banking sector is still low (3.4% of the sector’s assets). As at the end of June 2019, there were 32 branches of credit institutions in Poland with a total value of assets of PLN 67.4 billion. The largest assets by country of origin are held by branches of banks registered in France, Austria and Luxembourg.

The increase in the number of branches of credit institutions active on the Polish market is a result of, among other things, optimisation measures taken by foreign banking groups. The change of

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¹ Licences in Luxembourg are often obtained by non-EU banking groups, which then establish branches in other EU countries on the basis of their registered offices in Luxembourg. In the case of Luxembourg branches operating in Poland, 99% of assets are held by banks from China.
the organisational structure from a domestic bank to a branch enables the transfer of most of the management functions to a foreign head office. This allows for integration of risk management at the group level and contributes to cost reduction. In the period from mid-2012 to mid-2019, 7 institutions decided to do so – 6 of them operated on the Polish market at the end of June 2019, with total assets of PLN 29.8 billion. A specific example of the transformation was Raiffeisen Bank Polska which, following the sale of a part of the company to BNP Paribas Polska, transferred the remaining assets to a newly created branch. It largely contributed to the increase in the share of branches of credit institutions in the banking sector observed at the end of 2018.

Figure 2.60. Assets of branches of credit institutions and their share in the assets of the domestic banking sector

![Figure 2.60](image)

Source: NBP

Figure 2.61. Number of domestic commercial banks and branches of credit institutions operating in Poland

![Figure 2.61](image)

Source: NBP

In turn, for the entities interested in entering the Polish market and developing their banking activity from scratch, that is commencement of operation and running a business in the form of a branch of a credit institution – under the rule of a single passport – is much easier for EU investors. In the period from 1 July 2012 to 30 June 2019, 9 institutions decided to start operations in this form (out of which, at the end of the second quarter of 2019, there were still 8 entities operating and their total assets amounted to PLN 8.5 billion).

Description of the activities of the branches of credit institutions in Poland

Loans to the non-financial sector (approx. 60% of the balance sheet) prevail in the asset structure of the majority of branches of credit institutions. The main component of this portfolio are receivables from enterprises, i.e. the customer group around which the branches focus their operations. The second most valuable asset class are receivables from financial entities, of which receivables from other institutions, i.e. other financial intermediaries and financial auxiliaries, rank equally to funds held with banks (foreign and domestic).
Only few branches invest their funds in Treasury securities, which may result from the exclusion of branches of credit institutions operating in Poland from the obligation to maintain liquidity and to report on it (LCR, M3, M4 standards).88 Branches of credit institutions are also not involved in the financing of budgetary units, only a few branches have a limited exposure to municipal securities.

The relatively high share of receivables from households results mainly from the transfer of a part of assets of Raiffeisen Bank Polska to the branch (mainly housing loans in foreign currency). The remaining branches have little exposure to loans to private individuals.

**Figure 2.62.** Asset structure of branches of credit institutions as at 30 June 2019

**Figure 2.63.** Liability structure of branches of credit institutions as at 30 June 2019

The main source of financing for the branches are funds from foreign banks, a significant part of which are liabilities towards the head office. Together with funds obtained from domestic financial institutions (mainly banks), liabilities towards financial sector entities constitute nearly 70% of the balance sheet total of branches of credit institutions. Funding is supplemented by deposits of enterprises registered mainly in Poland. Following the notification of the activity in recent years also by EU institutions whose strategy is to receive mass deposits from the public, it is expected that the share of these deposits lodged at branches of credit institutions and guaranteed by home deposit guarantee funds in the country of origin of credit institutions will increase. In addition, competition for deposits by these branches may gradually affect Polish banks. This means that Office of Competition and Consumer Protection and KNF need to pay more supervisory attention over the activities of these branches, including through cooperation with home supervisors.

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88 A branch, as part of a home country bank, contributes to its total risk exposure, exposures in leverage ratio and elements of liquidity measures (LCR and NSFR).
The profitability of most branches is low. As at the end of June 2019, the return on assets of this group of institutions amounted to approx. 0.3% and was significantly lower than the average for the whole banking sector. When assessing the effectiveness of the functioning of these entities, it should be taken into account, however, that the main objective of their operations on the Polish market is the implementation of tasks assigned by the group, which include, among others, servicing customers operating on international markets, as well as financial and non-financial entities from the strategic shareholder group. In the case of some branches, low profitability is related to the phasing out of banking activities in Poland.

At the same time, the quality of assets of most branches is good—the ratio of impaired loans to the non-financial sector is around 4%.

Supervision of the activities of branches of credit institutions

As stipulated in the CRDIV, the KNF’s competence for ongoing supervision of branches of credit institutions is limited, as this function is mainly exercised by supervisors from the home country of the branch. Supervisory activities such as on-site checks and inspections or the obligation of a branch to communicate information about its activities may be undertaken in situations where the competent authorities of the host country consider it appropriate for the stability of the financial system. UKNF may cooperate and exchange information with competent supervisory authorities on colleges of supervisors and participate in the preparation and implementation of recovery and resolution plans. It is good practice, in line with EU law, for KNF towards branches of credit institutions to set conditions in the interest of general good, which allows for additional obligations to be imposed on these institutions and for the scope of control over them to be extended. The likely consequences of a lack of effective supervision of the activities of branches of credit institutions and a lack of proper cooperation between supervisors in two jurisdictions are illustrated by the example of Danske Bank, whose Estonian branch was accused of large-scale money laundering—around EUR 200 billion. As a result of the scandal, the Danish group is withdrawing from the Estonian market after a local supervisor ordered the closure of the branch of Danske Bank.

Current reporting data do not indicate any significant risk associated with the activity of branches of credit institutions in the Polish market. However, due to the growing share of branches of credit institutions in the assets of the banking sector, actions should be taken to adequately identify risk in this market segment.

The European Systemic Risk Board (ESRB), which adopted a recommendation on exchange and

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89 These requirements may include, inter alia, conducting business in accordance with good market practices applied by other banks in Poland, applicable regulations and decisions of regulatory authorities (including the Polish Financial Supervision Authority, the Office of Competition and Consumer Protection and the Financial Ombudsman), respecting the judgements of Polish courts for the purposes of civil law actions for agreements concluded by bank clients or fulfilling information obligations towards clients.
The collection of information on foreign branches at the September meeting of General Board, also recognized the importance of proper information sharing for the effective implementation of macro-prudential supervision objectives. The implementation of the recommendation should provide national macroprudential authorities with "on demand" access to information on branches of credit institutions operating in their jurisdiction, in particular if they are of systemic importance to the host country. Improving the information exchange process requires action by the relevant bodies at both national and EU level.

2.8. Selected ratios to describe the situation of the banking sector (domestic commercial banks and cooperative banks)

Table 2.6. Banking sector

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on assets (ROA)</td>
<td>0.82</td>
<td>0.82</td>
<td>0.72</td>
<td>0.68</td>
<td>0.69</td>
</tr>
<tr>
<td>Return on Tier 1 capital (RORC)</td>
<td>8.5</td>
<td>8.5</td>
<td>7.6</td>
<td>7.3</td>
<td>7.5</td>
</tr>
<tr>
<td>Return on accounting capital (ROE)</td>
<td>7.5</td>
<td>7.6</td>
<td>6.9</td>
<td>6.6</td>
<td>6.8</td>
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<tr>
<td>Net interest margin (NIM)</td>
<td>2.49</td>
<td>2.50</td>
<td>2.51</td>
<td>2.52</td>
<td>2.53</td>
</tr>
<tr>
<td>The share of net interest income in net income from banking activity</td>
<td>69.6</td>
<td>70.1</td>
<td>71.6</td>
<td>71.7</td>
<td>71.9</td>
</tr>
<tr>
<td>The share of net noninterest income in net income from banking activity</td>
<td>30.4</td>
<td>29.9</td>
<td>28.4</td>
<td>28.3</td>
<td>28.1</td>
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<td>Operating costs to net income from banking activity (CTI)</td>
<td>57.7</td>
<td>57.9</td>
<td>58.5</td>
<td>59.4</td>
<td>58.7</td>
</tr>
<tr>
<td>Net charges to credit risk provisions to net income from banking activity</td>
<td>13.7</td>
<td>13.4</td>
<td>14.3</td>
<td>14.5</td>
<td>14.9</td>
</tr>
<tr>
<td>Loan growth rates (y/y)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- nonfinancial sector</td>
<td>5.3</td>
<td>5.7</td>
<td>5.8</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>- households</td>
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<td>5.2</td>
<td>5.5</td>
<td>5.5</td>
<td>5.8</td>
</tr>
<tr>
<td>- consumer loans</td>
<td>9.5</td>
<td>9.3</td>
<td>9.1</td>
<td>8.7</td>
<td>8.9</td>
</tr>
<tr>
<td>- housing loans</td>
<td>3.9</td>
<td>4.2</td>
<td>4.9</td>
<td>4.9</td>
<td>5.3</td>
</tr>
<tr>
<td>- enterprises</td>
<td>5.6</td>
<td>6.7</td>
<td>6.5</td>
<td>6.4</td>
<td>5.6</td>
</tr>
<tr>
<td>Impaired loan ratios</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- nonfinancial sector</td>
<td>7.1</td>
<td>7.0</td>
<td>6.9</td>
<td>6.8</td>
<td>6.8</td>
</tr>
<tr>
<td>- households</td>
<td>6.1</td>
<td>6.0</td>
<td>5.9</td>
<td>6.0</td>
<td>6.0</td>
</tr>
<tr>
<td>- consumer loans</td>
<td>11.1</td>
<td>11.0</td>
<td>10.8</td>
<td>11.0</td>
<td>10.8</td>
</tr>
<tr>
<td>- housing loans</td>
<td>2.6</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.4</td>
</tr>
<tr>
<td>- enterprises</td>
<td>9.0</td>
<td>9.0</td>
<td>8.7</td>
<td>8.5</td>
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</tr>
<tr>
<td>Net charges to credit risk provisions to net value of loans</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- nonfinancial sector</td>
<td>0.89</td>
<td>0.87</td>
<td>0.88</td>
<td>0.90</td>
<td>0.93</td>
</tr>
<tr>
<td>- households</td>
<td>0.87</td>
<td>0.86</td>
<td>0.98</td>
<td>1.00</td>
<td>1.01</td>
</tr>
<tr>
<td>- consumer loans</td>
<td>2.13</td>
<td>2.17</td>
<td>2.38</td>
<td>2.45</td>
<td>2.64</td>
</tr>
<tr>
<td>- housing loans</td>
<td>0.21</td>
<td>0.17</td>
<td>0.15</td>
<td>0.15</td>
<td>0.08</td>
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<tr>
<td>- enterprises</td>
<td>0.92</td>
<td>0.89</td>
<td>0.72</td>
<td>0.73</td>
<td>0.78</td>
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<tr>
<td>Funding gap</td>
<td>2.4</td>
<td>3.2</td>
<td>1.5</td>
<td>0.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Total capital ratio</td>
<td>18.1</td>
<td>18.4</td>
<td>18.3</td>
<td>18.3</td>
<td>18.3</td>
</tr>
<tr>
<td>Tier 1 capital ratio</td>
<td>16.1</td>
<td>16.4</td>
<td>16.3</td>
<td>16.2</td>
<td>16.2</td>
</tr>
<tr>
<td>Core Equity Tier 1 capital ratio</td>
<td>16.1</td>
<td>16.4</td>
<td>16.3</td>
<td>16.2</td>
<td>16.2</td>
</tr>
<tr>
<td>Financial leverage (multiple)</td>
<td>9.8</td>
<td>9.7</td>
<td>10.2</td>
<td>10.3</td>
<td>10.3</td>
</tr>
<tr>
<td>Leverage ratio according to CRDIV/CRR</td>
<td>9.7</td>
<td>9.8</td>
<td>9.3</td>
<td>9.3</td>
<td>9.3</td>
</tr>
</tbody>
</table>

Note: ROA, RORC, ROE, NIM, CTI and the net charges to credit risk provisions/ net income from banking activity – annualized data. Capital-related ratios and returns on capital calculated for domestic banks, without BGK. Growth rate of loans after adjusting for foreign exchange rate changes.

Source: NBP.
Table 2.7. Domestic commercial banks

<table>
<thead>
<tr>
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<th></th>
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<th></th>
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<tbody>
<tr>
<td>Return on assets (ROA)</td>
<td>0.85</td>
<td>0.85</td>
<td>0.75</td>
<td>0.71</td>
<td>0.73</td>
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<tr>
<td>Return on Tier 1 capital (RORC)</td>
<td>8.7</td>
<td>8.7</td>
<td>7.8</td>
<td>7.4</td>
<td>7.7</td>
</tr>
<tr>
<td>Return on accounting capital (ROE)</td>
<td>7.7</td>
<td>7.8</td>
<td>7.0</td>
<td>6.7</td>
<td>6.9</td>
</tr>
<tr>
<td>Net interest margin (NIM)</td>
<td>2.50</td>
<td>2.52</td>
<td>2.54</td>
<td>2.55</td>
<td>2.56</td>
</tr>
<tr>
<td>The share of net interest income in net income from banking activity</td>
<td>69.4</td>
<td>69.8</td>
<td>71.4</td>
<td>71.4</td>
<td>71.7</td>
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<tr>
<td>The share of net noninterest income in net income from banking activity</td>
<td>30.6</td>
<td>30.2</td>
<td>28.6</td>
<td>28.6</td>
<td>28.3</td>
</tr>
<tr>
<td>Operating costs to net income from banking activity (CTI)</td>
<td>54.0</td>
<td>54.0</td>
<td>54.4</td>
<td>55.3</td>
<td>54.5</td>
</tr>
<tr>
<td>Net charges to credit risk provisions to net income from banking activity</td>
<td>13.7</td>
<td>13.4</td>
<td>14.3</td>
<td>14.5</td>
<td>14.8</td>
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</table>

Loan growth rates (y/y)

<table>
<thead>
<tr>
<th></th>
<th>w %</th>
</tr>
</thead>
<tbody>
<tr>
<td>- nonfinancial sector</td>
<td>5.3</td>
</tr>
<tr>
<td>- households</td>
<td>5.5</td>
</tr>
<tr>
<td>- consumer loans</td>
<td>9.1</td>
</tr>
<tr>
<td>- housing loans</td>
<td>3.8</td>
</tr>
<tr>
<td>- enterprises</td>
<td>5.0</td>
</tr>
<tr>
<td>Impaired loan ratios</td>
<td>w %</td>
</tr>
<tr>
<td>- nonfinancial sector</td>
<td>7.1</td>
</tr>
<tr>
<td>- households</td>
<td>6.2</td>
</tr>
<tr>
<td>- consumer loans</td>
<td>11.4</td>
</tr>
<tr>
<td>- housing loans</td>
<td>2.7</td>
</tr>
<tr>
<td>- enterprises</td>
<td>9.0</td>
</tr>
<tr>
<td>Net charges to credit risk provisions to net value of loans</td>
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<td>- enterprises</td>
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<td>Funding gap</td>
<td>5.1</td>
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<td>LCR</td>
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<tr>
<td>Total capital ratio</td>
<td>16.1</td>
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<tr>
<td>Tier 1 capital ratio</td>
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<tr>
<td>Core Equity Tier 1 capital ratio</td>
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<tr>
<td>Financial leverage (multiple)</td>
<td>9.7</td>
</tr>
<tr>
<td>Leverage ratio according to CRDIV/CRR</td>
<td>9.8</td>
</tr>
</tbody>
</table>

Note: ROA, RORC, ROE, NIM, CTI and net charges to credit risk provisions / net income from banking activity – annualized data. Capital-related ratios and returns on capital calculated for domestic commercial banks, without BGK. LCR additionally without associating banks. Growth rate of loans after adjusting for foreign exchange rate changes.

Source: NBP.
Table 2.8. Cooperative banks

<table>
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<tr>
<td>Return on assets (ROA)</td>
<td>0.44</td>
<td>0.42</td>
<td>0.48</td>
<td>0.50</td>
<td>0.45</td>
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<tr>
<td>Return on Tier 1 capital (RORC)</td>
<td>5.1</td>
<td>5.0</td>
<td>5.7</td>
<td>5.9</td>
<td>5.4</td>
</tr>
<tr>
<td>Return on accounting capital (ROE)</td>
<td>4.6</td>
<td>4.6</td>
<td>5.3</td>
<td>5.5</td>
<td>5.0</td>
</tr>
<tr>
<td>Net interest margin (NIM)</td>
<td>2.87</td>
<td>2.86</td>
<td>2.80</td>
<td>2.78</td>
<td>2.76</td>
</tr>
<tr>
<td>The share of net interest income in net income from banking activity</td>
<td>77.3</td>
<td>77.6</td>
<td>77.3</td>
<td>77.5</td>
<td>77.7</td>
</tr>
<tr>
<td>The share of net noninterest income in net income from banking activity</td>
<td>22.7</td>
<td>22.4</td>
<td>22.7</td>
<td>22.5</td>
<td>22.3</td>
</tr>
<tr>
<td>Operating costs to net income from banking activity (CTI)</td>
<td>68.7</td>
<td>69.0</td>
<td>69.8</td>
<td>69.8</td>
<td>69.5</td>
</tr>
<tr>
<td>Net charges to credit risk provisions to net income from banking activity</td>
<td>15.9</td>
<td>15.9</td>
<td>13.0</td>
<td>12.5</td>
<td>13.6</td>
</tr>
</tbody>
</table>

Loan growth rates (y/y)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>- nonfinancial sector</td>
<td>3.5</td>
<td>2.9</td>
<td>2.3</td>
<td>2.3</td>
<td>2.7</td>
</tr>
<tr>
<td>- households</td>
<td>3.5</td>
<td>3.3</td>
<td>3.0</td>
<td>4.2</td>
<td>4.6</td>
</tr>
<tr>
<td>- consumer loans</td>
<td>1.8</td>
<td>1.5</td>
<td>2.2</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
<td>- housing loans</td>
<td>15.4</td>
<td>14.6</td>
<td>14.2</td>
<td>12.9</td>
<td>13.1</td>
</tr>
<tr>
<td>- enterprises</td>
<td>3.5</td>
<td>1.9</td>
<td>0.4</td>
<td>-2.0</td>
<td>-1.9</td>
</tr>
</tbody>
</table>

Impaired loan ratios

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>- nonfinancial sector</td>
<td>8.8</td>
<td>8.8</td>
<td>9.1</td>
<td>8.9</td>
<td>8.9</td>
</tr>
<tr>
<td>- households</td>
<td>5.1</td>
<td>5.2</td>
<td>5.4</td>
<td>5.3</td>
<td>5.4</td>
</tr>
<tr>
<td>- consumer loans</td>
<td>5.9</td>
<td>6.0</td>
<td>6.0</td>
<td>6.1</td>
<td>6.0</td>
</tr>
<tr>
<td>- housing loans</td>
<td>1.8</td>
<td>1.8</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>- enterprises</td>
<td>17.3</td>
<td>17.5</td>
<td>18.1</td>
<td>17.7</td>
<td>17.6</td>
</tr>
</tbody>
</table>

Net charges to credit risk provisions to net value of loans

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- nonfinancial sector</td>
<td>1.18</td>
<td>1.19</td>
<td>1.03</td>
<td>1.01</td>
<td>1.10</td>
</tr>
<tr>
<td>- households</td>
<td>0.70</td>
<td>0.70</td>
<td>0.62</td>
<td>0.61</td>
<td>0.67</td>
</tr>
<tr>
<td>- consumer loans</td>
<td>1.01</td>
<td>0.98</td>
<td>0.79</td>
<td>0.80</td>
<td>0.85</td>
</tr>
<tr>
<td>- housing loans</td>
<td>0.17</td>
<td>0.18</td>
<td>0.13</td>
<td>0.13</td>
<td>0.11</td>
</tr>
<tr>
<td>- enterprises</td>
<td>2.36</td>
<td>2.37</td>
<td>2.07</td>
<td>2.00</td>
<td>2.19</td>
</tr>
</tbody>
</table>

Funding gap

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>LCR on individual basis</td>
<td>439.3</td>
<td>444.3</td>
<td>442.2</td>
<td>539.8</td>
<td>479.3</td>
</tr>
<tr>
<td>LCR on consolidated basis</td>
<td>212.3</td>
<td>214.5</td>
<td>230.9</td>
<td>254.3</td>
<td>245.9</td>
</tr>
<tr>
<td>Total capital ratio</td>
<td>17.8</td>
<td>17.6</td>
<td>17.6</td>
<td>17.4</td>
<td>17.9</td>
</tr>
<tr>
<td>Tier 1 capital ratio</td>
<td>16.9</td>
<td>16.7</td>
<td>16.8</td>
<td>16.6</td>
<td>17.1</td>
</tr>
<tr>
<td>Core Equity Tier 1 capital ratio</td>
<td>16.8</td>
<td>16.7</td>
<td>16.7</td>
<td>16.6</td>
<td>17.1</td>
</tr>
<tr>
<td>Financial leverage (multiple)</td>
<td>11.5</td>
<td>11.6</td>
<td>12.1</td>
<td>12.3</td>
<td>11.9</td>
</tr>
<tr>
<td>Leverage ratio according to CRDIV/CRR</td>
<td>8.5</td>
<td>8.4</td>
<td>8.1</td>
<td>7.9</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Note: ROA, RORC, ROE, NIM, CTI and net charges to credit risk provisions / net income from banking activity – annualized data. Unconsolidated LCR – data for cooperative banks that must meet the LCR standard on an unconsolidated basis. Consolidated LCR – data for cooperative banks that were allowed to meet the LCR standard on a consolidated basis and for associating banks.

Source: NBP.
3. Credit union sector

3.1.1. Profile of the credit union sector

The situation of the credit union sector did not change significantly in the period under analysis. At the end of June 2019, 26 credit unions were active in the sector (4 fewer than at the end of 2018) and the value of their assets amounted to PLN 9.3 billion. The efficiency of credit unions was persistently low, and most of them were required to implement recovery programmes. The improvement in the sector’s indicators, observed at the end of the first half of 2019, was mainly a statistical effect, i.e. the termination of activity by the credit unions which made losses and showed negative regulatory capital.

The first half of 2019 saw a modest fall in assets (by PLN 0.3 billion or around 3.5%), mainly as a result of the take-over of a credit union by a commercial bank (see Figure 3.1). In the case of credit unions which carried on operations, this fall was insignificant (by 0.2%) and was accompanied by an increase in their loan portfolios.

The level of the credit union sector’s entity concentration remains high – the result of the whole sector is determined by several largest credit unions (see Table 3.1). The share of large credit unions in the sectors’ assets remains at the level of around 85%. On the other hand, in numerical terms, almost 50% of the sector are credit unions with assets below PLN 50 million, the share of this credit union group in the sector’s assets dropped to 2.5% (see Figure 3.2).

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91 The analysis of the situation of the credit union sector was based on reporting data which do not fully and on a day-to-day basis take account of all the reservations reported by KNF under its supervision mandate. The differences between data presented in the Report’s previous issues result from the adjustments gradually implemented by specific credit unions and from the change in the number of credit unions in the group under analysis. Moreover, due to the entry into force of the new reporting rules for the credit union sector on 1 January 2018, data for the end of 2017 and the remaining periods are not fully comparable.

92 Upon the KNF decision, three credit unions merged with other unions and one credit union was taken over by a commercial bank in the first half of 2019.

93 As of 30 June 2019, 15 credit unions (accounting for 93% of assets of the credit union sector) were required to prepare and implement programmes of recovery proceedings; the programmes were submitted for approval several times and in most cases they did not meet the expectations of the supervisory authorities. Only four programmes were ultimately approved by the Polish Financial Supervision Authority.

94 For the purposes of the Report, a group of credit unions that continued to operate, i.e. the credit unions that carried on operation at the end of June 2019, was separated to eliminate the statistical impact of the credit unions that discontinued operations (i.e. credit unions take over by banks and the credit unions which were suspended). Unless otherwise indicated, the analysis and figures relate only to this credit union group.
Figure 3.1. Assets of credit union sector (PLN billion)

![Chart showing the assets of credit union sector from 2017 to 2019.](image)

Note: Unless otherwise indicated in the description, figures in Chapter 3 relate to the credit unions that carry on operations.

Source: UKNF.

Figure 3.2. Asset structure of the credit union sector by asset value at the end of June 2019

![Pie chart showing the asset structure of the credit union sector.](image)

Source: UKNF.

Table 3.1. The credit union sector by groups according to asset value (end of June 2019)

<table>
<thead>
<tr>
<th>Credit union sector, therein:</th>
<th>Number of credit unions in group</th>
<th>Assets (PLN mn)</th>
<th>Share in sector’s assets</th>
<th>Net income (PLN mn)</th>
<th>Regulatory capital (PLN mn)</th>
<th>Capital adequacy ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit union sector, therein:</td>
<td>26</td>
<td>274.65</td>
<td>100.00%</td>
<td>18.22</td>
<td>495.60</td>
<td>6.02%</td>
</tr>
<tr>
<td>• credit unions with assets up to PLN 50 mn</td>
<td>11</td>
<td>234.06</td>
<td>2.52%</td>
<td>-0.89</td>
<td>18.30</td>
<td>9.39%</td>
</tr>
<tr>
<td>• credit unions with assets from at least PLN 50 mn to PLN 200 mn</td>
<td>12</td>
<td>114.56</td>
<td>12.02%</td>
<td>4.45</td>
<td>86.98</td>
<td>9.62%</td>
</tr>
<tr>
<td>• credit unions with assets from at least PLN 200 mn</td>
<td>3</td>
<td>7926.04</td>
<td>85.46%</td>
<td>14.66</td>
<td>390.32</td>
<td>5.47%</td>
</tr>
</tbody>
</table>

Source: UKNF.

3.1.2. Credit risk

In the period under analysis, the share of loans in credit unions’ assets grew. The value of receivables of credit union members at the end of June 2019 amounted to PLN 5.9 billion, i.e. it was 3.2% higher than at the end of 2018 (see Figure 3.3). Therefore, the share of the loan portfolio in assets increased by more than 2 percentage points to almost 64%. In view of a fall in deposits, credit unions’ lending was financed with the funds that had been so far deposited by credit unions at other financial institutions – the value of credit unions’ deposits at accounts in commercial banks and at the National Association of Credit Unions decreased by a total of 5.2% to PLN 1.7 billion.

The quality of the loan portfolio of credit unions remained low. A relative stabilisation of the impaired loan ratio, at the level of around 14% was observed for several quarters (see Figure 3.4). Its fall
in the second quarter of 2019 to 13.5% resulted mainly from the increasing loan portfolio growth and the fact that some credit unions continued to sell overdue debt.\textsuperscript{86} The stabilisation of the impaired loan ratio despite the sale of overdue debt is evidence of the persistence of elevated credit risk and new impaired loans arising on the balance sheets of credit unions.

**Figure 3.3.** Asset structure of the credit union sector

![Asset structure of the credit union sector](image)

**Source:** UKNF.

**Figure 3.4.** Overdue loans and their share in total loans

![Overdue loans and their share in total loans](image)

**Source:** UKNF.

3.1.3. Funding and liquidity risk

**Deposits of credit union members remained the main source of credit unions’ operations.** At the end of June 2019, the value of deposits was PLN 8.6 billion (of which were 98% guaranteed deposits) and since the end of 2018 has shrunk by less than 0.5%. In the context of growing lending, this led to an increase in the L/D ratio to 69% (see Figure 3.5). Term deposits prevailed (73%) in the maturity structure, nevertheless the share of current accounts in the structure of credit unions’ liabilities towards their members has been on the rise for several quarters.

**The liquidity position of the credit union sector was stable.** The liquid reserve ratio remained above the regulatory minimum of 10% and at the end of June it stood at 11.6%. Credit unions’ liquid assets valued at PLN 1.9 billion accounted for slightly more 20% of total assets and the share diminished slightly after credit unions used their surplus of funds to expand lending (see Figure 3.6). Deposits at the National Association remained the major item of the liquid asset structure (their value was PLN 1.3 billion). The remaining funds were kept at current accounts of the National Association and commercial banks, at deposits of commercial banks, and were invested in Treasury debt instruments.

\textsuperscript{86} In the first half of 2019, credit unions sold debts whose gross value was PLN 181 million.
3.1.4. Credit unions’ efficiency

Figure 3.7. Structure of earnings of the credit union sector in particular quarters and earnings (cumulatively in a given year)

Source: UKNF.

The low efficiency of credit unions’ core operations hampers the further development of the sector. For two quarters of 2019, it generated a profit of more than PLN 18 million, composed primarily of rising interest income and a positive result on the revaluation of financial assets (see Figure 3.7). Credit unions’ interest income rises because they maintain a high net interest margin – the NIM of the credit union sector in the first half of 2019 was substantially higher than 6%, compared to less than 3% for the banking sector. On the other hand, the positive result from the revaluation was due to the release...
of provisions for overdue debt, sold by credit unions in the first half of the year. At the same time, the cost of the transactions (included in costs of financial operations), along with relatively high operating costs, are a substantial burden on credit union’s earnings. Consequently, the ratio of the share of operating costs in the result on core operations at the end of June 2019 exceeded 90%, with ROA at the level of around 1%.

Smaller credit unions showed lower profitability. At the end of the first half of 2019, 20 out of the 26 credit unions that continued operations posted a positive financial result (their share in the sector’s assets was higher than 90%). The assets of the loss-making credit unions were below PLN 60 million.

3.1.5. The capital position of credit unions

The regulatory capital and capital ratios of the credit union sector increased. All credit unions active at the end of June 2019 had positive regulatory capital. Since the end of 2018, the value of regulatory capital in the sector has grown by PLN 91 million to almost PLN 496 million (see Figure 3.8) following the transfer by some credit unions of funds from 2018 profits to cover some losses of previous years and the PLN 18 million issue of subordinated bonds (purchased in full by the National Association).

![Figure 3.8. Structure of regulatory capital and capital adequacy ratio of the credit union sector](image)

*Note: “Other items” include subordinated debt and the amount of addition responsibility of credit union members (included in funds upon obtaining KNF’s consent).*

*Source: UKNF.*

![Figure 3.9. Capital adequacy ratio broken down by credit union groups according to value of assets](image)

*Note: 5% is the minimum required level of the capital adequacy ratio (in accordance with Article 24(5) of the Act of 2009 on Credit Unions)*

*Source: UKNF.*

The sector’s capital adequacy ratio exceeded 6%; however, 5 credit unions still failed to meet the minimum level of 5% (all the credit unions are implementing recovery programmes). It has to be

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96 The coverage of losses was possible after the General Meeting of Credit Union Members decided to use a portion of profits for 2018 (approx. PLN 78 million), included to the resource fund by certain credit unions upon KNF’s consent, for that purpose.
kept in mind that although the capital position of small and medium-sized credit unions is the best, the largest credit unions have, a dominant influence on the whole sector’s ratios (see Figure 3.9).

The credit union sector continued to report capital shortages, which made absorption of credit union’s realized losses impossible. In addition, optional participations (included to the share fund) and the revaluation fund, i.e. those items that cannot be used to cover losses, prevailed in the structure of regulatory capital. In turn, the use of the share fund (without optional participations) and the resource fund would be sufficient to cover only 34% of the losses generated by credit unions in the first half of 2019 and in previous years.
4. Non-credit financial institutions

In the first half of 2019, assets of non-credit financial institutions (NIFs) increased slightly. However, the ratio of NIF assets to banks’ assets further decreased, reaching the lowest level (33.2%) since 2011. In the first half of 2019, the NIF sector developed at a slower pace (1.1%) than banks (3.7%), and its relevance was considerably lower than in the more developed countries of the European Union.

4.1. Insurance companies

4.1.1. Term structure of assets and liabilities

In the first half of 2019, assets and liabilities of non-life insurance companies increased, while life insurance companies experienced a decrease. A slight decrease in technical provisions of life insurance companies resulted primarily from a lower value of unit-linked liabilities (UFK) and other life insurance policies (see Figure 4.1). The decrease in insurance provisions was related, among others, to the outflows from UFK, which had been going on for one year and a half. The increase in the value of provisions in the non-life insurance sector was most significantly affected by forecasts of higher cash flows on account of future benefits resulting from compulsory motor third party liability insurance as well as fire and property insurance. The upward trend in these insurance groups has continued since 2016 (see Figure 4.2).

![Figure 4.1. Technical provisions – life insurance sector](image1)

![Figure 4.2. Technical provisions – non-life insurance sector](image2)

The average maturity of provisions in the life insurance sector continued to be longer than that of life insurance companies’ assets. The longest maturity dates for payment of benefits were related to...

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This chapter is devoted to domestic insurance companies, investment funds and open pension funds.

Maturity estimates based on data for 2018.
individually continued insurance that are qualified to the “other life insurance” business line. As in previous periods, the shortest maturity date was for insurance related to UFK. Although these insurances take the form of long-term agreements, due to the possibility of early withdrawal by the customer, companies often classify them as available within the next year. The estimated maturity of provisions in the life insurance other than UFK was almost 8 years longer than the duration of assets in this sector.

In the case of non-life insurance companies, the technical provisions and assets had a similar maturity. This was the result of provisions from annuities, stemming from motor insurance contracts. At the end of the first half of 2019, their share in provisions of the non-life insurance sector reached approx. 18%.

**Figure 4.3.** Capital requirement for the interest rate risk – life insurance sector  

**Figure 4.4.** Capital requirement for the interest rate risk - non-life insurance sector

In the first half of 2019, the maturity structure of domestic Treasury securities in the portfolios of insurance companies did not change significantly. The average maturity of these instruments held by life insurance companies (without unit-linked assets) reached 5.5 years and was higher than in the case of non-life insurance entities (over 4 years). This resulted from the specific nature of the activities of the life insurance entities, whose liabilities are of a long-term nature. Other financial instruments exposed to interest rate risk played a less important role, and their duration was about 3.3 and nearly 4 years, respectively, for life insurance and non-life insurance companies.

The insurance sector continued to be more sensitive to an increase than to a decrease in interest rates. At the end of June 2019, for only three life insurance companies, the fall in interest rates was associated with a reduction in own funds, and the requirement constituted only 11% of the total requirement for interest rate risk. In the non-life insurance sector, the number of rate sensitive to a decrease entities increased to nine (compared to seven at the end of 2018), but the whole sector was more exposed to
interest rate increases. However, the requirement in connection with the decrease constituted 47% of the entire interest rate risk requirement. In life insurance, the aggregated value of the requirement for interest rate risk at the end of June 2019 decreased to PLN 0.65 billion compared to PLN 0.75 billion at the end of 2018 (see Figure 4.3). Similarly, in non-life insurance companies, the requirement decreased from PLN 1.1 billion to PLN 0.9 billion (see Figure 4.4). Due to the substantial surplus of assets over liabilities and the significant share of debt securities in investments, both life insurance and non-life insurance companies continued to show a higher value of assets sensitive to interest rate changes than liabilities exposed to this risk.

**Interest rate risk did not play a significant role in the sector-wide Solvency Capital Requirement (SCR).** The share of this sub-module in the market risk module decreased to 11.5% (from 13.1% at the end of 2018), and the share in the solvency requirement dropped slightly below 6%. The interest rate risk had a much higher impact on life insurance companies than on non-life insurance companies. The market risk requirement accounted for 24% and 8% of the market risk requirement for life-insurance and non-life insurance sectors, respectively.

### 4.1.2. Market risk and financing of the economy

**In the first half of 2019, the value of investments of life insurance companies increased slightly.** Unit-linked assets dropped (by PLN 0.65 billion), while investments\(^{99}\) without UFK increased (by almost PLN 0.9 billion). Treasury securities continued to constitute the largest share in the portfolio, and their value as at the end of June 2019 additionally increased by PLN 1.3 billion. On the other hand, the value of investment funds’ shares, equities and shares and as well as loans granted decreased (see Figure 4.5).

**The value of investments in non-life insurance decreased** (see Figure 4.6). The decrease (by PLN 1.1 billion) resulted from a cash outflow (by PLN 1.7 billion) and lower participation in the government bond market (by PLN 1.5 billion). In addition, a decrease in the value of loans granted (by PLN 0.7 billion) and shares (by PLN 0.6 billion) was observed. However, the involvement of non-life insurance companies in corporate bonds grew significantly (by PLN 3.3 billion), including in particular those issued by foreign entities.

**In the first half of 2019, the capital requirement for equity risk slightly decreased, although the magnitude of this decrease was lower than in previous periods.** At the end of the first half of 2019, the SCR for this risk for both insurance sectors dropped slightly, from PLN 1.52 billion to PLN 1.47 billion in the life insurance sector, and from PLN 6.13 billion to PLN 6.10 billion in the non-life insurance sector (see Figure 4.7 and Figure 4.8). The equity risk sub-module was still the most important element of the market risk module for life insurance companies and the second highest, after the asset concentration risk sub-module, for non-life insurance companies. The SCR for this submodule constituted over half of the capital requirement for market risk and over 1/4 of the basic solvency capital requirement. In the

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99 Investments of insurance companies also include loans, real estate used for own purposes and cash. Bonds issued by BGK and KFD are included into Treasury bonds.
structure of this sub-module, the prevailing requirement was for shares unlisted in regulated markets and other assets outside the scope of the interest rate risk, real estate price risk or credit spread risk, including assets for which the insurance company did not use the look through approach.

**Figure 4.5.** Unit-linked assets and life insurance sector investments

**Figure 4.6.** Investments – non-life insurance sector

Source: UKNF.

The market risk concentration and the spread risk were significant risk types in the first half of 2019. In the non-life insurance sector, the capital requirement for concentration risk accounted for nearly 39% of the market risk requirement, although more than 90% was generated by one insurance company. In the life insurance sector, concentration risk accounted for approximately 25% of the market risk requirement, and the share of individual companies was more dispersed. The spread risk was the third biggest risk, in terms of the value of the capital requirement, borne by insurance companies in both insurance activities. The share of this sub-module in the market risk module amounted to nearly 17% in the life insurance sector and 10% in the non-life insurance sector. The spread risk was correlated with the interest rate risk.

**Currency risk was mainly associated with non-life insurance companies.** Non-life insurance entities were primarily sensitive to a drop in the exchange rate of the PLN. In the market risk requirement, the currency risk sub-module was the fourth most valuable sub-module, with more than 82% generated by one entity. Life insurance companies showed sensitivity to an increase in the exchange rate of the PLN, but the value of the requirement for this risk was much lower than in the case of non-life insurance companies. Almost half of it resulted from the portfolio of one insurance company, whose activities were focused on unit-linked insurance.

**The value of debt financing of the national real economy by insurance companies grew at the end of June 2019.** The growth was mainly attributable to non-life insurance companies. The sector allocated
PLN 1 billion (PLN 0.7 billion in 2018), which constituted 0.05% of GDP, for this financing. Despite this, loans and debt securities from non-financial enterprises still represented a small part of the sector’s assets (see Figure 4.9). The value of the portfolio of debt securities issued by the real economy entities rose by almost 50%, however, the size of insurance companies’ involvement in the market of these instruments remained negligible.

**Figure 4.7.** Capital requirement for equity risk – life insurance sector

**Figure 4.8.** Capital requirement for equity risk – non-life insurance sector

**Figure 4.9.** Financing of the economy by insurance companies (credit intermediation)

**Figure 4.10.** Relevance of insurance companies for the national debt securities market

Note: The credit intermediation indicator represents the value of debt securities and loans granted to national non-financial entities against assets – respectively of life insurance without unit-linked assets, insurance with unit-linked assets and non-life insurance.

Source: UKNF.

Note: The figure presents the portfolio of debt securities compared to the value of markets of these instruments.

Source: UKNF, NBP.
The importance of insurance companies as buyers of Treasury debt securities grew in the first half of 2019 (see Figure 4.10). There was also an increase in the value of the portfolio of securities issued by banks, but it did not translate into a greater role of insurance companies as buyers of these instruments. The increase in the value of this asset class in the portfolios of insurers was correlated with the increase in the outstanding value of the bank debt securities. On the other hand, the ratio of the equity portfolio held by insurers and listed on markets organised by the GPW to capitalisation decreased and amounted to 1.6%.

4.1.3. Liquidity risk

In the insurance sector, there was still a surplus of premiums over claims payments. Life insurance (other than unit-linked) and non-life insurance reported an increase in premiums. Companies financed the costs of their activities from their current revenues. Only in the case of unit-linked insurance, premiums fell (see Figure 4.11). A reduction in the sale of policies and termination of contracts by policy-holders contributed to a negative balance of cash flows for this business line.

In the life insurance sector, liquid investments accounted for over 80% of the assets of entities in this sector. By contrast, non-insurance companies invested more in non-liquid financial instruments, including debt securities issued by non-financial enterprises (see Figure 4.12). Unit-linked assets were mostly invested in investment funds’ shares, so the liquidity risk resulting from the withdrawal of funds was borne primarily by entities from the investment fund sector. Insurance companies are not obliged to establish a capital requirement for assets whose liquidity profile is not aligned with claims payments.

Figure 4.11. Earned premiums, claims and excess funds

![Graph showing earned premiums, claims, and surplus for life insurance without unit-linked, unit-linked, and non-life insurance]

Source: UKNF.

Figure 4.12. Structure of liquid assets in the insurance sector

![Graph showing the percentage of liquid assets in total assets for life insurance without unit-linked, unit-linked, and non-life insurance]

Note: Investment funds’ shares do not take into account investment certificates.

Source: UKNF.
The high surplus of assets over technical provisions in unit-linked insurance continued in the first half of 2019. The surplus amounted to PLN 4.1 billion and had a significant impact on the amount of own funds of the life insurance sector. If policyholders withdrew from continuing the agreement and paying premiums, the sector’s own funds would diminish. In a situation of economic downturn, this may pose a risk to those companies that have shown high revenues from future premiums.

4.1.4. Leverage

The insurance sector was characterised by a high level of own funds in relation to assets. This relation (non-unit-linked assets) was higher in the life insurance sector than in non-life insurance, which resulted from a low share of technical provisions in liabilities of life insurance companies (see Figure 4.13). The leverage ratio\(^{100}\), measured as a ratio of financial liabilities to own funds, was higher in non-life insurance than in life insurance. This resulted from the issue of subordinated bonds by non-life insurance entities and from the loans taken out by them. By the end of the first half of 2019, part of the debt had been repaid, so the ratio dropped and was the lowest since the introduction of the Solvency II Directive.

In the first half of 2019, insurance companies continued to decrease their exposure to derivatives. Swaps and stock options prevailed in the structure of the portfolio (see Figure 4.14). In the analysed period, the importance of interest and currency swaps whose nominal value exceeded the value of IRS transactions increased significantly. Most derivatives were held by non-life insurance companies (69% of the nominal value of derivatives of the entire sector). They were used to secure the investment port-

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\(^{100}\) EIOPA defines leverage in the following three ways: as own funds to total assets, insurance liabilities to own funds and non-insurance liabilities to own funds. See Other potential macroprudential tools and measures to enhance the current framework, 2018, EIOPA.
folio. In the case of unit-linked insurance, these instruments were used for effective portfolio management. Foreign banks were major counterparties in the derivatives transactions. The portfolio was very highly concentrated in several entities from both sectors.

4.1.5. Linkages with financial institutions

Exposure of insurance companies to financial institutions decreased slightly. Due to the large share of unit-linked insurance, linkages with investment funds were of the greatest significance to the insurance sector (see Figure 4.15). Over 80% of unit-linked assets were allocated to investment firms’ shares. The firms also invested other assets in these instruments, most often choosing funds created for the needs of their own capital groups.

In the first half of 2019, the exposure of insurance companies to the domestic banking sector declined from PLN 22 billion to PLN 19 billion. Deposits and cash in banks prevailed in the structure of assets of the life insurance sector, whereas equities accounted for the largest share in the structure of assets of the non-life insurance sector. The value of deposits and cash in non-life insurance decreased by 44% (see Figure 4.16). The companies most often deposited their funds in banks of the same capital group, which resulted in a high concentration of deposits of individual companies. The involvement of entities from the non-life insurance sector in buy-sell-back transactions also decreased by more than half. The linkage of the insurance and banking sectors by bancassurance slightly diminished after the scale of distribution of insurance products by the banking sector decreased. This concerned in particular unit-linked insurance and mortgage loan insurance.

Figure 4.15. Exposure of insurance companies to financial institutions

Figure 4.16. Structure of insurance companies’ exposure to the domestic banking sector

Source: UKNF.
4.1.6. Financial results

In the first half of 2019, the financial and technical results of the insurance sector slightly improved. Despite a drop in premium revenues, the financial result in life insurance improved (by 3%). On the other hand, premium revenues, payments and costs increased in non-life insurance (see Figure 4.17). The adjustment of car insurance premiums has further improved the technical and financial results. In the first half of 2019, the profit of this department amounted to PLN 2.8 billion (see Figure 4.18) and was largely influenced by dividends received from subordinate entities.

**Figure 4.17.** Financial results – life insurance

**Figure 4.18.** Financial results – non-life insurance

Most entities in the insurance sector reported profits. In the life insurance sector, four companies made a total loss of PLN 12 million (these companies had a 6.9% share in assets), the remaining 22 companies generated a profit of PLN 1.3 billion. In non-life insurance, the total loss of six companies amounted to PLN 18 million (these companies had a 0.3% share in assets), while 28 entities recorded a profit of PLN 2.8 billion. The largest insurance holding company had a decisive impact on the sector’s results. Profits of the largest entities in both life insurance and non-life insurance accounted for about 60% of profits of the entire sector.

In the first half of 2019, the Return On Equity of the insurance sector grew. The ROE of the entire sector was about 20% (see Figure 4.19 and Figure 4.20). The life insurance portfolio included high income employee group and individually continued insurance, therefore the sector recorded higher profitability than non-life insurance. The value of equity capital of non-life insurance was 2.5 times higher than that of life insurance. The sector’s ROE exceeded the ROE of banks. Higher ROE was shown only by the sector of investment fund management companies (45.5%).

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101 ROE is calculated on the basis of statutory data. The value of own funds determined in accordance with Solvency II is by 83.5% higher than the equity shown in statutory data.
The risk of policyholders’ mass surrender (lapse risk) from unit-linked contracts was the factor that could reduce the profitability of life insurance companies in the future. This risk would potentially result in a loss of income from asset management and commissions charged against clients. This applies primarily to those entities for which unit-linked insurance is a leading business line.

In the non-life insurance sector, the problem of determining the amount of personal injury compensation has not been systemically regulated. In motor vehicle insurance, there is still a high degree of unpredictability in the amount and number of claims for damages. In recent quarters, the COR ratio has markedly increased (see Figure 4.21). An increase in this indicator may indicate that premium increases have come to a halt.

**Figure 4.21. COR ratio**

Note: The COR ratio represents the relation of claims and costs of operating activities to premiums earned.

*Source: UKNF.*
4.1.7. Solvency

The value of own funds in the insurance sector increased slightly in the first half of 2019. The eligible amount of funds for both sectors increased compared to the end of 2018. The own funds of the non-insurance companies still exceeded (by about 60%) those of life insurance companies (see Figure 4.22 and Figure 4.23). The funds held by the companies were characterised by high quality criteria. In life insurance almost all of them were classified to the highest category. Subordinated liabilities constituted only a small part of the non-life insurance sector. These were mainly subordinated bonds, classified as non-life insurance, whose value remained at the same level as at the end of 2018. The reason for the increase in own funds was a lower value of expected dividends and charges. At the end of June 2019, the value of these deductions was almost eight times lower than at the end of 2018.

**Figure 4.22.** Own funds and the SCR coverage ratio – life insurance

**Figure 4.23.** Own funds and the SCR coverage ratio – non-life insurance

The value of the Solvency Capital Requirement grew in the first half of 2019. The growth concerned mainly non-life insurance companies and was attributable to an increase in the underwriting risk requirement due to the increasing scale of operations. The SCR remained at a similar level in life insurance.

In the analysed period, the SCR coverage ratio increased, mainly in life insurance. Life insurance companies posted an increase of over 30 percentage points, while non-life insurance companies recorded an increase of 2 percentage points. As a result, for the entire insurance sector, the SCR increased by 7 percentage points compared to the end of 2018 and amounted to 246%. However, the increase in coverage ratios is associated with high seasonality of own funds resulting from deductions of expected dividends.

The insurance risk requirement still had the largest share in the Solvency Capital Requirement (see Figure 4.24 and Figure 4.25). Moreover, an increase in the requirement for this risk was observed in
both sectors. The premium and reserve risk remained the most important sub-module for the non-life insurance risk. The value of this requirement was related to the scale of operations. Considering the significant share of unit-linked contracts, life insurance companies recorded the highest capital requirement with regard to the underwriting risk due to withdrawal from contracts, especially lapses. The SCR for lapse risk in life insurance was over twice as high as mortality risk. Life insurance companies were only marginally exposed to longevity risk due to the low share of long-term pension products. Due to annuities stemming from third party motor insurance contracts, non-life insurance companies had a significantly higher requirement for this risk.

**The capital requirement for counterparty default risk was primarily generated by outward reinsurance contracts.** Non-life insurance companies were definitely more exposed to this risk, as this requirement was 10 times higher than in the case of life insurance companies. Life insurance companies used reinsurance to a very limited extent and did not actively participate in derivatives market transactions. Compared to the end of 2018, the capital requirement for counterparty default risk in non-life insurance increased, whereas for life insurance it decreased.

All insurance companies met the capital requirements. Insurance companies should have eligible own funds at least in the amount corresponding to the capital requirement. In life insurance, the vast majority of companies had an SCR coverage ratio in excess of 200% (see Figure 4.26), whereas in non-life insurance over half of companies had the SCR coverage ratio below 200%. Only few non-life insurance companies had the SCR above 300% (see Figure 4.27), which, however, did not significantly affect the solvency of the whole sector as their share in assets was insignificant.
The solvency ratio of Polish insurance companies was slightly higher than the average in EEA countries. Unlike European companies, Polish entities did not apply transitional measures and LTG tools, which additionally increased this ratio. The solvency ratio of domestic life insurance companies was higher than that of non-life insurance ones, despite them having a lower value of own funds to cover the Capital Solvency Requirement than non-life insurance companies. This stemmed from the specific nature of the operations carried out – life insurance companies offered mainly insurance products which generated low risk for insurers. Insurance with guaranteed rates of return accounted for only a marginal part of the product offer.

![Figure 4.26. Structure of the Solvency Capital Requirement ratio – life insurance](image)

![Figure 4.27. Structure of the Solvency Capital Requirement ratio – non-life insurance](image)

Note: Left axis – percentage share of the number of entities.
Source: UKNF.

### 4.2. Investment funds

#### 4.2.1. Liquidity risk

The liquidity position of the investment funds sector improved in the first half of 2019. The liquidity risk concerns mostly open-ended investment funds, as they redeem their units on demand. The share of such funds in the sector has grown both as a result of an increase in the value of their assets and a decrease in the value of assets of closed-ended funds (see Figure 4.28). At the same time, the value of liquid funds held by these entities increased significantly (by PLN 6.3 billion), mainly as a consequence...
of increased exposure to Treasury securities. At the end of the first half of 2019, the liquidity level of open-ended investment funds equalled the three-year average (see Figure 4.29).

**Figure 4.28.** Investment funds sector by redemption profile

**Figure 4.29.** The share of liquid assets in total assets of open-ended investment funds

Note: The average presented is a three-year moving average.

*Source: NBP.*

**Figure 4.30.** Inflows and outflows to/from open-ended investment funds

**Figure 4.31.** The structure of liquid assets in open-ended investment funds

Note: The average presented is a three-year moving average.

*Source: NBP.*
Debt funds significantly increased the share of liquid assets in total assets. Such entities were characterised by the least liquid portfolio, but in the analysed period their liquidity ratio exceeded the three-year average and was 5 percentage points above the lowest value recorded. In the first half of 2019, the balance of inflows and outflows to/from debt funds decreased (see Figure 4.30). However, it was the only type of open-ended investment funds that recorded a net inflow (PLN 1.2 billion).

Liquid assets of open-ended investment funds were almost 70% composed of Treasury securities (see Figure 4.30). In the analysed period, the share of these instruments increased substantially, and at the end of the first half of 2019 they accounted for a half of the portfolio of open-ended investment funds. The level of most liquid assets, i.e. cash and deposits which could be directly used by funds for unit redemption, declined from PLN 6.8 billion (6.7% of assets) at the end of 2018 to PLN 5.2 billion at the end of June 2019 (5.0% of assets).

4.2.2. Market risk and financing of the economy

Investment funds financed the domestic real economy to a greater extent than at the end of 2018. Closed-ended funds played a more important role than open-ended funds – 18.2% of the assets collected in closed-ended funds and 4.8% of the assets collected in open-ended funds served that purpose.
In total, the investment fund sector allocated PLN 35.5 billion – i.e. almost PLN 1 billion more than at the end of 2018 – for financing the real economy (see Figure 4.33). More than half of this amount was made up of corporate debt instruments held by closed-ended funds. The increase in financing was the result of an increase in loans granted by funds to domestic enterprises.

In the first half of 2019, the value of domestic Treasury bonds held by investment funds significantly increased. The vast majority of these securities were still in the portfolio of open-ended funds and constituted the main component of their assets (see Figure 4.32). Over a half of the portfolio of such instruments were fixed coupon bonds. Their duration, and thus the exposure of this part of the fund assets to interest rate changes, did not change significantly. Nearly half of the sector’s assets were debt securities, with open-ended funds having three times as many as closed-ended funds. Among the debt securities held by closed-ended funds, the most significant were those issued by non-financial corporations. The most important component of portfolio of this type of funds were shares not listed on organised markets.

**Figure 4.34.** The relevance of investment funds for markets organised by GPW

**Figure 4.35.** The relevance of investment funds for the national market of debt securities

*Source: GPW, NBP.*

*Note: The figure presents the portfolio of debt securities compared to the value of markets of these instruments.*

*Source: NBP.*

The share of the sector in the turnover on the domestic stock market diminished. Investment funds have so far remained the most active domestic institutional investor on the GPW Main Market. However, their share in trading in the first half of 2019 was lower than the share of exchange members acting as market makers. The value of the portfolio of shares (held by the funds) that are listed on the markets organised by the GPW, as well as the value of the portfolio of debt securities of domestic enterprises and banks was similar to the end-of-2018 figure. The relevance of funds as buyers of these instruments has not changed significantly either (see Figure 4.34 and Figure 4.35).
4.2.3. Leverage

In the first half of 2019, investment funds slightly increased the level of leverage. In the analysed period, the leverage ratio, measured as the ratio of total assets to net assets, increased and at the end of June exceeded the three-year average (see Figure 4.36). Open-ended funds were characterised by a higher level of this ratio than closed funds. The main source of leverage in the sector were repo transactions, with open-ended funds accounting for the vast majority of liabilities arising from these transactions. Such liabilities were significantly higher than those arising from credits and loans taken out by the funds and the bonds they issued. Liabilities related to purchased assets (resulting from waiting for settlement) were of relevance in the structure of investment funds’ liabilities, while liabilities related to redeemed units and repurchased investment certificates did not play a significant role.

Open-ended funds have increased their exposure to interest rate derivatives. The scale of their investments in derivatives was greater than that of closed-ended funds. They were used by almost 90% of open-ended funds, and the nominal value of these transactions to the net assets of entities using them at the end of the first half of 2019 was close to 70%. In the case of closed-ended funds, this was almost 20% and approx. 10%, respectively. Open-ended funds used mainly interest rate instruments, while closed-ended funds used FX derivatives (see Figure 4.37).

Figure 4.36. Financial leverage ratio in the investment funds sector

![Financial leverage ratio in the investment funds sector](image)

Source: NBP.

Figure 4.37. Structure of derivatives used by investment funds, by nominal value

![Structure of derivatives used by investment funds, by nominal value](image)

Source: NBP.

4.2.4. Linkages with financial institutions

Financial institutions have significantly increased their exposure to investment certificates of closed-ended funds. These institutions accounted for more than half of buyers of certificates and nearly 25% of holders of shares of open-ended funds (see Figure 4.38). Foreign financial institutions were the main investors in closed-ended funds. However, this was a result of significant resources invested in
certificates of a single entity. Among the financial sector entities participating in open-ended funds, insurance companies played the most important role. They often invested in shares of funds managed by investment fund management companies belonging to the same capital groups. The value of investment funds’ shares held by domestic banks more than doubled in the first half of 2019, and by other domestic financial institutions – more than tripled. This increase concerned mainly several entities managed by two investment fund management companies (both owned by capital groups which also included banks).

**In the first half of 2019, investment funds’ exposure to the domestic banking sector decreased.** However, it was higher than exposure to other financial institutions, both for open- and closed-ended funds (see Figure 4.39). In the first half of 2019, the value of assets of investment funds invested in banks decreased to approx. PLN 46 billion (see Figure 4.40). The largest drop was recorded by debt funds, however, this was largely due to one entity, for which the value of receivables from securities financing transactions with the banking sector and the value of deposits placed with banks decreased. Over 70% of the funds invested in banks were in the portfolios of open-ended funds. In their case, debt securities prevailed in the structure of assets placed in banks. Deposits and cash were the main items in closed-ended funds (see Figure 4.41).

![Figure 4.38. Share of financial institutions among investors of investment funds](image1)

![Figure 4.39. Exposure of investment funds to financial institutions](image2)

**Figure 4.38. Share of financial institutions among investors of investment funds**

**Figure 4.39. Exposure of investment funds to financial institutions**

**Source:** NBP.

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

**Source:** NBP.

**Investment funds still were not an important source of financing for the domestic banking sector.** The ratio of funds deposited in banks to liabilities of the banking sector declined in the first half of 2019 and amounted to about 2% at the end of June. At the end of June 2019, the value of the funds’ portfolio

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104 Households remained the main investors of such funds.
of debt instruments issued by domestic banks amounted to approx. PLN 21 billion, of which nearly 20% were covered bonds. However, domestic banks were important counterparties of investment funds in derivatives transactions. These institutions were also dominant among distributors of investment funds’ shares and depositaries of investment funds. Such links in turn gave rise to reputation risks for both the investment funds and banking sectors.

**Figure 4.40.** Investment funds’ exposure to domestic monetary financial institutions

![Investment funds’ exposure to domestic monetary financial institutions](image1)

Note: Assets associated with the monetary financial institutions sector include: deposits (including funds on current accounts and margins), receivables from loans granted to banks (including in securities financing transactions) as well as equity and debt securities issued by banks. Debt securities of banks comprises state-guaranteed infrastructure bonds issued by BGK for KFD. The average presented is a three-year moving average.

Source: NBP.

**Figure 4.41.** The structure of investment funds’ exposure to domestic monetary financial institutions

![Investment funds’ structure](image2)

Note: “Cash and deposits” also comprises margins. “Loans granted” also comprises those granted in the securities financing transactions. “Debt securities” does not include bonds issued by BGK for KFD.

Source: NBP.

4.3. Open pension funds

4.3.1. Liquidity risk

In the absence of an early withdrawal of funds by future pensioners, there was no liquidity risk in the sector of open pension funds (OFE). In the analysed period, none of the ten entities comprising the OFE sector recorded a positive balance of cash flows with ZUS. The value of redemptions resulting from the security slider mechanism in the first half of 2019 was over twice as high as of contributions transferred from ZUS to OFE (see Figure 4.42). As open pension funds had a liquidity buffer in the form of bank deposits and cash in the total amount of PLN 11.8 billion (which was funded, among others, by dividends and interests, which at the end of June 2019 amounted to PLN 1.9 billion), they did not
have to sell components of their investment portfolio. The share of sector’s liquid assets in net assets remained high (see Figure 4.43).

**Figure 4.42.** Inflows and outflows to/from open pension funds

**Figure 4.43.** Liquid assets of open pension funds

Source: UKNF.

Note: liquid assets include: deposits, funds on current accounts, shares listed on organised markets (domestic and foreign), participation units of domestic funds and units of foreign collective investment schemes.

Source: UKNF.

### 4.3.2. Market risk and financing of the economy

Similarly as in previous periods, the investment portfolio of OFE was characterised by a weak diversification in terms of asset classes. As funds are prohibited from investing in Treasury securities and the market for non-Treasury securities is underdeveloped and mismatched, in terms of funds’ investment needs, portfolios of OFE were strongly dominated by domestic equity securities (see Figure 4.44). At the end of the first half of 2019, they accounted for 78% of their investment portfolio, while the share of domestic debt instruments still did not exceed 9%. OFE purchased mainly shares of companies with the largest capitalisation and liquidity, and their equity portfolio largely reflected the structure of the WIG index. The ratio of the portfolio of shares listed on GPW markets managed by pension fund management companies to the capitalisation increased once again (see Figure 4.45). Therefore, OFE remained the largest investor on the domestic stock market. At the same time, the share of funds in trading on the GPW Main Market continued to fall. The fact that OFE kept their substantial exposure to shares of domestic companies meant that the funds were exposed to market risk.

In the first quarter of 2019, the balance of transactions of purchase and sale of equities by OFE was negative and clearly differed from the levels recorded in recent periods (see Figure 4.46). The supply of these instruments by the OFE sector was to a large extent the result of a reduction in investments of
two funds in the shares of a large company in response to a public call for sale by its main investor. The estimated value of these transactions amounted to approx. PLN 1.3 billion.

**Figure 4.44.** Structure of the open pension fund’s investment portfolio

![Diagram showing the structure of the open pension fund’s investment portfolio.

Source: UKNF.]

**Figure 4.45.** The relevance of open pension funds for the markets organised by the GPW

![Diagram showing the relevance of open pension funds for the markets organised by the GPW.

Source: UKNF, GPW.]

**Figure 4.46.** OFE transactions with equities (purchase – sale)

![Diagram showing OFE transactions with equities (purchase – sale).

Source: UKNF.]

Open pension funds funded the domestic real economy to a lesser extent. At the end of June 2019, debt securities issued by domestic non-financial corporations accounted for only 1.4% of the investment portfolio of OFE (see Figure 4.47). Both the exposure of funds to corporate debt securities with higher investment risk and the role of funds as an investor in the market of these instruments has been steadily
Non-credit financial institutions

decreasing (see Figure 4.48). Among the instruments available on the non-Treasury debt market, the largest exposure of OFE continued to be in securities issued by domestic banks. The small scale of purchase of debt instruments other than bank debt instruments was associated with their low supply on the domestic market and the specific nature of the issue, which did not meet the investment needs of the funds.

**Figure 4.47.** Financing of the economy by open pension funds (credit intermediation)

**Figure 4.48.** Share of open pension funds in domestic debt securities market

Note: The share of debt securities of non-financial enterprises at the end of Q2 was estimated on the basis of the data for Q1.

Source: NBP estimates based on UKNF data.

Note: The share of debt securities of non-financial enterprises at the end of Q2 was estimated on the basis of the data for Q1. The figure presents the portfolio of debt securities compared to the value of markets of these instruments.

Source: NBP estimates based on UKNF and NBP data.

### 4.3.3. Linkages with financial institutions

The open-ended pension fund sector was characterised by significant exposure to domestic financial institutions. At the end of the first half of 2019, approx. 45% of OFE assets (i.e. PLN 72.6 billion) were shares and debt securities issued by domestic financial institutions, and deposits and cash in domestic banks (see Figure 4.49). The largest share was represented by exposures (approx. PLN 62.5 billion) to domestic banks, in particular shares listed on the domestic regulated market (see Figure 4.50). Deposits and cash as well as debt securities issued by domestic banks (including covered bonds) were also the source of links with the banking sector. They constituted less than one third of open pension funds’ exposure to the domestic banking sector. In the first half of 2019, the ratio of funds deposited in banks to the liabilities of the banking sector did not change significantly and at the end of June amounted to around 3.2%.
**Figure 4.49.** Open pension funds’ exposure to domestic financial institutions

[Diagrams showing exposure to different domestic financial institutions]

**Figure 4.50.** Structure of open pension funds’ exposure to domestic banking sector

[Diagrams showing structure of exposure to different asset categories]

*Source: UKNF.*
5. Assessment of systemic risk in the Polish financial system

The process of identification of systemic risk is focused on the banking sector due to the structural characteristics of the balance sheet of banks and the dominant role they play in the financial system and in financing the economy. Systemic risk associated with other financial institutions is limited by their size and business models which at present do not create significant risks to the stability of the whole financial system.

5.1. Risk areas

Identification, assessment and monitoring of systemic risk are carried out from the perspective of five basic risk-related areas: (1) excessive growth of indebtedness or leverage, (2) excessive mismatch of assets and liabilities or the illiquidity of markets, (3) excessive concentration of exposures and interconnectedness between financial system entities, (4) misaligned incentives that influence the behaviour of financial institutions or their clients, and (5) threats to the resilience of the financial infrastructure.

In this issue of the Report, risk associated with the interconnectedness and concentration of exposures has been assessed as elevated because of: (1) potential systemic consequences of the financial distress of a portion of financial institutions, including certain commercial banks, (2) possible consequences of the materialisation of legal risk associated with the foreign currency loan portfolio, and (3) a big share of government bonds in banks’ assets.

Risks have been assessed as moderate or low in the remaining areas; however, there are also phenomena that require special monitoring. These phenomena are the following: (1) the growing share of high-value consumer loans and (2) the growing role of the government sector in the financial system. In the medium-term horizon, shocks may primarily stem from the Polish economy’s external environment, as the global growth outlook has further exacerbated and uncertainty remains high. Poland’s external environment may either trigger or amplify the impact of risks identified domestically.

5.1.1. Risk arising from excessive growth of the value of indebtedness or leverage

The analysis of the credit cycle in Poland indicates that the risk associated with excessive growth in total debt or leverage is low. The deviation of the credit cycle measures – total credit growth, the value of the credit gap and the debt service ratio – from the long-term trend is small. The debt of the non-financial sector has remained moderate and was growing at a rate similar to or lower than the long-term trend, and its relation to GDP remains at around 80%. Consequently, the credit gap remained

The so-called broad credit measure, which includes not only debt towards monetary institutions (banks and credit unions) but also debt towards entities other than domestic monetary institutions (i.e. enterprises, investment funds, insurance companies and non-residents).
negative or close to zero (see Figure 5.1, left-hand panel). Early warning models also indicate that in the horizon of 1 year to 4 years, the systemic risk associated with excessive credit growth is low (see right-hand panel). As a result, the countercyclical buffer remains at the level of 0%.

**Figure 5.1.** Position in the credit cycle (left-hand panel) and results of early warning models for Poland (right-hand panel)

Notes: Last real observation in 2019 Q2 and extrapolations using ARIMA models for the period 2019 Q3-Q4 (left-hand panel). The credit gap is a deviation in the value of credit to GDP ratio from the long-run trend, which was specified using a recursive HP filter with the smoothing parameter corresponding to the length of the financial cycle (i.e. from 5.5 to 10.5 years). The right-hand panel presents the average (signal quality-weighted) value of probability obtained on the basis of 148 models including domestic 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 lack 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. The average value of probability (black line) weighted by the quality of signals of the models sometimes runs below the line of the 30th percentile of probabilities (right-hand panel), because better models have indicated a lower probability of a crisis in these periods and above the line of the 60th percentile of probabilities (left-hand panel), because better signal quality models have indicated a higher probability of a crisis in these periods.

Source: NBP, BIS, Eurostat and GUS.

Consumer loans are still the area of banking activity that needs to be closely monitored. Consumer loan growth exceeds the average for the entire aggregate. At the same time, the share of unsecured high-value loans with long (several years) maturity in debt is growing, and the loans are concentrated in several banks. Consumer loan growth is higher than the pace of GDP growth, and Poland is one of the countries with the highest ratio of debt to GDP for this credit category in the European Union. The quality of high-value loans is currently slightly lower than for other consumer loans. Many

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106 The standardised credit gap (i.e. compliant with the ESRB recommendation (2014/1) and calculated based on the broad credit measure with the parameter $\lambda = 400\,000$, which corresponds to fluctuations lasting 20 years and more), amounted to -11.2%.

107 Historical analysis implies that the risk should be assessed as significant when the probability is higher than 25%, whereas it is now below 5%.

108 See Box 2.1 “Consumer loans in Poland compared to EU countries” in “Financial Stability Report, December 2018”.

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borrowers have no experience in repaying such loans in the face of deteriorating economic conditions. This may hamper banks’ ability to adequately assess the risk related to the future losses. Moreover, when compared to other consumer loans, high-value loans are more often provided to persons who run business activity or result from consolidation of other loans, which may point to higher credit risk – business income is more sensitive to economic conditions and a large number of loans is one of the indicators of excessive indebtedness. Considering the phase of the business cycle and the expected decline in GDP growth and labour demand, the likelihood of credit losses materializing is increasing.

The rising housing price growth and the systematic rise in the value of new housing loans indicates that risk associated with financing the real estate market needs to be closely monitored. Low interest rates and the rapid pace of household income growth contribute to the increase in loan availability. The value of new housing loans is steadily rising, but due to the simultaneous repayment of loans granted earlier (especially foreign currency loans), the outstanding value of housing loans remains stable at around 20% of GDP. The recent supervisory action, including recommendations on LTV limits and creditworthiness assessment methods, reduced the credit risk taken by banks. This is confirmed by the NBP simulations regarding the impact of interest rates on the quality of the portfolio. In addition, high demand in the housing market is still largely financed with households’ own funds, which reduces risk to financial stability. A factor increasing the risk would be a significant increase in loan financing for housing purchases, especially in the event of demand triggered by the expectation of housing price increases (speculative).

5.1.2. Risk arising from excessive maturity mismatch of assets and liabilities or the illiquidity of markets

Risk associated with the transformation of maturities by credit institutions and liquidity risk remain at a low level. Banks mainly finance their operations with deposits from the non-financial sector, which under normal conditions, are a stable source of funding. The funding gap for the entire banking sector is closed. Banks also hold high liquidity buffers – the buffer of liquid assets of the banking sector stood at 21% of assets at the end of June 2019 and was substantially higher than the EU average (11%).

Liquid assets are mainly composed of high quality securities, i.e. government bonds and NBP bills.

Market risk for banks remains low and stems mainly from interest rate risk. Most banks are characterised by a positive interest rate gap, which means that a fall in interest rates, ceteris paribus causes a decrease and a rise in interest rates results in an improvement in banks’ net interest income. The fact that the interest on some deposits is set by banks themselves is a risk-constraining factor. However, the interest rate of checking and saving accounts, which is already close to zero, reduces banks’ flexibility on that matter. The currency mismatch associated with loans extended in foreign currency is hedged with derivatives transactions.

109 See Box 2.3 “The impact of a potential increase in domestic interest rates on credit risk of housing loans portfolio” in “Financial Stability Report, December 2018”.

110 The indicator is calculated as the ratio of liquid assets to total assets.
5.1.3. Risk arising from excessive concentration of exposures and interconnectedness between financial system entities

Risk arising from excessive concentration of exposures and interconnectedness is currently elevated because of: (1) the economic weakness of certain institutions and potential effects of contagion of other entities mainly via the system of financing the deposit guarantee schemes and resolution, (2) the possible significant financial effects of materialization of legal risk associated with FX mortgage loans and (3) the high share of government bonds in banks’ assets. The first risk results primarily from interconnectedness between entities via the system of financing the deposit guarantee funds and resolution funds, while the remaining risks result from concentration of banks’ exposures.

The difficult economic situation of certain credit institutions increases the risk arising from indirect linkages between entities. At present, certain banks are characterised by low capital ratios, which makes them more vulnerable to shocks. A potential materialisation of risk, and consequently, of payments of guaranteed deposits or resolution actions, would result in the need to rebuild BFG funds. This would require raising contributions by credit institutions, which would, in turn, negatively impact the profitability of the banking sector and its capacity to increase capital. Amid an economic slowdown and the already low profitability of a substantial number of banks, the risk of putting a further burden – in the form of higher contributions – on the whole sector increases, and is, in historical terms, high.

An important channel of transmission of shocks within the banking sector is formed by the direct financial links (capital and deposit links) between associating banks and cooperative banks. Cooperative banks are directly involved in associating banks via ownership of the shares and bonds of these banks and because they deposit their liquidity surpluses in associating banks. In addition, the entities are interdependent within membership in the IPS. In such a context, the capital strength of associating banks gains in importance, as their stability is a precondition for the stability of the cooperative banking sector. The imposition of a positive other systematically important institution (OSII) buffer on associating banks should ultimately increase their capital base and improve resilience.

Risk associated with the portfolio of FX mortgage loans has risen, mostly due to legal issues. The number of court cases concerning the abusive nature of certain provisions in agreements on FX mortgages has recently risen. The judgement of the EU Court of Justice of 3 October 2019 will have an impact on future rulings as well as on the extent of borrowers’ interest in contesting the agreements (see Box 2.1). Nevertheless, abusive clauses in mortgage agreements indexed to foreign currency will be judged by national courts on a case-by-case basis. However, it is not possible to determine borrower’s future interest in challenging mortgage agreements containing such abusive clauses or the rulings made by the courts in such cases. The provisions used in agreements on FX loans entered into by banks active in Poland vary considerably. Therefore, the value of potential costs for banks is hard to estimate, and the costs would probably be spread over time. Nevertheless, it can be expected that as the number of cases increases, the value of charges to provisions created by banks will rise accordingly in the coming quarters. At the same time, the value of potential costs would also vary among banks and depend both on the size of the portfolio of FX housing loans and the kind of the agreements entered into.
Due to the rising share of government bonds in banks’ assets, the banking sector’s sensitivity to credit risk associated with the bonds is increasing. In recent years, banks have markedly increased the portfolio of Treasury securities from 12% of assets at the end of 2015 to 17% in June 2019. The change leads to an increase in banks’ indirect links with the government sector. Consequently, a potential deterioration in the evaluation of credit risk of the Polish government would also have a direct impact on the situation of the entire banking sector (see Chapter 0). The presently good financial situation of the public sector, including the decreasing public-debt-to-GDP ratio, is reducing that risk significantly.

The adjustment of the WIBOR and WIBID money market reference rates to the BMR requirements remains an issue in the area of concentration of exposures of the domestic financial market. The risk to the domestic financial system associated with a threat to the timely adjustment of the WIBOR rates to the BMR requirements, signalled in the Report’s previous issue\(^{111}\), diminished after the transitional period for the said adjustment was agreed at the EU level and preparations of the system organizer, GPW Benchmark, had intensified.

5.1.4. Risk arising from misaligned incentives influencing the behaviour of financial institutions or their clients

Risk arising from misaligned incentives (moral hazard) remains moderate and is associated with:
(1) the low profitability of a portion of banks, (2) the advancing concentration of the banking sector, (3) the growing share of government sector-controlled entities.

The lower profitability of Polish banks may encourage them to seek higher rates of return and take excessive risks. The profitability of Polish banks is still above the EU average, however it has recently fallen considerably, among others, due to additional public burdens, and remains below the estimated cost of raising capital on the market. In such a context, their capacity to increase capital, compliance with the MREL and also financing development may pose challenges in the future. Therefore, pressure on higher profitability is considerable and – besides actions to improve efficiency – may also lead to excessive risk-taking in order to seek higher rates of return. This can be seen, for instance, in banks’ mounting exposure to consumer loans with higher margins.

Compared to other EU countries, the Polish banking sector remains characterised by a moderate level of concentration, which leaves room for consolidation of smaller and medium-sized institutions. In line with theory and international experience, in the case of institutions that are “too big to fail”, or more broadly – a presumption of government guarantees – incentives will appear to take excessive risk as these entities do not fully bear the negative consequences of their actions. Risk related to a consolidation of larger institutions may be partially limited by additional capital buffers (so-called O-SII buffer) and applicable provisions on resolutions. The announcement by a key investor of the deci-

\(^{111}\) See Box in “Financial Stability Report. June 2019”.
sion to sell one of the bigger banks active in the domestic market may lead to an increase in concentration and change the ownership structure of the Polish banking sector. Impact assessment from the point of view of financial stability will only be possible after decisions concerning the transaction are made.

**The growing role of the government sector in the financial system and the financial safety net is a long-term process whose consequences for financial stability are hard to quantify.** The role manifests itself in dominant ownership in a number of large financial entities, including in the banking sector and the insurance sector, and in parallel, in a significant representation of the government sector in the decision-making body of the financial supervisory authority (see Figure 5.2). The situation, where the government can be simultaneously an owner, a creditor and a supervisor for banks, poses many financial stability challenges discussed in the previous issue of the Report112. The government sector also remains a regulator of the financial sector (Ministry of Finance) and its debtor (due to Treasury bonds held by financial institutions). At the same time, the form of taxation on financial institutions (relief on a tax on certain financial institutions) provides incentives for banks to increase their exposures to the government sector. This adds to the complexity of relations between the government and the banking system, and strong linkages between the former and the latter may trigger a negative feedback loop between the financial condition of the state and the banking sector (sovereign–bank nexus).

**Figure 5.2. Sovereign-bank nexus index**

![Graph showing the sovereign-bank nexus index](image)

Notes: Values indexed at 100 for the base period of Q2 2005. Values for particular variables have been standardised, i.e. the variable average has been subtracted from the value of each variable, and the difference has been divided by standard deviation for the variable. Both the average and standard deviation have been calculated based on historical data. Credit risk increase for Treasury bonds is consistent with the shock scenario adopted in Chapter 5.3. “State banks” refers to banks directly or indirectly controlled by the State.

*Source: NBP estimates.*

112 See Box 5.1 in "Financial Stability Report. June 2019".
Box 5.1. Cyber risk and systemic risk in finance

The number of cyberattacks on economic agents is increasing. It is estimated that the direct cost of such attacks to the global economy amounts to approximately 1.5 trillion US dollars per year\textsuperscript{113}, and that it may substantially increase in the coming years. Already a few years ago, the report prepared by the World Economic Forum\textsuperscript{114} on global risk identified cyber risk (CR) as one of the five most important risks in terms of likelihood. Cyber risk is also identified as an important source of systemic risk in the financial system.\textsuperscript{115} It is defined as operational risk related to information and technology assets of a company, the materialisation of which may adversely affect the confidentiality, availability and integrity of information or IT systems.\textsuperscript{116} The main source of CR are cyberattacks which can come from within an institution or be external.

Financial institutions and infrastructure\textsuperscript{117} are particularly sensitive to any disruptions caused by cyberattacks due to certain common features:

- **Critical role of public trust** in the smooth operation of the financial sector. This trust can be quickly eroded during a crisis, e.g. when customers are unable to withdraw funds or repay their liabilities as a result of a cyberattack.\textsuperscript{118}
- **High degree of dependence on information** held by financial institutions. The loss of data integrity (data corruption), data confidentiality (unauthorised access) or data authenticity (creation and dissemination of incorrect data) as a result of a cyberattack can have a significant impact on the ability of institutions to provide financial services.
- **Sensitivity resulting from widespread access** (access vulnerabilities) of customers and business partners of financial institutions to their IT systems that are used for remote provision of financial services.
- **High interdependence** between financial and non-financial operators resulting from the use of common systems (e.g. payment, CCP), common service providers, technologies and applications as well as from the provision of e.g. telecommunication, energy or technology services.

\textsuperscript{113} Managing cyber risk with human intelligence, Citi Global Perspectives and Solutions, 2019
\textsuperscript{117} ESRB European Systemic Cyber Group, Interim report (2018), unpublished
\textsuperscript{118} In South Korea in 2014, hackers stole names, card information and phone numbers by hacking into a credit risk assessment company. This information led many customers to call or visit their banks to request information about whether their data were secure. Many people recommended blocking their payment cards. No bank run occurred (see Sang-Hun, 2013).
• **High concentration/low substitutability** between financial services themselves (systemically important institutions), infrastructure providers (e.g. CCP) or providers of services to financial institutions (e.g. providers of cloud services).

• **Limited transparency of links**, both financial connections (e.g. within critical infrastructure, e.g. CCP) and common exposures, e.g. to non-financial service providers.

So far, no country faced a cyberattack which was a direct threat to the ability of the financial system to perform its function (its stability). This has been the case despite the fact that in recent years there have been many cases of CR materialisation, including in financial institutions, some of which have suffered significant financial losses.

The magnitude of impact of the CR shock on the financial system depends on the following factors:

i. The type of attacker and the goal it intends to achieve;

ii. Functions of the financial institutions that have been attacked or affected by the consequences of the attack;

iii. The extent of the damage, i.e. the time to restore their ability to function normally;

iv. The conditions under which the attack takes place.

The greatest risk may occur when the aim of an attack is directly destabilisation of the financial system and the economy. Such an attack would require long-term planning and extensive financial and organisational resources, so the attackers would most likely be the services of another country. The objective can be achieved, for example, by destroying the data of financial institutions or by technically preventing the provision of financial services. In the case of other aggressors, such as data thieves, it may be expensive, but should not result in systemic risk. Similarly, in the case of an attack by terrorists or “hacktivists” (computer anarchists, ideological hackers) – because they do not have sufficient resources.

Cyber risk materialisation can become a stimulus or a catalyst for threats to stability of a financial system provided that two key conditions are met:

• A **cyberattack will be precise** (it will affect areas where there is a concentration of systemic cyber risk), **large-scale** (many institutions) and **disruptive to the critical functions** of the financial system. This would require large resources, prior good knowledge of the “enemy’s”

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financial system, technical and financial infrastructure networks\(^{122}\), i.e. advanced cyber intelligence, and the use of numerous dedicated, specialised cyberattack tools.

- **The attack occurs when (i) confidence in the financial system of the state attacked and/or (ii) confidence in the state’s ability to respond effectively to the threat is already undermined.**

Choosing such a moment requires good assessment and identification of the weak points of the state’s economy and financial system. Once identified, cyber enemies can increase the degree of insecurity by using economic and financial instruments – financial sanctions, trade war, etc. This usually requires considerable economic power on the part of the attacker.

**Ex-ante assessment of the financial risk posed by cyberattacks is difficult as they are of a diverse, dynamic and evolutionary nature.** Due to its characteristics, the fact that it is a relatively new phenomenon, the lack of experience with large (systemic) incidents, unknown ways of transmission of shocks and limited data on the occurrence, scale of losses and long-term consequences of attacks, this risk is difficult to measure, model and mitigate.

In turn, insufficient information on CR events and their financial implications leads to limited progress in the development of models for the assessment of the systemic CR. Without the necessary data, it is difficult to develop standards/benchmarks to manage these risks, which in turn delays companies’ investment in systems that improve their resilience against CR. There have recently been proposals to assess CR at the enterprise level (including the financial institution) as well as at the systemic level. One of the proposed models for estimating CR at the enterprise level is the Cyber Value-at-Risk (CVaR).\(^{123}\) On the other hand, the proposed\(^{124}\) CR systemic risk assessment model uses actuarial and operational risk management methods to assess aggregated cyberattack losses. A critical condition for using these methods for risk assessment is that financial and public institutions have access to data on individual attacks and their financial consequences.

### 5.2. Risk triggers

Systemic risk triggers relate primarily to trends in the external environment of the Polish economy and their impact on Poland’s economic situation. The triggers may affect the domestic financial system via the credit channel and the market channel. The legal risk associated with the portfolio of foreign currency loans is not analysed in stress tests, because of the high uncertainty about its potential costs for the banking system and how those costs would be spread over time.

In view of the structure of the financial system and the shape of banks’ balance sheets, those factors that trigger a significant increase in credit risk are of key importance. An increase in impaired loans


typically results from a slowdown of economic growth. The worse growth outlook in the EU may significantly adversely affect the economic environment of the Polish banking sector, and it may also negatively influence the availability of cross-border financing for entities in Poland.

Market risk might materialise in the form of a weaker zloty exchange rate, market interest rate increases, falling financial asset prices or increased costs of financing for financial institutions. A depreciation of the zloty and potential interest rates increases on global markets would lead to a rise in FX debt servicing costs, both for banks and their clients. Banks would also have to increase the value of margin deposits in derivatives transactions in international markets, which could push up their costs. Assuming that the rise in global interest rates is also accompanied by an increase in market interest rates domestically, banks’ income would be negatively affected by a fall in the value of debt instruments in their portfolios. The need to post higher margins in derivatives transactions could also imply banks’ increased liquidity needs and more intense competition for client deposits. Such a situation occurred in late 2008 and early 2009 after the failure of Lehman Brothers, when the interest rates on interbank deposits and on customer deposits rose substantially.

5.3. Resilience of the banking sector to shocks

5.3.1. Single-factor simulations of materialisation of the credit exposure concentration risk

To assess the risk of credit exposures concentration, simulations were performed to examine the impact on banks of a simultaneous bankruptcy of the three largest borrowers of each of the banks and the three largest domestic borrowers in the banking sector.125

The simulation of the hypothetical bankruptcy of the three largest borrowers at each bank shows that bankruptcy-related losses would not jeopardise the solvency of the majority of banks. However, many cooperative banks would find it difficult to meet combined buffer requirement.126 Shortages in the capital necessary to meet the Pillar 1 and Pillar 2 capital requirements (1.2 billion zlotys)127 would occur in one small commercial bank and tens of cooperative banks, and shortages in the Common Equity Capital necessary to meet the combined buffer requirement (7.6 billion zlotys) would occur at seven commercial banks and more than half of cooperative banks (see Table 5.1).

In the simulation assuming additionally that the same borrowers would cease to service their total credit obligations towards other banks, the number of cooperative banks with potential capital shortages increases, which implies that the banks have clients in common and that concentration risk in loan portfolio is material. Shortages in the capital necessary to comply with the Pillar 1 and

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125 The results of simulations and stress tests are referred to the Pillar 1 and Pillar 2 capital standards and, additionally, to the combined buffer requirements. The methodology and assumptions of the simulations and stress tests are specified in Appendix I to “Financial Stability Report. December 2018”, NBP, Warsaw.

126 The results of the simulation do not include possible capital support provided by the IPS.

127 The results of all simulations cited in the text take into account shortages of capital already existing in banks before the materialisation of the risk covered by the simulation. The figure shows shortages before and after the simulation.
Pillar 2 capital requirements (3.8 billion zlotys) would occur in four commercial banks and 160 cooperative banks, and shortages in the Common Equity Capital necessary to meet the combined buffer requirement (approx. 16 billion zlotys) would be shown by another 11 commercial banks and 344 cooperative banks.

The comparison of the simulation results with simulations based on December 2018 data is evidence of a rise in credit exposure concentration risk, mostly in cooperative banks. The results indicate that the amount of a potential capital shortage arising from the Pillar 1 and Pillar 2 capital requirements and the number of banks that would report such shortage increased.128

The materialisation of a simultaneous bankruptcy of the three largest non-financial borrowers of the banking sector would not significantly impact the solvency of domestic banks crediting them and their capacity to absorb shocks via their capital buffers. The indebtedness of these borrowers remains relatively small in relation to the size of domestic banks and their capital levels. Nevertheless, liabilities of the three borrowers are held in the portfolios of seven commercial banks (representing a share of around 64% in the banking sector’s assets). Losses arising from the bankruptcy of the borrowers (totalling approx. 8.3 billion zlotys) would not cause shortages in the capital necessary to comply with the Pillar 1 and Pillar 2 capital requirements in the lenders, but a medium-sized commercial bank would record a modest shortage in Common Equity Tier 1 capital required for the purposes of capital buffers.

Table 5.1. Simulation of the impact of a hypothetical bankruptcy of the three largest borrowers of each bank

<table>
<thead>
<tr>
<th>Banks that are not compliant with Pillar 1 or Pillar 2 capital requirements</th>
<th>Before simulation (June 2019)</th>
<th>After simulation of bankruptcy of the three largest borrowers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>As a result of simulation</td>
</tr>
<tr>
<td>Banks that are compliant with Pillar 1 and Pillar 2 capital requirements but are not compliant with combined buffer requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- number of banks</td>
<td>17</td>
<td>593</td>
</tr>
<tr>
<td>- including cooperative banks</td>
<td>14</td>
<td>427</td>
</tr>
<tr>
<td>- capital shortage (PLN billion)</td>
<td>2.7</td>
<td>3.6</td>
</tr>
<tr>
<td>- share in banking sector assets (%)</td>
<td>6.1%</td>
<td>14.3%</td>
</tr>
</tbody>
</table>

Source: NBP.

128 The Common Equity Tier 1 capital shortage that is exclusively required for combined buffer requirement grew mainly after the conservation buffer reached its target level of 2.5% of total risk exposures amount, therefore increased levels of this shortage is not an indicator of rising concentration risk.
5.3.2. Single-factor simulation of materialisation of risk stemming from a significant change in the fair value of government bonds

Compared to the end of 2018, in the first half of 2019 the sensitivity of commercial banks to a decrease in the value of the portfolio of treasury securities did not change considerably. A 10% decrease in the value of the portfolio may result in a breach of the combined buffer requirements at banks holding around 10% of assets of the domestic banking sector. A breach of the Pillar 1 and Pillar 2 capital standards may be triggered by a 13% change in the value of the portfolio (see Chapter 5.3). However, historical volatility of the yields of government bonds suggests that the likelihood of such a sharp fall in the value of government bonds is small. A 10% decrease in the value of government bonds roughly corresponds to an increase in their value by 300 basis points, which was assumed in the shock scenario of stress tests.

Figure 5.3. Breach of the capital requirements or the combined buffer requirement due to fall in the value of government bonds

Notes: The figure shows the results of a simulation for the banking sector at the unconsolidated level. Some banks do not comply with the Pillar 1 and Pillar 2 capital requirements or the combined buffer requirement already before the simulation (see Table 5.1).

Source: NBP.

5.3.3. Stress tests

Stress tests encompassing macroeconomic, market and liquidity shocks were carried out to assess the resilience of domestic commercial banks to negative shocks. The analysis aimed to quantify the impact of hypothetical shocks on domestic commercial banks in the period from the third quarter of 2019 to

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129 The simulation illustrates the possible magnitude of the impact of the fall in fair value of banks’ instrument portfolios resulting from the growth of the yields of government bonds on banks’ regulatory capital, assuming banks use no hedge accounting.

130 The simulation includes debt instruments issued by the central government (largely Polish ones), classified by banks as assets measured at fair value through other comprehensive income (their change in value is reflected in Common Equity Tier 1 capital).
the end of 2021. The results of the simulation for the reference scenario as well as other simulations contained in this chapter should not be treated as a forecast of the situation in the banking sector.

Reference scenario and shock scenario

Stress tests were carried out on the basis of two scenarios: a reference scenario and a shock scenario. The central path of the NBP macroeconomic projection from “Inflation Report. November 2019”, prepared under the assumption of constant interest rates was used as the reference scenario. In the macroeconomic shock scenario a significant deterioration of the economic outlook was assumed, which stemmed from events triggering the materialisation of risk factors in the global economy (discussed in Chapter 1.2). Under such assumptions, Poland\footnote{The interest rate path in the shock scenario is based on the Taylor rule (which takes into account deviation of inflation from the target and the output gap). Due to its theoretical nature, the interest rate path should not be interpreted as a forecast of a response of the monetary authority to circumstances described in the scenario. A constant interest rate path is assumed in the baseline scenario.} would experience a significant decrease of the pace of economic growth (see Table 5.2) and an increase in risk aversion, which would result in a substantial deterioration of the conditions in which banks operate. The likelihood of such a combination of shocks and economic slowdown as severe as the one in the shock scenario is, however, small (see Figure 5.4).

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

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GDP growth rate (YoY, %)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reference scenario</td>
<td>4.3</td>
<td>3.6</td>
<td>3.3</td>
</tr>
<tr>
<td>shock scenario</td>
<td>3.7</td>
<td>0.8</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Labour force survey unemployment rate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reference scenario</td>
<td>3.6</td>
<td>3.8</td>
<td>4.1</td>
</tr>
<tr>
<td>shock scenario</td>
<td>3.8</td>
<td>5.1</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>CPI inflation (YoY, %)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reference scenario</td>
<td>2.3</td>
<td>2.8</td>
<td>2.6</td>
</tr>
<tr>
<td>shock scenario</td>
<td>2.3</td>
<td>3.5</td>
<td>1.1</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>1.6</td>
<td>0.8</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: NBP.
Figure 5.4. Macroeconomic shock scenario against the fan chart of GDP from "Inflation Report. November 2019"

Notes: values 30%, 60% and 90% refer to the likelihood of observing the GDP growth rates within a given band according to the NBP projection, as described in the notes to Figure 4.1 in “Inflation Report. November 2019”.

Source: NBP.

Results

The vast majority of banks examined in the simulations would hold sufficient capital resources to expand their business if the reference scenario were to materialise. The average total capital ratio would drop from 18.5% to 17.6%. The capital ratios of the majority of banks would decrease (see Figure 5.6) due to, among others, the growth in lending and the related increase in risk exposure. Two banks would fail to meet the Pillar 1 and Pillar 2 capital ratios at the end of the simulation period, and the shortfall in regulatory capital would total around 340 million zlotys. A total of six banks, representing a 11.5% share in the banking sector’s assets, would fail to meet the combined buffer requirement (see Table 5.3). The estimated value of the capital shortfall would be around 3.7 billion zlotys, i.e. 20% of their own funds at the end of June 2019. A common feature of the banks which do not comply with the combined buffer requirements in the reference scenario is their relatively low initial level of capital surplus, combined with low (and sometimes negative) profitability ratios, which hampers their capacity to accumulate capital from retained earnings as well as to obtain funding from investors.

The materialisation of the scenario of a significant slowdown in economic growth and increased risk aversion would lead to a sharp fall in banks’ profitability, and losses in a relatively large portion of institutions, which would have to cover them from available capital (see Figure 5.5). In the scenario adopted for the purposes of the stress tests, the combined capital ratios of the majority of banks would decline and around 21% of banks (in terms of banking sectors’ assets at the end of June 2019) would post a loss. The average total capital ratio for the group of banks under analysis would fall from 18.5% to 15.8%. At the end of the simulation period, six institutions with a 6% share in the banking sector’s
assets would fail to meet the Pillar 1 and Pillar 2 capital ratios. The shortfall in regulatory capital at the banks would amount to around 4 billion zlotys (i.e. approximately half of their own funds from the end of June 2019). Furthermore, another nine banks, with a 16.8% share in the banking sector’s assets, would use part of their capital buffers collected under the combined buffer requirements to cover their losses. In the case of all 15 banks, the shortfall in capital needed to meet the combined buffer requirement again would amount to around 12 billion zlotys (i.e. around 25% of own funds). However, it should be pointed out that one of the main objectives of capital buffers is to increase the banks’ capacity to absorb losses in stress conditions and limit the likelihood of a decline in lending to the economy. Therefore, the temporary use of capital buffers by banks in times of crisis should not be perceived as a negative development, the more so that the banks that meet the Pillar 1 and Pillar 2 requirements in the shock scenario may maintain the supply of credit to the real economy (in June 2019, the share of these banks in the banking sector’s assets amounted to around 74%)\textsuperscript{122}, despite a possible breach of the combined buffer requirement.

Table 5.3. The results of the NBP macro stress tests

<table>
<thead>
<tr>
<th></th>
<th>Historical data for the period</th>
<th>Simulation results for the period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q3 2018 - Q2 2019</td>
<td>Q3 2019 - Q4 2021</td>
</tr>
<tr>
<td>Charges to loan impairment provisions</td>
<td>0.6</td>
<td>0.56</td>
</tr>
<tr>
<td>Net interest income\textsuperscript{2}</td>
<td>2.43</td>
<td>2.40</td>
</tr>
<tr>
<td>Net earnings</td>
<td>0.80</td>
<td>0.74</td>
</tr>
<tr>
<td><strong>Capital shortage\textsuperscript{3}</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pillar 1 and 2 capital shortfall (PLN billion)</td>
<td>0.6</td>
<td>0.3</td>
</tr>
<tr>
<td>Pillar 1 and 2 increased by the combined buffer requirement capital shortfall (PLN billion)</td>
<td>3.1</td>
<td>3.7</td>
</tr>
<tr>
<td>Banks that do not meet Pillar 1 and 2 capital requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- number of banks</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>- share of the banking sector assets (%)</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Banks that meet Pillar 1 and 2 requirements but do not meet the combined buffer requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- number of banks</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>- share of the banking sector assets (%)</td>
<td>5.1</td>
<td>10.4</td>
</tr>
<tr>
<td>Additional information - market shock in the simulation period (PLN billion)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in bonds value due to increase in credit risk premium</td>
<td>n/d</td>
<td>n/d</td>
</tr>
<tr>
<td>Zloty depreciation impact (impairment charges to households FX loans) recognized in the profit and loss account</td>
<td>n/d</td>
<td>n/d</td>
</tr>
</tbody>
</table>

Notes: (1) The scenario is based on the central path of the NBP macroeconomic projection from “Inflation Report. November 2019”. (2) “Net interest income” includes fees and commission income on granted loans, but does not include interest income on debt securities. (3) “Capital needs” result from the macroeconomic and market shock and the domino effect.

A detailed description of the minimum required levels of capital (the Pillar 1 and Pillar 2 requirements and the combined buffer requirement) can be found in Box 4 in “Financial Stability Report. June 2017”.

The result of simulation for the reference scenario should not be considered as a forecast for the condition of the banking sector.

Source: NBP.

\textsuperscript{122} Assumptions allow to increase lending at the pace equal to the nominal GDP growth (provided that the nominal quarterly growth is positive).
Figure 5.5. Accumulated changes in the total capital ratio in the shock scenario (% of risk-weighted assets)

Notes: The purple bars represent the value 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 2019 H1” are an assumed increase in the capital of banks by a part of undistributed (end of June 2019) 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 the tax on certain financial institutions, which would be paid by banks in the simulation period. It is assumed that the bank that records a loss in two subsequent quarters will be subject to a recovery plan, which will exempt it from paying tax over the remaining projection period.

Source: NBP.

The results of additional analysis indicate that even if the shock scenario were to materialise, no contagion effect would occur between banks due to lack of mutual transactions in the interbank market. In the adverse scenario, only two banks would meet the conditions which were assumed in the analysis for defaulting on repayment of liabilities to other banks, but the other surveyed banks had no exposure to these entities.

The results of the liquidity shock simulation have indicated that the resilience of domestic commercial banks is good and has slightly improved in relation to the assessment presented in the previous issue of the Report. Banks hold adequate buffers of liquid assets\(^\text{133}\) to face situations of stress related to their financing. However, there is a group of banks with an elevated liquidity risk profile, with a share of 3% in the banking sector’s assets. These banks could have problems with covering their liabilities with liquid assets (see Figure 5.7). Their shortfall of liquid assets would total approx. 9 billion zlotys.

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\(^{133}\) Treasury securities and NBP bills and loans with maturity of up to 1 months have been classified as liquid assets.
In the simulation, the same scale of the stress scenario was assumed for all banks. However, it is worth pointing out that the probability and scale of a potential liquidity shock in the case of individual banks may not be uniform and may result from many factors, including such not directly related to the liquidity profile of the bank.

**Figure 5.6.** Distribution of banks covered by stress tests according to the total capital ratio

![Graph showing distribution of banks covered by stress tests according to total capital ratio.]

Notes: Distribution approximated with the use of a kernel density estimator. Asset-weighted observations. To eliminate outliers, the range of presented total capital ratio values was limited to the range between 0 and 30%.

*Source: NBP.*

**Figure 5.7.** Assets of domestic commercial banks by coverage of funds’ outflow with a buffer of liquid assets in the NBP shock scenario

![Graph showing assets of domestic commercial banks by coverage of funds’ outflow with a buffer of liquid assets.]

Notes: Simulations were performed for commercial banks, excluding BGK. In simulations conducted for associating banks, liquid assets and liabilities towards the financial sector have been decreased by the value of the deposit minimum. In June 2019, the assets of commercial banks for which the simulation was performed accounted for around 81% of assets of the sector.

*Source: NBP.*

***

The results of stress tests indicate that the likelihood of the materialisation of systemic risk and a disruption in the provision of financial services by banks is low. The relatively high initial levels of capital ratios would allow the majority of banks to absorb losses arising from the materialisation of external risk factors and to continue lending. Only a small group of banks with a limited share in the

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134 The shock scenario assumes a depreciation of the zloty, a rise in yields on Polish government bonds and an outflow of a portion of funding from foreign financial institutions (a withdrawal of 100% deposits, 10% of loans and 25% of other liabilities) and a withdrawal of a part of deposits of domestic entities following a fall in confidence. Settlement of mutual liabilities was assumed in the case of domestic financial institutions, whereas in the case of households, enterprises and entities from the general government sector and an outflow of the unstable part, i.e. not classified as to the so-called core deposits, and additionally, 5%, 10% and 10% of other deposits, respectively, was assumed.
assets of commercial banks would hold capital shortfalls in relation to the Pillar 1 and Pillar 2 capital requirements. The direct linkages of these institutions with the rest of the sector are insignificant; however, their situation could have an impact on the remaining banks via indirect channels, including via the funds contribution mechanism to the BFG and the customer confidence channel.

The results of the stress tests do not take into account the legal risk associated with foreign currency housing loans or the costs related to the refund of commissions from early repayment of consumer loans. Currently, it is not possible to make credible assumptions regarding the costs for the banking sector as it is, among others, impossible to estimate customers’ willingness to litigate and also due to uncertainty about the potential extent to which prohibited clauses are present in the agreements of banks and the rulings of common courts, if such a clause is found to occur. Moreover, the approach of banks and auditors to creating possible impairments for the consequences of the materialization of legal risk or provisions for this risk is not known yet. At this juncture, it can only be expected that the impact on banks’ profitability will be negative, although it will most likely be spread over a longer horizon.
Glossary

6 cities – the six capitals of provinces with the largest population, constituting developed active housing markets (Gdańsk, Gdynia, Kraków, Łódź, Poznań and Wrocław).

10 cities – the ten, remaining capitals of provinces, constituting active housing markets (Białystok, Bydgoszcz, Katowice, Kielce, Lublin, Olsztyn, Opole, Rzeszów, Szczecin and Zielona Góra).

Adjusted net interest margin – the ratio of net interest income on a given loan portfolio posted in a given period less net charges to provisions for expected loan losses created in this period to the average value of this portfolio over this period.

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

Auto Casco insurance (AC) – comprehensive auto insurance of land vehicles, excluding track vehicles, covering damage in automobiles or land vehicles lacking own drive – Class 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 – Class 10 of the non-life insurance sector according to the Act on Insurance Activity.

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

Baseline credit assessment (BCA) – a main measure developed by Moody’s designed for the assessment of banks. Calculated in accordance with the new methodology (implemented in March 2015), the measure replaced the financial strength rating. It represents the probability of default of the bank without any external support and its scale depends on the financial profile of the 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.

Business Confidence Index (BCI) – an indicator of business confidence.

Collateralized Loan Obligations (CLOs) – debt instruments issued by a special purpose entity in the process of securitisation of purchased loan claims. The CLOs are secured by these loan claims – mainly loans made to the non-financial corporations with low credit rating and high debt.

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

Consumer loans – loans granted to natural persons for personal use in the consumption of goods (including overdrafts and credit card loans).
Core deposits – stable part of deposits of the non-financial sector.

Covenants – loan agreement provisions obliging the borrower to maintain certain financial ratios on a specified level (e.g. debt-to-equity or debt-to-assets, loan-service-payments to gross earnings before interest and depreciation) or to refrain from taking specified actions (e.g. making payments to shareholders, selling or encumbering assets, merging with other entities).


Credit availability of housing – a measure of the number of square meters of housing that can be purchased using a housing loan with an average monthly salary in the enterprise sector on a given market (Statistics Poland), taking into account bank’s credit requirements and loan parameters (interest rate, depreciation period, minimum remuneration as minimum income after repayment of loan instalments) at the average transaction price of a flat (40% from PM and 60% from SM) on a given market (BaRN). The pace of changes in the index and the spread between markets is of pivotal importance.

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

Credit intermediation – the ratio of the value of debt securities and loans granted to domestic non-financial entities against assets of non-credit financial institutions.

Credit losses – in banks applying the IFRS – balance of provisions created or (-) released for expected credit losses (until the end of 2017, charges to provisions for impaired loans); in banks applying the Polish Accounting Standards – balance of specific provisions created or released. Credit losses also include net income on write-downs of a financial asset in the amount of the difference between the value of the financial asset written down and the value of provision/specific provision as well as recovery of assets written down earlier.

Cross-currency Interest Rate Swap – a derivative transaction under which the parties are obliged to a 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 for each currency. Such a transaction may involve the exchange of the nominal amount at the start or at the end of the transaction (at a predetermined exchange rate).

net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and Regulation (EU) 648/2012.

Customer Confidence Index (CCI) – an indicator of consumer confidence.

 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 the 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 the financial institution.

 Domestic banking sector – domestic commercial banks and cooperative banks.

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

 Earned premium – the premium corresponding to the risk incurred by the insurance company in the reporting period.

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

 Fee and commission margin – the ratio of net fees and commissions income in a given period to the average value of assets in the period.

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

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

 FX Swap – a derivative transaction under which the parties are obliged to exchange an amount of currencies at an agreed exchange rate on a specified date and then repurchase the previously exchanged amounts at a predetermined exchange rate and date.

 Housing loans – loans on residential real estate for households.

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

**Interest rate gap** – the difference between interest-bearing assets and liabilities repriced in a given time bucket and in a given currency.

**Interquartile range** – the difference between the value of the third quartile and the value of the first quartile in the distributions 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, the 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.

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

**Leverage (investment funds)** – the ratio of total assets to net assets of a fund expressed in percentages.

**Liquid reserve of credit unions** – funds amounting to no less than 10% of the saving-loan fund (which comprises own funds of members and their savings), kept by credit unions in the form of: cash, funds on separate accounts with the National Association, and units of money market funds.

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

**Loans with identified impairment** – in banks applying the IFRS – loans from portfolio B are credit-impaired loans, if an event/events having a negative influence on the estimated future cash flows on such loans occurred (Stage 3) (by the end of 2017 – loans from portfolio B for which objective evidence of impairment and a decrease in the value of expected cash flows have been recognised); in banks applying the Polish Accounting Standards – loans from portfolio B classified as irregular pursuant to the Regulation of the Minister of Finance regarding the principles for creating provisions for the risk of banking activity.

**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. 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 structure (for other obligations than those calculated with the use of MA).
**Maximum availability of housing loans** on a given market is a measure expressed in thousands of zlotys, taking into account bank’s credit requirements and loan parameters (i.e. interest rate, depreciation period of 25 years, minimum remuneration as the minimum income after repayment of loan instalments). The estimate does not take into account changes in the lending policy of banks, including credit standards and credit terms.

**MOVE** – risk index for the US Treasury bond market calculated by Bank of America Merrill Lynch 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.

**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 in a given market.

**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 ratio of net interest income in a given period to average assets in this period.

**Non-interest income** – the sum on income on fees and commissions, revenue from dividends, income on valuation of instruments measured at fair value, gains/losses from the derecognition of financial instruments other than instruments measured at fair value through profit and loss, and foreign exchange rate differences.

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

**Own funds of insurance undertaking** – the sum of basic own funds which include the excess of assets over liabilities and subordinated liabilities, and ancillary own funds which comprise unpaid share capital or initial fund that has not been called up, letters of credit and guarantees and also any other legally binding commitments received by insurance undertakings (or reinsurance undertakings).

**Portfolio B** – a portfolio of assets separated in banks’ prudential reporting, comprising – since 2018 – for banks applying the IAS/IFRS the whole portfolio “Financial assets measured at amortised cost” and claims from the portfolio “Financial assets measured at fair value through other comprehensive income”, and for banks applying the Polish Accounting Standards – the whole portfolio “Loans and other receivables”, “Financial assets held to maturity” and claims from the portfolio “Financial assets available for sale”. Until 2017, portfolio B comprised claims classified as available for sale and held to maturity as well as all financial instruments (including debt securities) classified as loans and receivables.

**Price-to-book value ratio** – the ration of the price of one share of a company to the accounting value of capital per share.
**Purchasing Managers’ Index (PMI)** – an indicator of economic activity.

**Rating outlook** – the rating agency’s view regarding the potential direction of the change in the long-term rating over the intermediate term (typically 6 months to 24 months). Rating agencies use a positive, negative, stable and developing outlook. They represent the likelihood of, respectively, raising, lowering, maintaining and changing or maintaining the rating.

**Small credit union** – a credit union with assets at the end of the financial year below 20 million zlotys and an average annual number of members below 10 thousand persons.

**Small and medium-sized enterprises** are, according to the definition of Statistics Poland, enterprises that employ fewer than 250 persons.

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

**Systemic risk** – a risk of disruption in the functioning of the financial system, which in the case of its materialisation, interferes with the functioning of the financial system and the national economy as a whole (Article 4(15) of the Act of 5 August 2015 on Macroprudential Supervision of the Financial System and Crisis Management).

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

**Technical result** – the difference between income from premiums as well as certain income from deposits and other technical income and claims and benefits paid, changes in insurance provisions, the costs of insurance activity and other technical costs.

**Viability rating** – an individual rating assigned to institutions by Fitch Ratings advising on the financial condition of single entities.

**VIX** – risk index for the equity market calculated by the Chicago Board Option Exchange on the basis of a 30-day implied volatility derived from out-of-the-money options for equities included in the S&P 500 index. A high level of the index indicates an elevated level of 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

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>6C</td>
<td>the six largest cities in Poland</td>
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<tr>
<td>10C</td>
<td>the ten largest cities in Poland</td>
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<tr>
<td>AC</td>
<td>auto casco insurance</td>
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<tr>
<td>BAEL</td>
<td>Badania Aktywności Ekonomicznej Ludności (Labour Force Survey)</td>
</tr>
<tr>
<td>BEA</td>
<td>U.S. Bureau of Economic Analysis</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>
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<td>BIK</td>
<td>Credit Information Bureau</td>
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<tr>
<td>BIS</td>
<td>Bank for International Settlements</td>
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<td>CCP</td>
<td>Central Counterparty</td>
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<td>CDS</td>
<td>Credit Default Swap</td>
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<td>CIRS</td>
<td>Cross-currency Interest Rate Swap</td>
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<td>CLO</td>
<td>Collateralized Loan Obligation</td>
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<td>CPI</td>
<td>Consumer Price Index</td>
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<td>CRD</td>
<td>Capital Requirements Directive</td>
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<td>CRR</td>
<td>Capital Requirements Regulation</td>
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<td>DEV</td>
<td>developing rating outlook – expected change or confirmation</td>
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<td>EBA</td>
<td>European Banking Authority</td>
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<tr>
<td>EC</td>
<td>European Commission</td>
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<tr>
<td>ECB</td>
<td>European Central Bank</td>
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<tr>
<td>EIOPA</td>
<td>European Insurance and Occupational Pensions Authority</td>
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<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>ESRB</td>
<td>European Systemic Risk Board</td>
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<tr>
<td>EURIBOR</td>
<td>Euro Interbank Offered Rate</td>
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<td>EU</td>
<td>European Union</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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<td>EURO STOXX Banks</td>
<td>Stock index of the biggest banks in the euro area</td>
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<td>FE</td>
<td>Pension Funds</td>
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<tr>
<td>Fed</td>
<td>Federal Reserve System</td>
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<tr>
<td>FI</td>
<td>Investment Funds</td>
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<tr>
<td>FIO</td>
<td>Open-ended 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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<td>GUS</td>
<td>Statistics Poland</td>
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<tr>
<td>HH</td>
<td>Households</td>
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<td>IBOR</td>
<td>Interbank Offered Rate</td>
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<td>IFRS</td>
<td>International Financial Reporting 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>
</tr>
<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>Abbreviation</td>
<td>Description</td>
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<tr>
<td>KFD</td>
<td>National Road Fund</td>
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<tr>
<td>KNF</td>
<td>Polish Financial Supervisory Authority</td>
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<tr>
<td>KSKOK (National Association)</td>
<td>National Association of Credit Unions</td>
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<tr>
<td>LCR</td>
<td>Liquidity Coverage Ratio</td>
</tr>
<tr>
<td>LIBOR</td>
<td>London Interbank Offered Rate</td>
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<td>LTG</td>
<td>Long-Term Guarantees</td>
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<tr>
<td>LtV</td>
<td>Loan-to-Value</td>
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<tr>
<td>MDA</td>
<td>Maximum Distributable Amount</td>
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<tr>
<td>MFI</td>
<td>Monetary Financial Institutions</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>mWIG40</td>
<td>Warsaw Stock Exchange index of medium-sized companies</td>
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<tr>
<td>NAV</td>
<td>Net Asset Value</td>
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<td>NBP</td>
<td>Narodowy Bank Polski</td>
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<td>NEG</td>
<td>negative rating outlook – expected downgrade</td>
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<td>NIF</td>
<td>Non-credit Financial Institutions</td>
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<td>NIM</td>
<td>net interest margin</td>
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<tr>
<td>NP.</td>
<td>Not Prime</td>
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<tr>
<td>NSFR</td>
<td>Net Stable Funding Ratio</td>
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<tr>
<td>OC</td>
<td>third party liability insurance</td>
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<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OFE</td>
<td>Open Pension Funds</td>
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<td>Abbreviation</td>
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<tr>
<td>OIK</td>
<td>branch of a credit institution – the branch, referred to in point (17) of Article 4(1) of Regulation (EU) No 575/2013, which is not a branch of a domestic bank or a branch of a foreign bank</td>
</tr>
<tr>
<td>OIS</td>
<td>Overnight Index Swap</td>
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<tr>
<td>O/N</td>
<td>overnight</td>
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<td>OSII</td>
<td>Other Systemically Important Institution</td>
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<tr>
<td>PDA</td>
<td>right to shares</td>
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<td>P&amp;L account</td>
<td>profit and loss account</td>
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<td>PM</td>
<td>primary market</td>
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<td>POLONIA</td>
<td>Polish Overnight Index Average</td>
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<td>POS</td>
<td>positive rating outlook – expected upgrade</td>
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<td>Polish Accounting Standards</td>
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<td>ROA</td>
<td>Return on Assets</td>
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<td>Return on Regulatory Capital</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 union</td>
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<td>SM</td>
<td>secondary market</td>
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<td>SME</td>
<td>Small and medium-sized enterprises</td>
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<td>S&amp;P</td>
<td>Standard &amp; Poor’s</td>
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<td>S&amp;P500</td>
<td>Stock index of 500 companies listed on NYSE and NASDAQ with the highest value of shares in free float</td>
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</table>
STA stable rating outlook – expectation to maintain the rating
STOXX Europe 600 Stock index of 600 largest companies from European developed markets
sWIG80 Warsaw Stock Exchange index of small companies
TCR Total Capital Ratio
TLTRO Targeted longer-term refinancing operations
UFK Unit-linked
UKNF Office of the Polish Financial Supervisory Authority
USA United States of America
VIX Chicago Board Options Exchange Market Volatility Index
WIBID Warsaw Interbank Bid Rate
WIBOR Warsaw Interbank Offered Rate
WIG Main index of the Warsaw Stock Exchange
WIG20 Warsaw Stock Exchange index of 20 largest companies by the value of shares in free float
WIG-banki Warsaw Stock Exchange index of banks
ZBP Polish Bank Association
ZU Insurance companies
ZUS Social Insurance Institution