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**DILEMMAS OF BANK ACTIVITIES UNDER ECONOMIC
UNCERTAINTY – SELECTED EXAMPLES FROM
THE POLISH MARKET DURING THE PANDEMIC PERIOD**

Key words: banking, economic uncertainty, financial crisis, pandemic period, Poland

ABSTRACT. The paper discusses the issue of identifying selected aspects of banking sector activity in Poland under conditions of economic uncertainty. In terms of time scope, the conditions of the pandemic were taken into account, including the years 2018-2020. In an attempt to identify the most important business dilemmas of banking, the case study of PKO BP bank has been selected for analysis. Based on its own research, it was noted that the year 2020, precisely because of the coronavirus pandemic, somehow forced sectoral changes in the financial enterprise management. The study verified the hypothesis that the bank's overall financial performance is affected not only by management decisions, but also by external factors that are difficult to predict. Institutional decisions of the central bank and the government are also a consequence of macroeconomic uncertainty. It was noted that as a result of the National Bank of Poland's monetary policy in 2020, the evaluated bank PKO BP reported, compared to 2019, a financial loss (almost PLN -3.0 billion), including: a decrease in general revenues (-9.05%), as well as a decrease in interest income due (-6.90%). Finally, based on the descriptive analysis and the discussion of the study results, the most important conclusions and recommendations were formulated.

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INTRODUCTION

The starting point in identifying the dilemmas of banking sector activity in Poland, especially in the context of pandemic times, was the assessment of the conditions of the Polish economy. An external source of risk, as well as a potential threat to the financial sector, is economic uncertainty and related market fluctuations [Zaleska 2021]. The market's reaction to the pandemic developments, rather than the expected recovery, turned out to be a decline in activity, especially in the service sector. Of course, the institutional efforts of the public sector, including the government, to mitigate the effects of the pandemic also proved to be an additional factor of influence [Szczepańska 2020].

The banking sector saw the first effects of the pandemic, among other things, through an increase in the global Economic Policy Uncertainty (EPU) index. Such significant changes in the EPU index were not observed even during the so-called European debt crisis (2011-2013), as a consequence of the British referendum on Brexit (in June 2016), or as a result of trade tensions between the US and China (especially in 2018) [Baker et al. 2023a]. Also, the alternative index of economic policy uncertainty – monetary policy (EPU – Monetary), has definitely increased in 2020-2021 [Baker et al. 2023b]. This trend is also confirmed by the increase in the Economic Policy Uncertainty Index – Fiscal Policy (EPU-Fiscal). This increase occurred especially during the European debt crisis (2011-2013) and during the pandemic, which, after declining, still indicates increasing uncertainty [Baker et al. 2023c].

The economic crisis caused by the effects of the pandemic also contributed to a decline in the output of emerging and developing countries, the so-called EMDEs (Emerging Market and Developing Economies). The decline in the value of EMDE countries' output is estimated at up to 5%, given the recession in more than 80% of EMDE economies [WB 2021]. This condition severely weakened the debt servicing capacity of these countries. Risks to banking activities also increased globally as a result [Kose et al. 2020].

Since one of the banking sector's functions is to provide money to the market for the implementation of businesses that determine economic development, the threat of banking activity in this area requires permanent monitoring [Wanat et al. 2019]. As a pandemic consequence, the following phenomena also became a co-occurrence in the Polish market: a decline in the credit debt of the non-financial corporate sector (greater than during the global financial crisis), as well as a tightening of credit policy by banks [Boguszewski et al. 2020]. This promotes an excessive reduction in the credit supply, while at the same time the likelihood of defaulting on existing debt increases. Such a situation is referred to by the term credit crunch (CC). In financial practice, this means a so-called credit collapse, or an extraordinary, excessive reduction in the supply of credit [Czechowska et al. 2022]. So is credit crunch a real dilemma for the Polish banking sector? There is no doubt that credit availability is particularly important during periods of crisis, especially

for maintaining business investment activity. The decline in this activity may be due to the credit crunch phenomenon, through the financial accelerator effect [Bernanke et al. 1996]. Finding the optimal strategy for the banking sector's operations, as well as the question of banks' leadership during the financial crisis [Potkański et al. 2011], therefore seems an important and necessary task.

MATERIAL AND METHODS

In order to identify the most important dilemmas of banking sector activity in Poland, under conditions of economic uncertainty, an analysis of the current state of the art was carried out, and a case study of a selected bank was used. Considering the uncertainty factor, the time scope of the analysis takes 2018-2020 into account, including the start of the coronavirus pandemic. Selected directions of banking development, indicated in the literature, were reviewed. They formed the substantive background of the study. Dilemmas of banking development were discussed for the Polish market, on the case of PKO BP bank [Rogalińska 2022]. Institutional decisions of the Polish central bank and government were also factored in. Secondary statistical data [GUS 2022] was used for the analysis, as well as data obtained from reports and financial statements. In verifying the main hypothesis, it was assumed that the bank's overall financial performance is affected not only by the management decisions, but also by external factors that are difficult to forecast. Against the background of the identified key development dilemmas of the banking sector, based on the discussion of the results and conclusions of the descriptive analysis, the most important recommendations were formulated.

Of course, it is not possible to discuss all the influential factors shaping the competitive situation of the banking sector in a short research paper [Shabir et al. 2022]. Thus, out of necessity, reference was made only to examples, identified according to the substantive criterion. It was based on the results of a literature analysis and a case study of a selected bank in Poland. This case study, which was described in detail by Aleksandra Rogalińska [2022], made it possible to extract the necessary financial data. Secondary data concerned the bank's current business activities during the period under review (2018-2020), as well as macroeconomic factors affecting the bank and the banking sector from outside. Thus, the basic empirical material became the data contained in the mandatory documents prepared by the PKO BP bank (the bank's annual financial statements, income statement and cash flow statement), as well as financial ratios that were separately calculated by Aleksandra Rogalińska [2022].

Secondary data, obtained from public statistics sources [GUS 2022], scientific literature and industry reports, were also used for the analysis. Elements of comparative analysis were also used in some aspects. Four banks operating in Poland were selected for this

analysis, in different contexts: Santander Bank Polska, Credit Agricole, ING Bank Śląski and mBank. In the temporal scope, covering 2018-2020, the last year (the increase in uncertainty during the pandemic period) played a specific part. The study, at various stages, used the following methods in addition to a critical review of the state of the art: case study, analysis of financial documents, comparative and descriptive analysis.

In the first step, preceding the macroeconomic analysis of the most important dilemmas in the banking sector development, the microeconomic factors were evaluated, based on the case study of PKO BP bank. If one were to stop only at verifying credit risk models, the dilemmas of banking business development could be significantly reduced [Prezlena 2014]. Under conditions of economic uncertainty and asymmetry of market factors, it is sometimes necessary to take a non-standard approach, while not disregarding the results of traditional analysis. Could demographic background be relevant in this discussion [Popek, Wanat 2016]? Yes, but in the designed study this possible influence was ignored. Instead, aspects of the bank's balance sheet analysis are included, as well as the need to verify selected external factors.

SHORT CASE STUDY – BANK PKO BP

The starting point in the analysis of a selected bank remains its competitive potential [Klus et al. 2022], most often expressed in terms of total financial assets, compared against competitors (Figure 1). In this view, the leader is PKO BP bank.

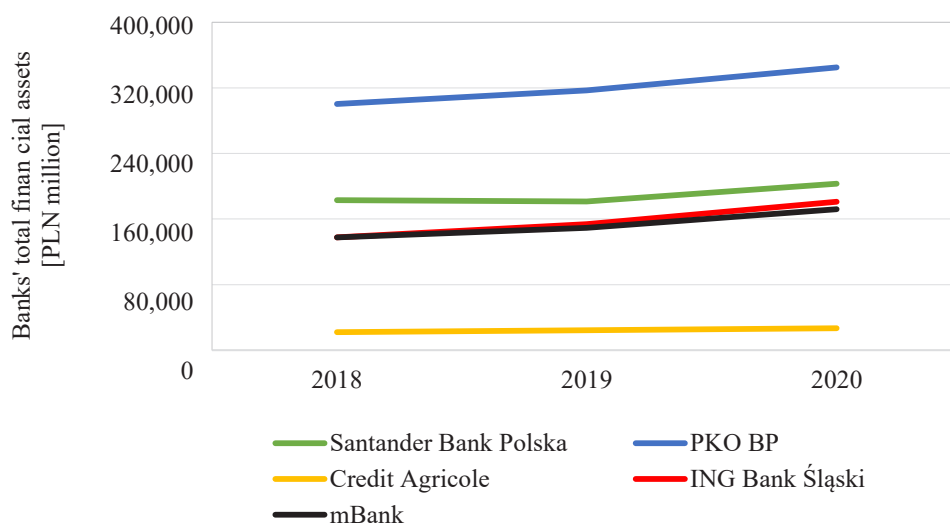


Figure 1. Total financial assets of selected banks (2018-2020)

Source: own elaboration based on [GUS 2022, Rogalińska 2022]

Does this imply dominance also from a financial performance perspective? Not necessarily. In turn, when analyzing the most interesting data contained in the bank's annual balance sheet, attention was paid primarily to those elements that report on PKO BP's liabilities to the bank's customers (Table 1).

Table 1. Elements of PKO BP bank's balance sheet forming liabilities to customers

Liabilities to customers	2018	2019	2020
	PLN million		
Cash in current accounts and overnight deposits	152,936	177,991	173,732
Term deposits	81,993	73,672	47,780
Reverse repurchase transactions	45	46	-
Credits and loans received	8,839	5,026	-
Liability for short position in securities	-	45	-
Other liabilities	1,400	1,235	476
Total	245,213	258,015	221,988

Source: own elaboration based on [Rogalińska 2022]

The ability to repay liabilities is one of the important dilemmas for any business, including banks. The largest share in the group of liabilities to customers of PKO BP Bank was money, accumulated by customers in current accounts and overnight deposits. Their sum accounted for 62%, 68% and 78% of all liabilities to customers in the subsequent years of the period under review (2018-2020), respectively. Liabilities with a repayment term of up to one month predominated. And the dilemma under discussion? The sum of liabilities in the initial period of the pandemic, note: temporarily, fell.

When analyzing the competitive situation of a bank, financial indicators are verified, most often concerning: liquidity, profitability, solvency and asset quality [Danisman et al. 2021]. Banks verify, for example, the Net Stable Funding Ratio (NSFR) and the Net Liquidity Coverage Ratio (LCR). In practice, the LCR determines a bank's ability to settle its obligations in financial distress (it has been indicated that banks should maintain the level of this ratio as a minimum of 100%). The NSFR ratio is a measure that determines the bank's ratio of "positions" that provide stable financing, to "positions" that require stable operation (banks strive to maintain this ratio above 100%). Applying the so-called supervisory payment standards (as recommended by the Polish Financial Supervision Authority), the analyzed bank PKO BP included M3 and M4 ratios in its financial statements (Table 2).

Table 2. Selected liquidity ratios of PKO BP bank in 2018-2020

Selected liquidity ratios	2018	2019	2020	Supervisory limit
[M3]: coefficient of illiquid assets coverage with own funds	17.44	14.92	12.59	≥ 1
[M4]: coverage ratio of illiquid assets and assets with limited liquidity from own funds and stable external funds	1.22	1.25	1.42	≥ 1
[NSFR]: Net Stable Funding Ratio [%]	120.20	124.90	139.10	Minimum 100%
[LCR]: Liquidity Coverage Ratio [%]	127.30	139.00	204.70	Minimum 100%

Source: own elaboration based on [Rogalińska 2022]

During the period under review [Rogalińska 2022], PKO BP Bank maintained the values of all liquidity ratios above the adopted limits. In 2020, the bank increased the level of assets to manage the unit in a crisis (high LCR). This is the bank's response to the dilemma of possible customer abandonment of bank deposits during a pandemic. Of course, ROA (Return of Assets) and ROE (Return on Equity) ratios are also traditionally verified. In the group of five banks that Aleksandra Rogalińska [2022] analyzed, two of them, namely PKO BP Bank and Credit Agricole, achieved – already under pandemic uncertainty – negative values for these indicators. This means that banks, using assets and equity in their operations, showed a financial loss.

Banks also verify solvency ratios. Including: the total liquidity ratio and TIER 1 capital ratios (a measure of a bank's ability to absorb losses under solvent conditions) and TIER 2 capital ratio (a measure of a bank's ability to absorb losses under insolvent conditions). The total capital ratio should be equal to or greater than 8%, while the TIER 1 capital ratio should be equal to or greater than 4.5% [Bitar, Tarazi 2022]. PKO BP Bank kept both ratios above the limits. Thus, the bank's solvency dilemma was at least reduced.

Margin ratios were also analyzed. These ratios make it possible to assess the bank's efficiency in various aspects: interest income, commission income, as well as in the area of risk and reserve management [Cherrat, Prigent 2022]. How are banks responding to the dilemma of non-performing loans? Differently. During the coronavirus pandemic, PKO BP bank had the highest commission margins and one of the highest interest margins [Rogalińska 2022].

Based on microeconomic measures, and taking into account the impact of the National Bank of Poland's monetary policy and the institutional actions of the Polish government,

the financial performance of the selected bank PKO BP was evaluated. The dilemmas of the period of economic uncertainty reflected the first year of pandemic time. In the conditions of market asymmetry, that is, in 2020, the analyzed bank PKO BP showed, compared to 2019, a financial loss (almost PLN -3.0 billion). This included: a decline in general revenues (-9.05%), as well as a decline in interest income due (-6.90%) [Rogalińska 2022]. Against this background, a discussion of selected macroeconomic factors was then undertaken.

RESULTS AND DISCUSSION

Although microeconomic analysis provides researchers with information about a bank's competitive situation [Rogalińska 2022], a broader discussion of macroeconomic factors is necessary to identify the key dilemmas of business in the banking sector. To explain the dilemmas that occur in irregular market situations, in addition to the traditional approach, an out-of-the-box approach seems necessary [Wanat, Potkański 2011]. In the study's temporal scope, one of the main impact factors was the pandemic situation. The banks also indicated this in their financial statements. In addition, government policies to protect economic stability and regulate the market, central bank actions and other institutional actions were indicated. The complexity of the impact of these factors meant that sometimes one factor resulted in a significant change in key items of the bank's financial statements.

However, a sustained trend of credit crunch is not expected. In addition, there has been a temporary reduction in central bank interest rates, which has resulted in a drop in lending rates. This leads to a reduction in the level of receivables from bank customers. Of course, this situation was changed by subsequent inflation [Pyra, Siedlecka 2022]. At the same time, state intervention, that is, the introduction of the so-called "anti-crisis shield", has caused a decline in demand for banking forms of business financing. In this context, it is difficult to assess precisely which of the identified factors has a decisive impact on the economic situation of the bank. This is another of the identified dilemmas.

The so-called "social distance", introduced during the pandemic, increased the share of electronic transactions in the overall set of financial transactions. Cashless payments, especially those made via mobile apps, have become popular. In this regard, the leading Polish bank was PKO BP, which registered more than 3.5 million mobile banking users in the first quarter of 2020 alone [Ziembra 2022]. Transactions free of additional verification (previously secured by PIN or SMS codes, for example) have also increased. In the banking sector, the cost of handling and securing electronic transactions has increased [Kumar, Gupta 2020]. Banks also had to increase their reserve levels to better protect customers' potentially vulnerable financial operations. This phenomenon affected essentially all Polish banks, commensurate with their size and share of the financial market [Ziembra 2022]. Thus, the virtualization of banks, taking into account the dominant share of mobile banking in

the bank's overall business activity, has become another dilemma for the financial sector. A consequence of this dilemma may be the question of the meaningfulness of a traditional bank [Nicoletti 2021, De Meijer 2022].

It was speculated that customers might abandon banking services, even en masse, during the period of economic uncertainty (a sharp decline in active individual customer bank accounts, so-called savings and checking accounts). This dilemma has also been resolved. Although a slight decline occurred periodically, but there was no mass liquidation of personal bank accounts. True, lower interest rates on deposits, as a result of the central bank's lowering of interest rates, had an impact on the value of interest expense on payables to customers (Figure 2), which is shown in the income statement.

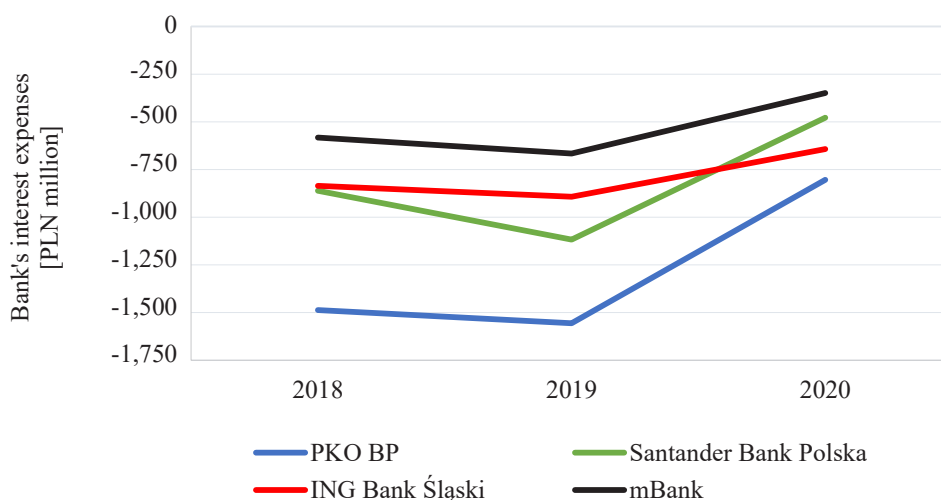


Figure 2. The bank's interest expenses in Poland, based on financial statements of selected banks

Source: own elaboration based on [Rogalińska 2022]

The central bank's reduction in interest rates has changed a key financial piece of information, that is, the bank's interest earnings. Typically, this value determines the bank's financial profit or loss in a given accounting period. Of course, the same factor also reduced the bank's cost in the form of interest payable. Both measures should result in a relative equalization of benefits and losses. The importance of this dilemma in managing a bank's liquidity is evidenced by its financial performance. During the studied period, the compared banks recorded a decrease in financial result. The financial loss during the pandemic was recorded by banks: Credit Agricole and PKO BP (Figure 3). ING Bank

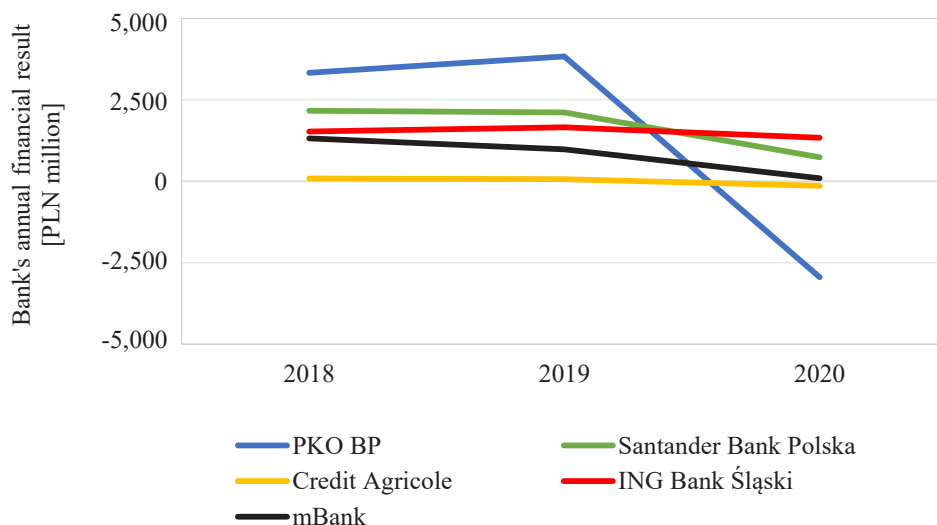


Figure 3. The bank's annual financial result, based on financial statements of selected banks (2018-2020)

Source: own elaboration based on [Rogalińska 2022]

Śląski recorded the smallest decline in its financial result (a 19.4% decrease compared to 2019) [Rogalińska 2022]. According to public statistics, the net financial result for the entire banking sector in Poland in 2020 decreased by 45.3%, compared to 2019 [GUS 2022].

As a effect of the state's intervention policy (the introduction of the so-called 'crisis shield'), there may have been a decline in banks' interest income from loans (Figure 4), with a concomitant effect on the decline in the annual financial result.

Another important dilemma for banks is the adequate response to the change in the level of unemployment. However, it turned out that, probably as a result of effective state intervention, this factor did not have a significant impact on the situation of Polish banks. An increase in unemployment of 0.7 percentage points was recorded during the period under review [GUS 2022, Rogalińska 2022]. Unfortunately, uncertainty factors other than the pandemic no longer guarantee the stabilization of this parameter. This means a higher level of credit risk for the bank: an increase in the number of non-performing loans and the need to accumulate more reserves. The result: an increase in operating costs and a reduction in the bank's bottom line. Therefore, banks are required to execute allowances for expected credit losses (Figure 5).

It was noted that in 2020, compared to 2019, both banks analyzed: PKO BP and Santander Bank Polska increased the value of the balance sheet item, which includes

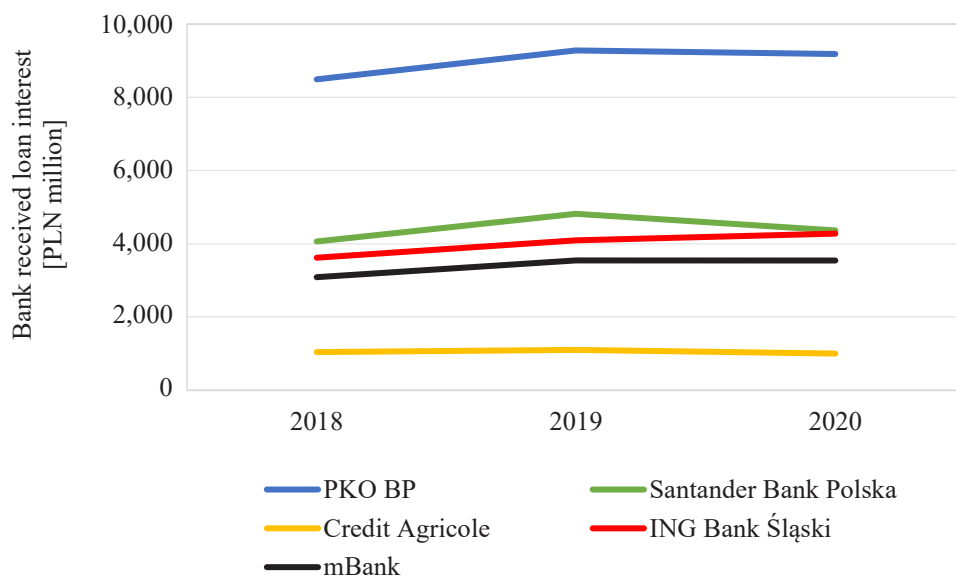


Figure 4. The bank's received loan interest, in Poland, based on banks' financial statements of selected banks

Source: own elaboration based on [Rogalińska 2022]

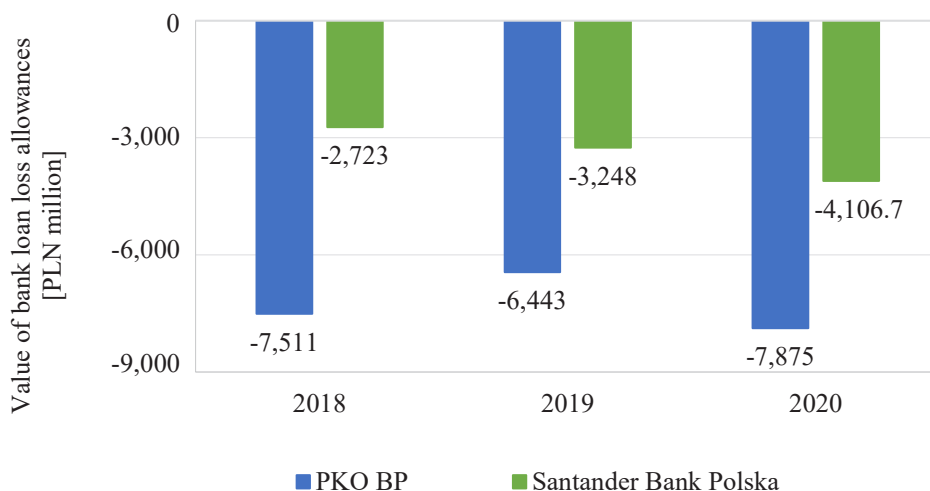


Figure 5. Comparison of the value of allowances for expected credit losses of selected banks

Source: own elaboration based on [Rogalińska 2022]

allowances for expected credit losses. Indirectly, this indicates the real threat of loan defaults by borrowers, the bank's customers. PKO BP Bank increased its write-down by more than 22%, while Santander Bank Polska increased by more than 26%, respectively. Given PKO BP's significant share of the loan market, the write-down, while similar in percentage terms, comparable in value, was almost twice that of Santander Bank Polska. The bank's dilemma thus changed to a prudent decision, although reducing credit risk, but resulting in an annual financial loss.

Posing the question of growth capacity, it is important to note that some institutions in the financial sector have reacted by downsizing. In 2018-2020, banks: PKO BP and Santander Bank Poland have reduced the number of their employees (Figure 6). So, do banks actually anticipate rapid reorganization, digitization and virtualization of services, and ultimately the dominance of artificial intelligence? The answer is difficult to predict: it is not known.

The financial condition of banks during the period of uncertainty (coronavirus pandemic) varied. Some banks maintained positive financial results from previous periods. The PKO BP bank analyzed in the short case study formula showed a financial loss. True, this is also the result of a reduction in loan interest rates (to 2.3% at the end of 2020), high loan loss allowances (PLN -1.9 million), incurred costs of legal risk of

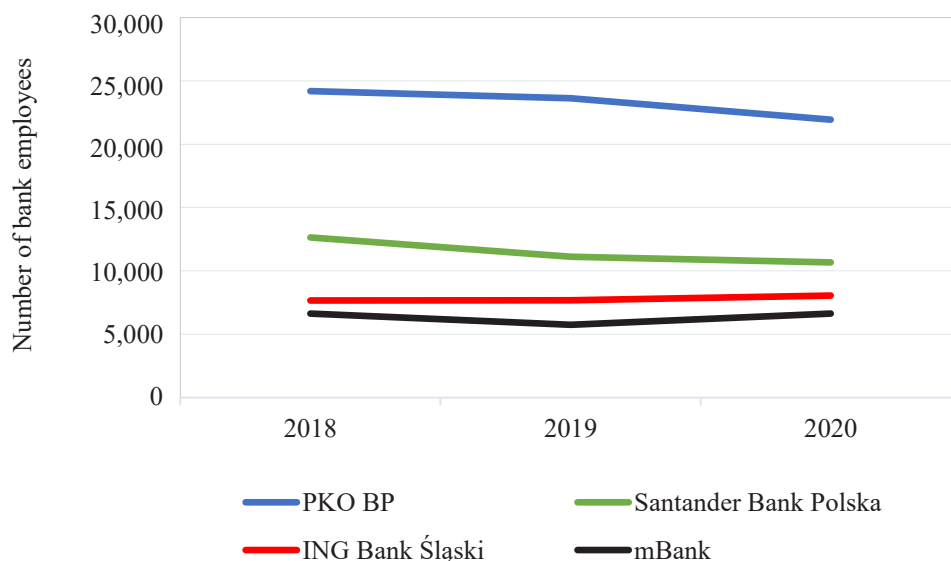


Figure 6. Comparison of the changes in the number of employees of selected banks (2018-2020)

Source: own elaboration based on [Rogalińska 2022]

mortgages in convertible currencies (PLN -6.5 trillion), and high administrative costs (PLN -5.3 million) [Rogalińska 2022]. This outcome was determined primarily by external factors: institutional decisions of the Polish central bank and the government, as the bank maintained a textbook regime in terms of day-to-day management [Cwynar, Patena 2021]. It turned out that the traditional dilemmas of banks, although not finally resolved, may be of marginal importance after the pandemic. A seemingly new, but nonetheless familiar dilemma will remain the question of the bank's future. What kind of entity, then, should a bank be, and should it be at all? Who will decide? Technology, read: artificial intelligence, or customers?

CONCLUSIONS

The study discussed selected aspects of the banking sector's activities in Poland under conditions of economic uncertainty. Identifying the most important dilemmas of Polish banks, the time range of 2018-2020 was taken into account, including the beginning of the pandemic period. The analysis was based on a case study of Poland's leading bank PKO BP. Using this example, it was noted that the year 2020, precisely because of the coronavirus pandemic, somehow forced sectoral changes in the management of the financial enterprise. The hypothesis that the bank's financial performance is affected not only by the decisions of the bank's management, but also by external factors that are difficult to predict, was verified positively. This conclusion is a consequence of the institutional decisions of the Polish central bank and government in response to macro- and microeconomic market turbulence.

True, a financial loss can hinder a bank's growth. However, even in such a situation (pandemic, other symptoms of a crisis), which means having to give up higher revenues, a bank can gain and strengthen the trust of its customers [Szpringer 2021]. This is because it turns out that, especially in conditions of economic uncertainty, it is the trust of customers that becomes the most valuable capital of a bank, determining its further development.

Based on the study results, the following conclusions and recommendations were formulated:

1. The leading dilemmas of the banking sector in Poland during the period of uncertainty were declining financial revenues, reduced credit availability and the need for banks to flexibly change their strategies. Their backdrop was unconventional decisions by the central bank and the government to alleviate the pandemic.
2. Although the threat of credit crunch in Poland to date has been rather incidental, short-lived, this phenomenon should not be underestimated. Credit crunch can have an impact both on limiting the investment capacity of business, as well as become a barrier to the development of the Polish banking system.

3. Also an important dilemma for bank profitability is the impact of loan impairment charges. The share of impaired receivables in Poland is significantly higher than the average in the European Union. These are receivables largely covered by adequate provisions. The pandemic caused a temporary increase in the value of these allowances at banks.
4. The dilemma of the Polish banking sector may turn out to be the “trap” of low structural credit availability. This is indicated by the relatively low (and non-growing) ratio of loans to the non-financial sector to GDP, the weak growth rate of credit receivables and the low flexibility and dynamics of lending. The ratio of non-performing loans is also growing.
5. Moreover, the relatively poor credit availability is accompanied by low profitability of the Polish banking sector. One reason for this is the high fiscal (tax and contribution) burden, particularly the bank tax. However, resolving the main dilemmas of banking requires a change in the state’s institutional strategy towards the banking sector in Poland.

Where conflicts of interest arise, as well as different competitive perspectives, it is worth turning the growing dilemmas of development into factors that promote cooperation. If a bank actually wants to remain a public trust institution, it is worth building cross-sector cooperation networks and supporting coopeition [Chudobiecki et al. 2016, Potkański et al. 2016, Wanat et al. 2018]. This idea, while not an “economic innovation”, seems legitimate even in the face of the threat of total virtualization of banking. It is this post-pandemic dilemma that could prove to be a real challenge for the banking sector. In addition to banks, the following should be institutionally involved in the programming of strategies for the Polish banking sector: government agencies, local governments and business [Klus et al. 2021]. In the conditions of economic uncertainty, which seem to be continuing, “Helicopter money” is no longer enough [Friedman 1969, Kusiak et al. 2020, Prokopowicz et al. 2021, Reis, Tenreiro 2022]. The need, therefore, is to overcome economic egoism and take into account not only the principles of sustainable development, but integral development, taking into account the personal contribution of all participants in the market, which we create together.

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DYLEMATY DZIAŁALNOŚCI BANKÓW W WARUNKACH NIEPEWNOŚCI GOSPODARCZEJ – WYBRANE PRZYKŁADY Z RYNKU POLSKIEGO W OKRESIE PANDEMII

Słowa kluczowe: bankowość, niepewność gospodarcza, kryzys finansowy, pandemia, Polska

ABSTRAKT. Podjęto próbę identyfikacji niektórych dylematów działalności sektora bankowego w Polsce w warunkach niepewności gospodarczej. W zakresie czasowym uwzględniono uwarunkowania pandemii, w tym lata 2018-2020. Podejmując próbę wskazania najważniejszych dylematów biznesowych bankowości, do analizy wybrano studium przypadku banku PKO BP. Na bazie badań własnych stwierdzono, że w 2020 roku z uwagi na pandemię koronawirusa, niejako były wymuszone zmiany sektorowe w zarządzaniu przedsiębiorstwem finansowym. W studium weryfikowano hipotezę, w której założono, że na ogólny wynik finansowy banku mają wpływ nie tylko decyzje zarządu, ale także trudne do przewidzenia czynniki zewnętrzne. Konsekwencją niepewności makroekonomicznej są również decyzje instytucjonalne banku centralnego i rządu. Zauważono, że w wyniku polityki monetarnej Narodowego Banku Polskiego w 2020 roku, analizowany bank PKO BP wykazał, w porównaniu do 2019 roku, stratę finansową (prawie -3,0 mld PLN), w tym: spadek przychodów ogólnych (-9,05%), a także spadek wpływów z tytułu należnych odsetek (-6,90%). Finalnie, na podstawie analizy deskryptywnej czynników ogólnych oraz dyskusji wyników, sformułowano najważniejsze wnioski i rekomendacje.

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