

Condition of banks listed on the Warsaw Stock Exchange during the first 3 months of the pandemic in Poland

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ABSTRACT

The aim of the paper is to assess the condition of commercial banks listed on the Warsaw Stock Exchange after the first three months of the COVID-19 pandemic in Poland. The consolidated results for Q1 and Q2 2020 were used focusing on selected evaluation areas such as: capital adequacy, profitability, liquidity, credit portfolio quality as well as operational efficiency. The authors concluded that as a result of the credit crunch and the retention of previously earned profits, almost every medium (except for mBank SA) and every large bank experienced an increase in capital adequacy ratios. Moreover, the profitability of the banking sector eroded in each group of banks, with the rule that ROE is higher in the group of medium and large banks compared to the small ones. With the exception of Idea Bank SA all banks during the pandemic experienced an improvement in liquidity ratios. There was reported an increase in the cost of risk, with the greatest augmentation in small banks. It is maintained that the larger the bank the lower cost of risk. In almost every institution, the risk is mitigated by an increase in the degree of coverage by provisions for impaired receivables. In small banks there was noticed a deterioration in operational efficiency. In medium and large banks, despite a sharp drop in profits and additional costs associated with the pandemic, the process of efficiency improvement was reinforced.

JEL Classification: G01, G18, G21

Keywords: COVID-19, commercial banks, WSE.

1. INTRODUCTION

The purpose of this research is to assess the condition of commercial banks listed on the Warsaw Stock Exchange after the first three months of the pandemic in Poland. The paper presents an aggregated assessment of the banking sector in Poland and an analysis based on individual results of individual banks. The consolidated results for Q1 and Q2 2020 were used, focusing on selected evaluation areas such as: capital adequacy (TCR, i.e. Total Capital Ratio understood as total Regulatory Capital divided by Risk Weighted Assets <RWA> and Tier 1 (CET1) Ratio, i.e. Common Equity Tier 1 Capital divided by Risk Weighted Assets), profitability (ROE, i.e. Last 12 months Net Profit divided by Total Capital and net profit volatility), liquidity (LCR, i.e. Liquidity Coverage Ratio calculated as High Quality Liquid Assets divided by Net Outflows and Loans/Deposits ratio), credit portfolio quality (cost of risk calculated as increase in provisions divided by the total of non-impaired credit portfolio, share of impaired receivables and coverage ratio of impaired exposures) and operational efficiency (C/I ratio, i.e. bank's operational costs divided by income).

The selected indicators describe all the most important areas of the commercial bank's performance, i. e. solvency, liquidity, profitability, operational efficiency and quality of the credit portfolio, which in turn is crucial for profitability and capital adequacy in case of the analyzed banks. The above indicators are also present in investor presentations and their spectrum satisfies investors' expectations. Selected indicators are made available periodically by all listed banks in Poland as reflecting well the condition of the bank. Banks also make available data resulting from the specifics of each of them, but comparability can only be maintained on the basis of indicators selected for this study. The analyzed indicators can only be used in the assessment of banks and are part of the COREP and FINREP reporting submitted periodically to the Polish Financial Supervision Authority and the National Bank of Poland (so called "prudential reporting"). Fields of assessment corresponding to the indicators selected for this study are also present in one of the most popular synthetic methods of bank appraisal, i. e. the CAMEL method, and are listed in the literature dedicated to bank assessment (e. g. Kozińska and Zaleska, 2018). As already mentioned, these are not all measures of the bank's condition and market position. Other indicators were omitted for the following reasons:

- different way and frequency of estimation in individual banks, which does not make it possible to compare them (e. g. structure of industries in the credit portfolio according to the risk criterion),
- reliance on subjectively selected data and lack of certainty as to the reliability of the survey conducted (e. g. (NPS indicator).

The analysed sample is representative for the commercial banks' sector in Poland, both in terms of the aggregated level of own funds and total assets (in each case more than 85%, with the largest bank not included in the survey accounting for less than 3% of own funds and total assets). Data of the above mentioned commercial banks with low market share are not available. Taking into account the fact that at the end of 2018 the total own funds of cooperative banks in Poland amounted to PLN 12.1 billion (approx. 7% of the total equity of the commercial bank segment), while the assets of PLN 138.4 billion, i. e. approx. 8.2% of the balance sheet total of the commercial banks segment (KZBS, 2020), the sample should be considered as representative for the Polish banking sector. BGK, whose business profile, tasks and legal basis are different and thus incomparable, was not included in the study. Cooperative banks were also excluded due to the dispersion of the sector, its marginal importance compared to the commercial banking sector and the lack of detailed, reliable data in the period considered.

There are two types of rationale for this study. Firstly, banks during a pandemic experience various types of impulses, both positive and negative. The positive ones include the Supervisory

Pulse Package for Security and Development of the Polish Financial Supervision Authority (KNF, 2020), including: reduction of the capital buffer for systemic risk, postponement of MREL requirements, reduction of supervisory intensity, spreading losses over a longer period of time, allowing for periodic non-compliance with liquidity standards and liberalisation of write-down rules.

The EBA's position on forbearance in the context of credit holidays is also beneficial to banks. The support provided by BGK in the form of credit exposure sureties, willingness of the National Bank of Poland to purchase Treasury papers and grant a promissory note loan as well as the reduction of the mandatory reserves rate can also be assessed positively. The negative impulses include: deterioration of the quality of credit portfolios, reduction of interest rates by the National Bank of Poland, reduction of debt collection possibilities and the necessity to offer credit holidays and bear additional operating costs during the pandemic. The second premise is related to the intention to identify regularities with regard to the impact of the pandemic on banks with a specific profile and scale of activity in the assessment areas mentioned above.

To the authors' knowledge, this is the first scientific study containing conclusions on the impact of COVID-19 on selected areas of activity of listed banks in Poland, based on the financial results of the first pandemic period.

2. LITERATURE REVIEW

Within two decades, there have emerged three highly pathogenic and deadly human coronaviruses, SARS-CoV (Severe Acute Respiratory Syndrome), MERS-CoV (Middle East Respiratory Syndrome) and recently recognized COVID-19 (Coronavirus Disease 2019). In particular the effects of the latter have completely changed the perception of the impact of threats resulting from global pandemics on the functioning of modern states and their economies. An increasing number of scientific and other studies are drawing attention to the impact of the pandemic on particular groups of macroeconomic variables, such as the goods and services market (Bagchi *et al.*, 2020; Song and Zhou, 2020; Usman *et al.*, 2020), labour market (Coibion *et al.*, 2020; Fana *et al.*, 2020; Dias *et al.*, 2020), money market (Hutchinson and Mee, 2020; Botta *et al.*, 2020; Sarker, 2020), international trade (Chiach and Zhong, 2020; OECD, 2020; Jean, 2020) and environmental protection (Malliet *et al.*, 2020; Wang and Su, 2020; Espejo *et al.*, 2020). A separate stream of research is dedicated to the banking sector. Hardy (2020) note that there was high uncertainty about how economic activity would be affected and whether banks could amortise potential losses as businesses are closed either temporarily or permanently. However banks have so far proved to be a source of stability, remaining resilient while supporting the economy. Nevertheless, equity valuations remain depressed, credit rating outlooks are largely negative, and pockets of weakness and risk exist. Financial Stability Board (FSB, 2020) indicates that the system entered the crisis more resilient and better placed to sustain financing to the real economy as a result of the G20 regulatory reforms in the aftermath of the 2008 global financial crisis. In particular, greater resilience of major banks at the core of the financial system has allowed the system largely to absorb rather than amplify the macroeconomic shock.

Bitar and Tarazi (2020) examine bank compliance with regulatory capital ratios using a sample of G-SIBs. They also find that these banks are well capitalized in the preCOVID-19 period. However they explain that the COVID-19 economic shock could still possibly lead to a long recession and a severe financial crisis if regulators do not carefully adjust their action depending on short-run developments. According to Cecchetti and Schoenholtz (2020) the most effective mechanism to slow down or stop financial contagion driven by solvency concerns is an extraordinary disclosure mechanism. Stress tests that aim to reveal banks' true condition are the most powerful tool in this context.

Nevertheless, the significant majority of reports emphasise increase in non-performing loans and deterioration of the quality of the loan portfolio, loss of part of the income resulting from the deferral of capital and interest instalments and the need to restructure certain loans and borrowings, reduction of the level of capital ratios will take place in the banks most severely affected by the pandemic, etc. (Wu, Olson, 2020; Godell, 2020). A significant part of the research concerns the selected countries. For instance Barua and Barua (2020) suggest that all banks are likely to see a fall in risk-weighted asset values, capital adequacy ratio and interest income at the individual bank and sectoral levels in Bangladesh. However estimates show that large banks are relatively more vulnerable. Their findings also indicate that a 10% NPL shock could force capital adequacy of all analysed banks to go below the minimum BASEL-III requirement, while a 13% or more shock could turn it to zero or negative at the sectoral level. Shahabi *et al.* (2020) concluded that banking transactions and financial resources would enlarge by implementing the package policy of reducing the number of branches and growing IT budget. Singh and Bodla (2020) represent the opinion that liquidity conditions of smaller private banks in India could force them to reduce lending. They add that the coronavirus crisis left some banks struggling for deposits as funds migrate to the perceived safety of state-owned lenders. Another issue is noted by Flögel and Gärtner (2020). They analyse the performance of regional banks. Examination of the global financial and economic crisis of 2008/09 reveals that especially regional saving and cooperative banks increased lending in this crisis and cushioned the economic shock in Germany. They conclude that the higher amount of bank capital and the (presumed) superior information on clients arising from tight relationship banking enhances the stability and lending ability of regional banks. On the other hand, in contrast to 2008/09, saving and cooperative banks are exposed to similar or even larger risks in the virus crisis than the supraregional banks, especially considering that the clients of regional banks, for example, small and local-demand-oriented firms, are likely to experience instant shortfalls in earnings. Korzeb and Niedziółka (2020a) analysed Polish banking sector. They find that that the largest banks conducting their operations in Poland are the most resistant ones to the consequences of the pandemic. They added that the short-term effects of the pandemic crisis will affect the functioning of the banking sector by jump of the value of non-performing loans and write-offs. The need to apply radical measures to mitigate the effects of the crisis on the most affected borrowers through debt restructuring will entail the loss of part of the planned revenues.

3. INITIATIVES TO SUPPORT BORROWERS AND THEIR IMPACT ON BANKS' PERFORMANCE

The most important initiative supporting borrowers during the pandemic were credit moratoria. Even before the entry into force of government programmes called Anti-Crisis Shields, thanks to the coordination of the Association of Polish Banks (ZBP), the 15 largest commercial banks defined the framework of moratoria (ZBP, 2020):

- simplifying and deformatizing the procedure for filing applications for deferment of payments,
- agreeing on a 3-month loan holiday period and extending the loan period by a time corresponding to the deferral of payments,
- extending support to leasing and factoring products (in relation to leasing and factoring companies owned by banks),
- no commission payment for annexing contracts.

The above conditions were only a certain minimum which the banks undertook to apply. In practice, some banks allowed up to 6 months of additional grace, while postponing the maturity of exposures by such a period. Credit moratoria were then placed in the Anti-Crisis Shields 1.0 and 2.0, and in the Anti-Crisis Shield 4.0 there was a provision on the possibility of suspending

the service of a loan agreement for 3 months, which made it possible to extend the previously implemented credit holidays for another 3 months. A similar effect was the automatic prolongation of short-term loans for SMEs, overdrafts and credit cards, as well as a simplified exposure renewal process dedicated to large companies.

Credit moratoria and the extension of repayment dates of loans maturing during the pandemic did not have a significant impact on banks' liquidity, which should be associated, on the one hand, with a slowdown in lending and, on the other, with an increase in the deposit base. In the context of the impact of credit holidays on the condition of banks, a question arises as to how such exposures are classified. In particular, the question concerns the necessity of including them in the forbearance portfolio or even changing the basket (stage). The division of forborne and non-forborne exposures does not coincide with the classification allowing for the separation of impaired and not impaired loans (Korzeb, Niedziółka, 2020b). Nevertheless, banks are required to present in their reports the impact of forbearance on asset impairment (ESMA, 2013). In 2013 EBA conducted a consultation on the identification and recognition of forbearance in banking books. They resulted in the definition of forbearance contained in the amendment of Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012. According to this definition, forbearance is a modification of a loan agreement or its refinancing due to the financial difficulties of the debtor (Niedziółka, 2015). On 2 April 2020, EBA (EBA, 2020 and Gałązka 2020) published guidelines which, when applied to private and public moratoria, will enable banks to avoid having to classify rescheduled exposures as forbearance. These conditions are as follows:

- indication that the moratorium is dictated solely by the need to counteract the effects of SARS-CoV-2 and therefore the date of entry into force of the regulation was set for no later than 30.09.2020,
- credit holidays are addressed to a wide group of debtors affected by the effects of the pandemic, whose economic and financial situation before the outbreak of COVID-19 was satisfactory and during the pandemic these entities face short-term, temporary liquidity problems,
- the legal source of moratoria is national law, private or sectoral initiative,
- the support is to be limited to the temporary suspension or reduction of payment instalments.

Moratoria announced in Poland meet these requirements, hence credit holidays should not contribute to the reclassification of receivables. However, reclassification may occur for other reasons, as long as they are not directly related to the impact of COVID-19.

4. ADDITIONAL COSTS INCURRED BY BANKS DURING THE PANDEMIC

During the pandemic the process of digitisation of banking services accelerated, which was associated with a periodic increase in expenditure. These outlays concerned their IT implementation, ensuring security for users, as well as marketing. At the same time it should be added that in the long run the expenditure incurred will bring benefits in the form of reduced staff costs and costs related to the maintenance of branches. The adopted solutions are also attractive from the customers' point of view since they save their time. The following innovations can be mentioned in this context:

- the possibility of setting up an account without the need to visit the branch or meet with a courier (e.g. mBank SA, Bank Millennium SA, ING BSK SA, PKO BP SA, Bank Pekao SA),
- remote application process for mortgage loans with the possibility of tracking its stages (e. g. Bank Millennium SA, mBank SA),
- making electronic documents available for signature in the electronic banking systems (e. g. Bank Millennium SA, Bank Pekao SA).

Another group of expenses that banks incurred are the costs of adapting to remote work in the form of purchasing laptops for employees, updating software to new operating conditions and purchasing software licenses enabling remote communication. Again, in the long term a return on these expenses can be expected by promoting remote working and reducing the need for office space. Finally, a new cost item is the expenditure related to adapting bank outlets to sanitary requirements and ensuring business continuity. In addition to the quantifiable costs there are also potentially negative effects of increased absenteeism (including key personnel) resulting from COVID-19 or the need to care for children while educational premises remain closed (Kulińska-Sadłocha, Marcinkowska & Szambelańczyk, 2020, p. 41).

During the pandemic, the costs of adjusting to the new situation of some banks in the pandemic coincided with an increase in provisions for legal risk resulting from pending court proceedings related to foreign currency denominated mortgage loans and provisions for reimbursement of fees on cash loans.

5. INDIVIDUAL ANALYSIS OF STOCK EXCHANGE BANKS' RESULTS AFTER THE FIRST HALF OF 2020

Twelve commercial banks listed on the Warsaw Stock Exchange were analysed. All the institutions mentioned above are universal banks, however, deposit and loan banking is definitely dominant in their scope of activity. The audited banks are responsible for 82.2% of own funds and 83.7% of the total assets of the commercial banking sector in Poland. The above mentioned estimation does not include Bank Gospodarstwa Krajowego (BGK) which due to different legal basis of operation and other business objectives is not classified as a commercial bank. The consolidated results of these banks and the following evaluation areas were taken into account:

- capital adequacy,
- liquidity,
- profitability,
- loan portfolio quality,
- cost effectiveness.

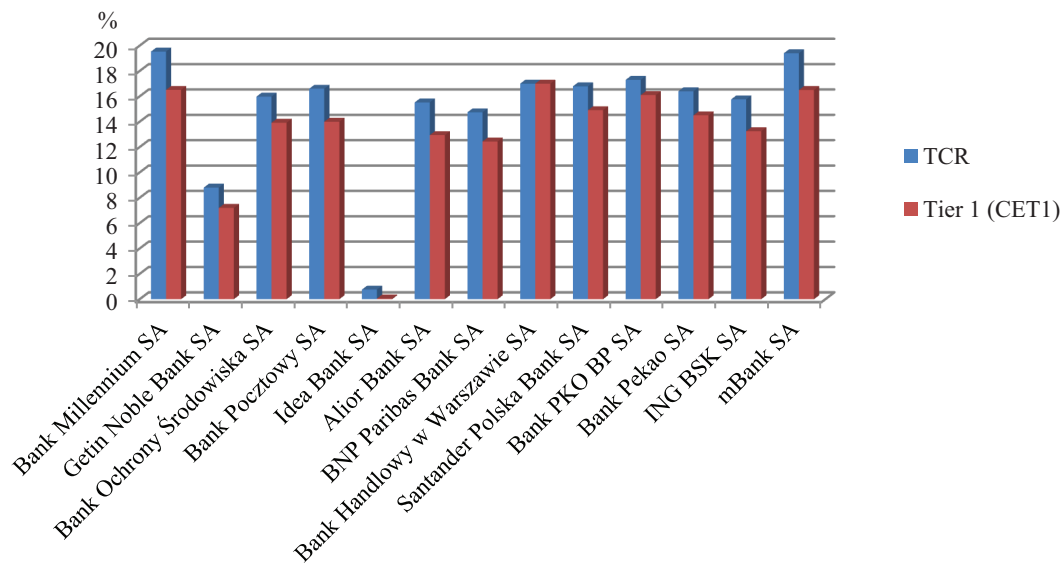
At the same time, the second quarter of 2020 was considered to be the first period of the pandemic, which would change banks' performance. As of the date of this study, results for IIIq. 2020 was not yet available. IIq.2020 is according to the authors, crucial as this is the first period when banks are affected by impulses in the form of a steep reduction of interest rates and deterioration of credit portfolios.

5.1. Capital adequacy

The analysis of banks' capital adequacy was based on TCR and Tier1 (CET1) ratios. Apart from Getin Noble Bank SA and Idea Bank SA, all banks listed on the Warsaw Stock Exchange met the capital requirements, both as of 31.03.2020 and 30.06.2020.

Chart 1

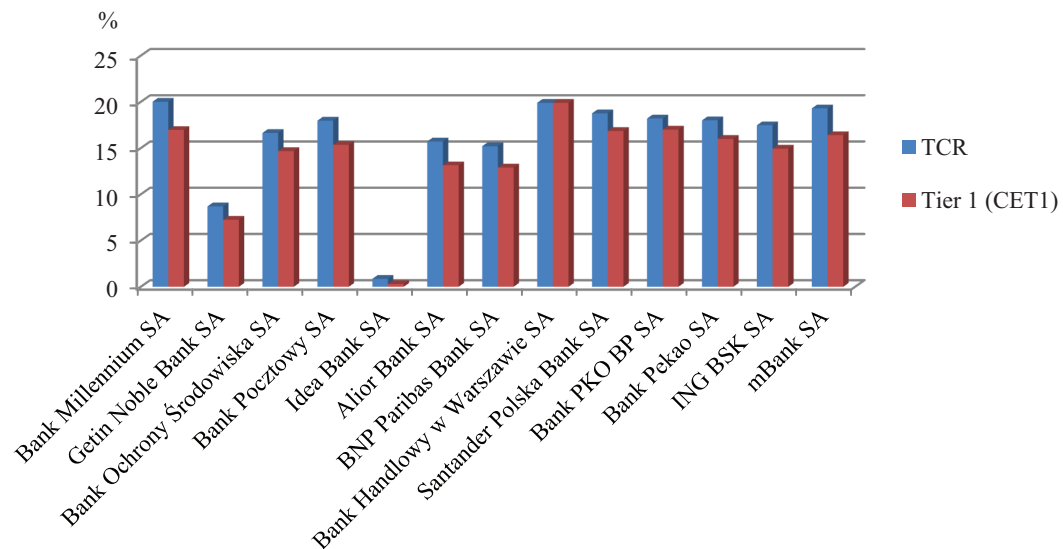
Capital adequacy ratios of banks listed on the Warsaw Stock Exchange as of 31. 03.2020 (in % of RWA)



Source: Own elaboration based on quarterly reports of banks.

Chart 2

Capital adequacy ratios of banks listed on the Warsaw Stock Exchange as of 30.06.2020 (in % of RWA)

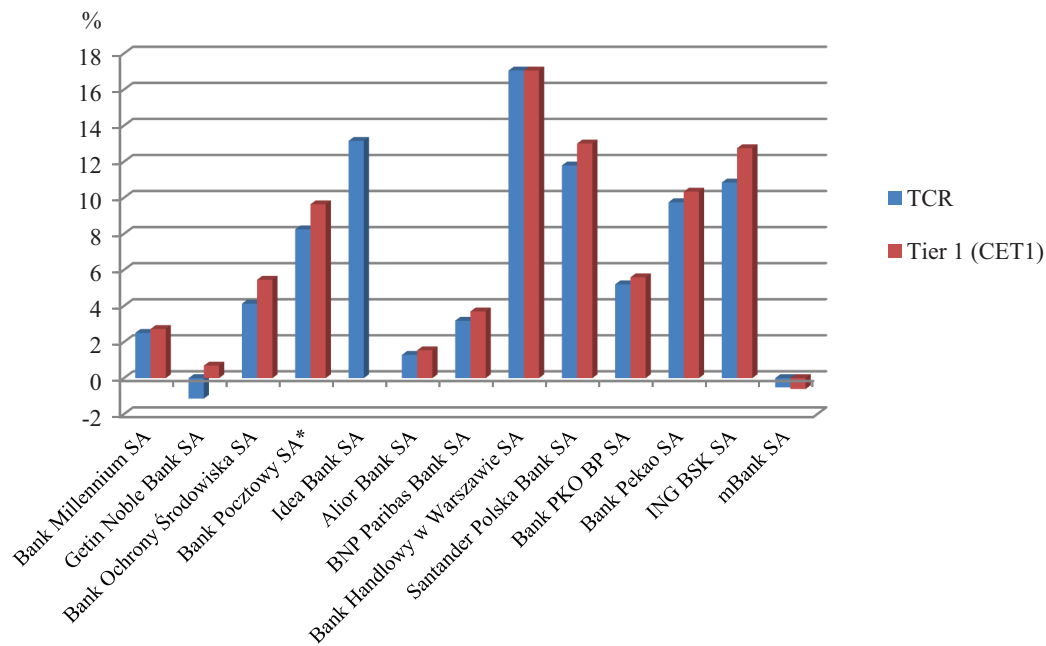


Source: Own elaboration based on quarterly reports of banks.

For the vast majority of banks the pandemic period brought improvements in capital adequacy ratios. The exceptions are mBank SA and Getin Noble Bank SA (in terms of TCR). In order not to limit the possibility of comparing the changes Chart 3 does not present a 4-fold increase in Tier 1 capital for Idea Bank SA. This increase is part of the restructuring process of the bank and relates to a very low base, so it is difficult to compare it with changes in other institutions.

Chart 3

Change in capital adequacy ratios (in % between 31.03.2020 and 30.06.2020)



Source: Own elaboration based on quarterly reports of banks.

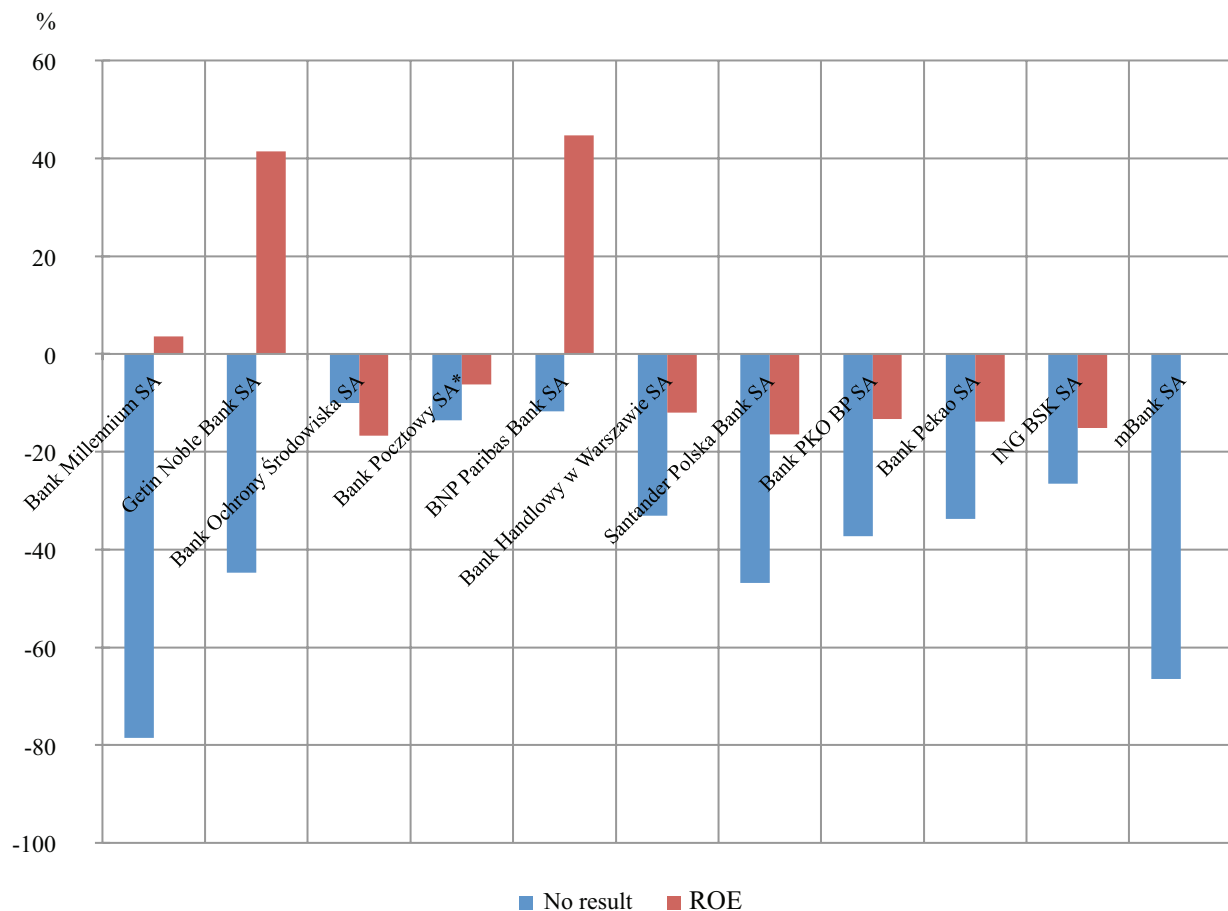
Apart from the aforementioned Idea Bank SA and Bank Handlowy w Warszawie SA, the largest increases in capital adequacy ratios concerned relatively large banks. Strengthening of capital ratios with no processes augmenting banks' own funds through the issue of shares takes place both by leaving the net profit generated and by slowing down the lending activity. It should be noted that meeting KNF's expectation, commercial banks did not pay dividends in 2020, thus strengthening their equity.

5.2. Profitability

The volatility of banks' profitability was examined by comparing the result achieved in the first half of 2020 to the result achieved in the corresponding period of 2019 and by change of the ROE ratio during the second quarter of 2020.

Chart 4

Change in profitability of banks listed on the Warsaw Stock Exchange during the COVID-19 pandemic (in % between 31.03.2020 and 30.06.2020)



Source: Own elaboration based on quarterly reports of banks.

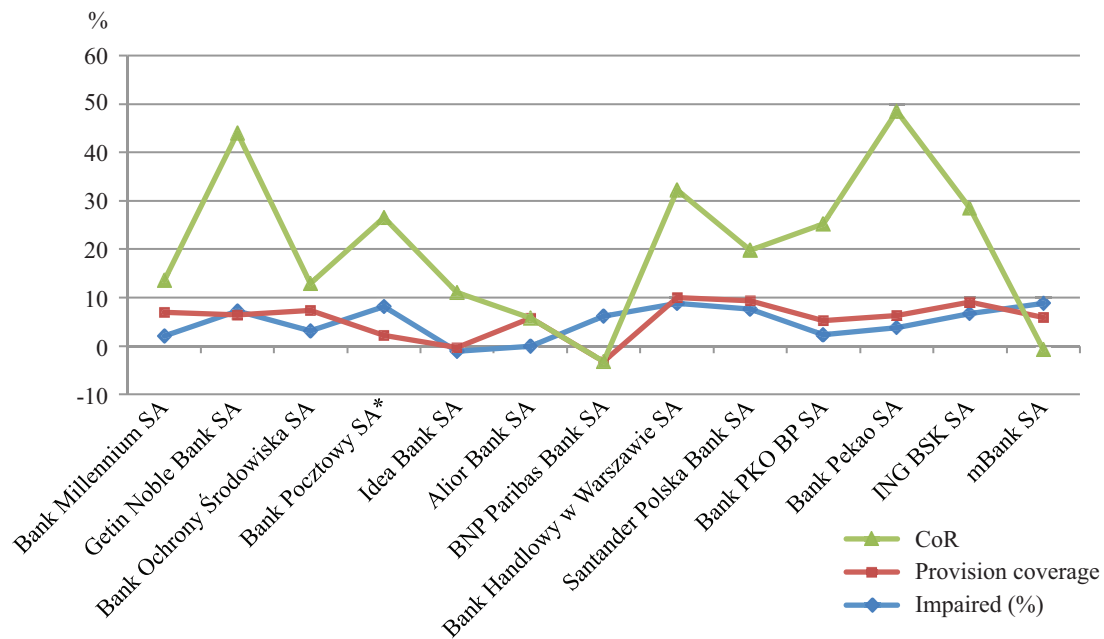
In order to improve its readability and comparability of results, no extreme values are shown in Chart 4., i.e. data of Idea Bank SA (increase in net profit by 103%, but from a very low base and ROE calculated for the last 12 months back, amounting to minus 252%) and Alior Bank SA (over 4 times lower net profit and ROE at minus 285%). The trend of a steady decline in the rate of return on capital was not halted during the period under review. Only in the case of three medium-sized banks ROE increased (Bank Millennium SA, BNP Paribas Bank SA and Getin Noble Bank SA). On the other hand, all banks, except for the restructured Idea Bank SA, recorded a significant decrease in net profit. This should be combined primarily with the National Bank of Poland decision to lower interest rates, but also with a deterioration in the quality of credit portfolios, a slowdown in lending and the cost of adjusting institutions to operate in times of pandemic.

5.3. Quality of credit portfolios

The quality of credit portfolios was tested using three measures, i. e. the share of Basket (Stage) 3 exposures together with POCI in the gross value of the credit portfolio, the extent to which the exposures are covered by provisions and the cost of credit risk, understood as the quotient of write-offs in a given period to the sum of working loans. As regards the last measure of credit portfolio quality, it should be mentioned that in some banks write-downs are confronted with the gross portfolio value, which however, given relatively good quality of credit portfolios, does not result in a significant change in the cost of risk.

Chart 5

Change in the quality of credit portfolios of banks listed on the Warsaw Stock Exchange in Q2 2020 (in %)

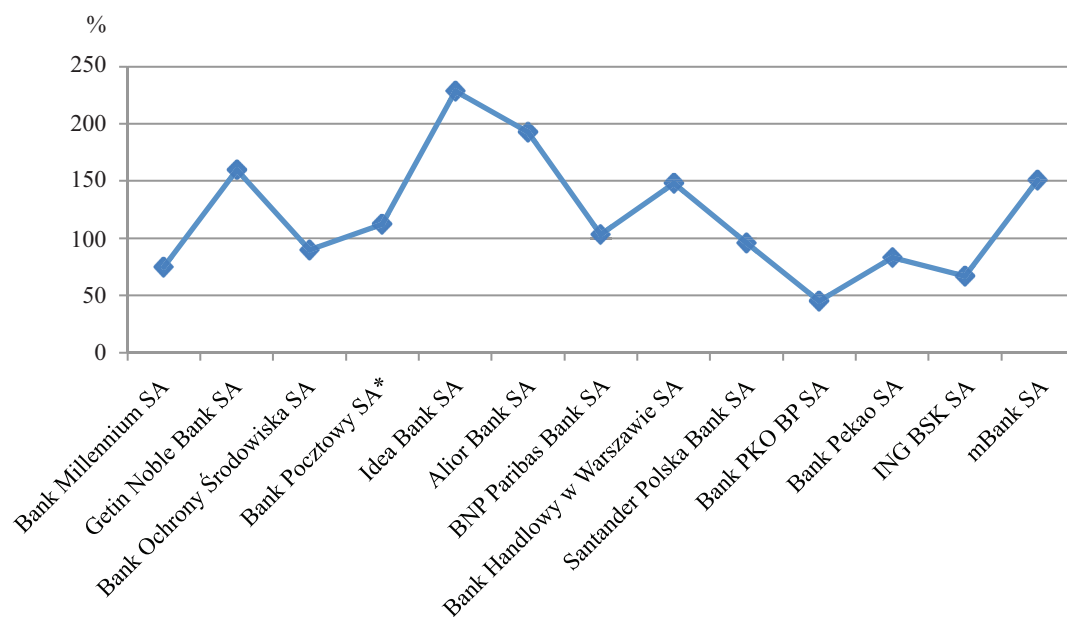


Source: Own elaboration based on quarterly reports of banks.

The extreme value, which in this case was more than 2 times the increase in the cost of risk observed in Alior Bank SA, is not presented in Chart 5 for the same reasons as in Chart 3. It resulted primarily from the high susceptibility of the bank's net interest income to interest rate changes and its balance sheet exposed to risk. Apart from BNP Paribas SA and mBank SA, all banks listed on the Warsaw Stock Exchange recorded an increase in the cost of risk, with this increase being the largest in relation to large banks with a relatively low cost of risk so far, which can be synthetically described as a low base. This issue is illustrated in Chart 6:

Chart 6

Cost of risk in banks listed on the Warsaw Stock Exchange as of 31.03.2020 (in basis points)



Source: Own elaboration based on quarterly reports of banks.

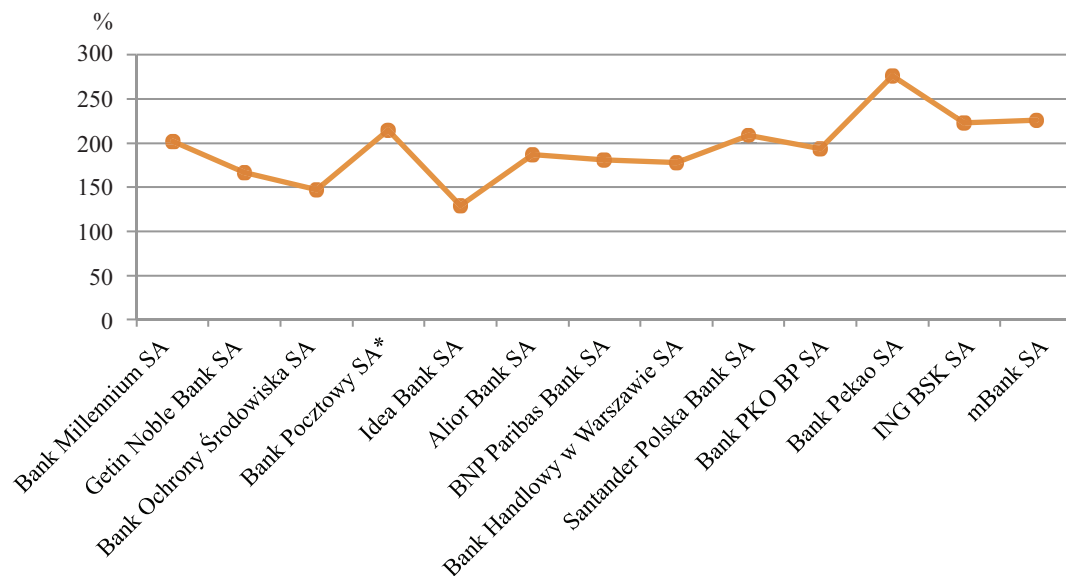
At the same time it should be added that this research took into account the cost of risk including additional write-downs for credit losses resulting from the pandemic. Subtraction of this component would significantly flatten the graph illustrating the dynamics of change. The cost of bank risk is the weighted average cost of retail and corporate banking risk. However, in this case, significant dependencies, lasting relationships or trends cannot be confirmed. Despite an increase in the cost of risk and the share of impaired exposures in banks' portfolios only in two cases there was reported decrease in the coverage of provisions, which should be assessed as a positive phenomenon.

5.4. Liquidity

Liquidity was verified using two measures: LCR (Liquidity Coverage Ratio) and the relationship between loans and deposits from customers. All the banks analysed complied with the supervisory requirements for maintaining the LCR above 100%, and as a result of the pandemic this situation has not changed.

Chart 7

LCR as of 30.06.2020 (in %)



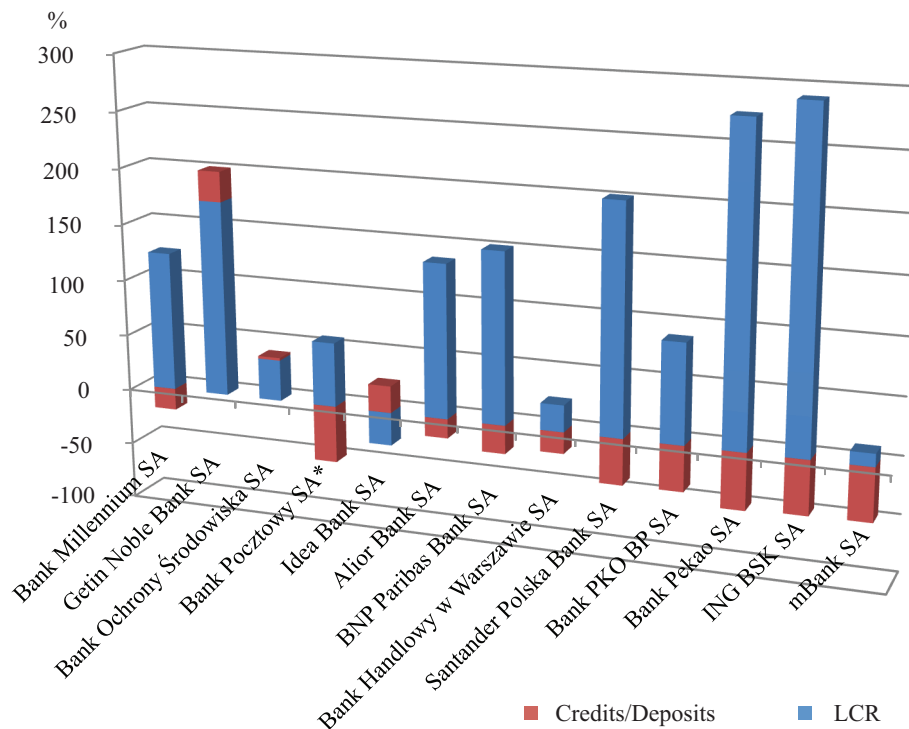
Source: Own elaboration based on quarterly reports of banks.

LCR ratios reported well above the requirement in March 2020 further improved in Q2 2020. The relationship between credits and deposits was diminished.

The decrease in the Loans/Deposits ratio, similarly to the increase in LCR, shows an improvement in banks' liquidity, which, in an environment of increasingly lower interest rates determining the amount of deposits, is evidence of a decrease in the pace of lending and the maintenance of a larger part of assets in liquid form. In most cases the data shown in Chart 8 confirm this trade-off.

Chart 8

Dynamics of liquidity ratios of banks listed on the Warsaw Stock Exchange in the Q2 2020 (in %)



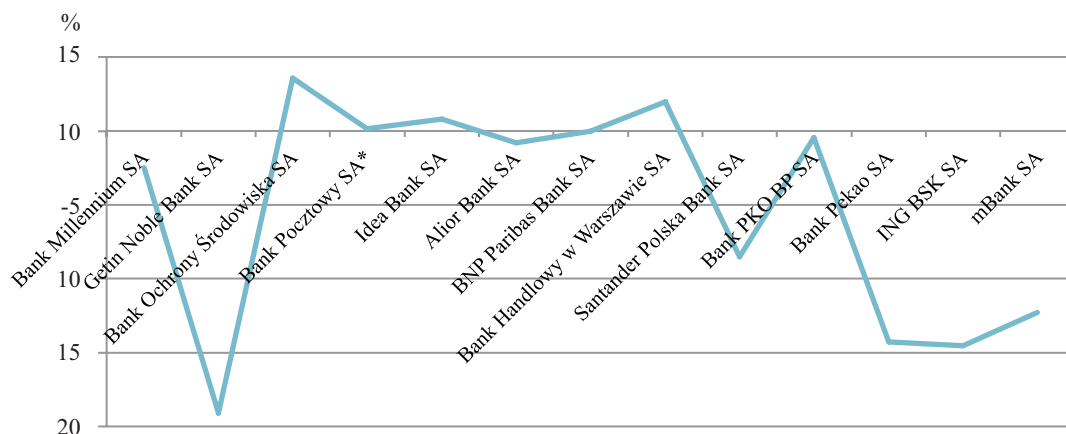
Source: Own elaboration based on quarterly reports of banks.

5.5. Cost efficiency of the operational activity

Despite the pandemic and the related drop in banks' profitability, the trend of systematic reduction of the C/I ratio, which is a measure of a bank's operational efficiency, has not been halted for most banks. This is reflected in the dynamics of C/I ratio in the period from March to June 2020. C/I values estimated based on the last 12 months (LTM) were taken into account. At the same time, it should be noted that the C/I values presented by the banks are not in every case of a standardised nature, i.e. adjusted for the contribution to the forced restructuring fund. This causes some limitation of their comparability.

Chart 9

Dynamics of C/I ratio of banks listed on the Warsaw Stock Exchange in the period from 31.03.2020 to 30.06.2020 (in %)



Source: Own elaboration based on quarterly reports of banks.

4.6. Classification of banks by business scale

Based on the total assets and own funds the analysed banks can be divided into 3 clusters: small banks (own funds and total not exceeding thirty-third percentile), medium banks (sixty-seventh percentile) and large banks (tenth decile).

Table 1

Breakdown of banks listed on the Warsaw Stock Exchange by scale of operations

Small banks	Medium banks	Large banks
Idea Bank SA	mBank SA	Bank PKO BP SA
Getin Noble Bank SA	BNP Paribas Bank Polska SA	Bank Pekao SA
Bank Ochrony Środowiska SA	Bank Millennium SA	ING BSK SA
Bank Pocztowy SA	Alior Bank SA	Santander Bank Polska SA
	Bank Handlowy w Warszawie SA	

Source: Own elaboration.

Conclusions on the basis of individual assessment of banks and assigning them to individual clusters are presented in Table 2:

Table 2

Influence of the pandemic on banks listed on the Warsaw Stock Exchange

		Small banks	Medium banks	Large banks
Capital adequacy	Before the pandemic	Except for Idea Bank SA and Getin Noble Bank SA all banks meet the requirements.	They meet the supervision requirements. No correlation between the size of the bank and the levels of the indicators.	
	Change during the pandemic	Improvement (except for Getin Noble Bank SA as regards TCR)	Improvement (except for mBank SA as regards TCR and Tier 1(CET1))	Improvement
Profitability	Before the pandemic	Basically lower than in case of medium-sized banks.	Basically lower than for large banks and higher than in case of small ones, except for: Bank Millennium SA (higher than for large ones) and Alior Bank SA and mBank SA (lower than for small banks)	Higher than in case of medium-sized banks average except for Pekao SA (lower).
	Change during the pandemic	No dependence		
Quality of credit portfolios	Before the pandemic	Basically, the bigger the bank, the lower the cost of risk		
	Change during the pandemic	The most unfavourable change	Lack of dependence on size – basically deterioration of the quality of portfolios	

		Small banks	Medium banks	Large banks
Liquidity	Before the pandemic	All banks meet LCR requirement.		
	Change during the pandemic	With the exception of Idea Bank SA, the improvement of ratios is relatively greater in the case of medium and large banks		
Operational effectiveness	Before the pandemic	No dependence		
	Change during the pandemic	Basically a deterioration in the ratio (except for Getin Noble Bank SA)	Improvement of efficiency	

Source: Own elaboration.

CONCLUSIONS

The ability of banks to continue lending and liquidity support to customers during a pandemic is one of the most important determinants of economic growth. This capacity is determined by capital adequacy, liquidity and profitability. In turn, capital adequacy is indirectly a function of profitability, and this in turn is determined by quality of the credit portfolio and operational efficiency. For these reasons, the results of the study are vital. It is also the first attempt to look at the change in the condition of the dominant part of the banking sector in Poland in the first phase of the pandemic and a kind of forecast for subsequent periods. The first 3 months of the pandemic brought significant changes to the banks. Remote work was popularised, contacts with customers using electronic channels were intensified and procedures were adapted to conclude contracts without the need for physical contact with a bank employee. Significant expenditure was also incurred on the digitisation of processes, improvement of the safety of Internet operations and fulfilment of sanitary requirements in bank premises. Taking into account the above, it can be considered that in the operational sense, the banks passed their “pandemic exam”. The question remains however about the impact of the pandemic on bank performance. The study carried out in this article allows the following conclusions to be drawn in this area:

- apart from banks that already faced regulatory compliance problems before the COVID-19 pandemic all other institutions maintain risk-appropriate capital in terms of size and structure. As a result of the credit crunch and the retention of previously earned profits, in almost every medium (except for mBank SA) and large bank there was noticed an increase in capital adequacy ratios,
- the profitability of the banking sector eroded in every group of banks, but generally the relationship is maintained, according to which the ROE profitability (taking into account banks meeting the capital requirements) is higher in the group of medium and large banks in relation to the group of small banks. ROEs in listed banks are at a record low level, which, even in a low interest rate environment, significantly limits the banks' ability to raise capital or change their ownership,
- all verified banks meet the LCR standard. With the exception of Idea Bank SA, in all banks during the pandemic there was an improvement in indicators, relatively higher in the case of medium and large banks,
- there was an increase in the cost of risk, with the largest one taking place in case of small banks. It is maintained that, in principle, the larger the bank, the lower the cost of risk (there are a few exceptions to this). The quality of the portfolio deteriorated in all the banks surveyed, but can still be assessed as high. Additionally, in almost every institution, the risk is mitigated by an increase in the degree of coverage by provisions for impaired receivables,

- small banks experienced a deterioration in operational efficiency as measured by the C/I ratio. In medium and large banks, despite a sharp drop in profits and additional (previously unplanned) costs associated with the pandemic further efficiency improvement took place. The reduction of C/I ratios was greatest in large banks, which even before the pandemic had the highest level of operational efficiency.

These drawings are based on data from the first pandemic period and certainly need to be updated with the availability of subsequent bank figures and changes in the intensity and nature of the spread of COVID-19.

References

- Bagchi B., Chatterjee S., Ghosh R., Dandapat D. (2020) *Impact of COVID-19 on Global Economy*. In: Coronavirus Outbreak and the Great Lockdown. SpringerBriefs in Economics. Springer, Singapore, Retrieved 06.10.2020 from <http://10.1007/978-981-15-7782-6>
- Barua, B., Barua, S. (2020). COVID-19 implications for banks: The case of an emerging economy with a weak finance system. *Available at SSRN*. Retrieved 06.10.2020 from <http://dx.doi.org/10.2139/ssrn.3646961>.
- Bitar, M., Tarazi, A. (2020). A note on regulatory responses to COVID-19 pandemic: Balancing banks' solvency and contribution to recovery. *Available at SSRN*. Retrieved 06.10.2020 from <http://dx.doi.org/10.2139/ssrn.3631131>.
- Botta, A., Caverzasi, E., Russo, A. (2020). Fighting the COVID-19 Crisis: Debt Monetisation and EU Recovery Bonds. *Intereconomics*, No. 55, pp. 239–244, DOI: <https://doi.org/10.1007/s10272-020-0907-z>.
- Cecchetti, S.G., Schoenholtz, K.L. (2020). Contagion: Bank runs and COVID-19. In Baldwin, R., di Mauro, B.W. (eds), *Economics in the Time of COVID-19*, pp. 77–80, London: CEPR Press.
- Chiach, M., Zhong, A. (2020). Trading from home: The impact of COVID-19 on trading volume around the world. *Finance Research Letters*, <https://doi.org/10.1016/j.frl.2020.101784>.
- Coibion, O., Gorodnichenko, Y., Weber, M. (2020). Labor markets during the covid-19 crisis: A preliminary view. *NBER Working Papers*, No. 27017. DOI: <http://10.3386/w27017>.
- Dias, M.C., Joyce, R., Postel-Vinay, F., Xu, X. (2020). The Challenges for Labour Market Policy during the COVID-19 Pandemic. *Fiscal Studies*, No. 41(2), DOI: <https://doi.org/10.1111/1475-5890.12233>.
- EBA – European Banking Authority (2013). EBA publishes final draft technical standards on NPLs and Forbearance reporting requirements, *EBA*. Retrieved 06.10.2020 from <https://eba.europa.eu/eba-publishes-final-draft-technical-standards-on-npls-and-forbearance-reporting-requirements>.
- ESMA – European Securities and Markets Authority (2020). Publiczne stanowisko ESMA w sprawie podejścia dotyczącego forbearance w sprawozdaniach finansowych instytucji finansowych, sporządzonych zgodnie z MSSF (ESMA/2012/853). Retrieved 06.10.2020 from https://www.knf.gov.pl/knf/pl/komponenty/img/2012-853_Forbearance_statement_57465.pdf.
- Espejo, W., Celis, J.E., Chiang, G., Bahamonde, P. (2020). Environment and COVID-19: Pollutants, impacts, dissemination, management and recommendations for facing future epidemic threats. *Science of The Total Environment*, Vol. 747, 141314, <https://doi.org/10.1016/j.scitotenv.2020.141314>.
- Fana, M., Torrejón Pérez, S., Fernández-Macias, E. (2020). Employment impact of Covid-19 crisis: from short term effects to long terms prospects. *Journal of Industrial and Business Economics*, 47, pp. 391–410, DOI: <https://10.1007/s40812-020-00168-5>.
- Flögel, F., Gärtner, S. (2020). *Revisiting 'City Branding' . Special issue: The Geography of the COVID-19 Pandemic*, No. 11(3), pp. 416–433, DOI: <https://doi.org/10.1111/tesg.12440>.
- FSB – Financial Stability Board (2020). COVID-19 Pandemic: Financial Stability Implications and Policy Measures Taken. Report submitted to the G20 Finance Ministers and Governors. Retrieved 06.10.2020 from <https://www.fsb.org/wp-content/uploads/P150720-2.pdf>.
- Gałązka P. (2020), *Koronawirus: Wytyczne EBA w sprawie moratoriów kredytowych*, Związek Banków Polskich. Retrieved 13.08.2020 from <https://alebank.pl/koronawirus-wytyczne-eba-w-sprawie-moratoriow-kredytowych/>.
- Goodell, J. (2020). COVID-19 and finance: Agendas for future research. *Finance Research Letters*, 35, 101512, DOI: <https://doi.org/10.1016/j.frl.2020.101512>.
- Hardy, B. (2020). Banks through Covid-19, *BIS Quarterly Review*, September 2020. Retrieved 08.10.2020 from https://www.bis.org/publ/qtrpdf/r_qt2009w.htm.
- Hutchinson, J., Mee, S. (2020). The impact of the ECB's monetary policy measures taken in response to the COVID-19 crisis. *ECB Economic Bulletin*, No. 5/2020, Retrieved 06.10.2020 from https://www.ecb.europa.eu/pub/economic-bulletin/focus/2020/html/ecb.ebbox202005_03~12b5ff68bf.en.html.
- Jean, S. (2020). How the COVID-19 Pandemic Is Reshaping the Trade Landscape and What to Do About It. *Intereconomics*, No. 55(3), pp. 135–139, DOI: <https://doi.org/10.1007/s10272-020-0890-4>.

- KNF – Komisja Nadzoru Finansowego (2020). Pakiet Impulsów Nadzorczych na rzecz Bezpieczeństwa i Rozwoju. Retrieved 06.10.2020 from https://www.knf.gov.pl/knf/pl/komponenty/img/Pakiet_Impulsow_Nadzorczych_na_rzecz_Bezpieczenstwa_i_Rozwoju_69277.pdf
- Korzeb, Z., Niedziółka, P. (2020a). Resistance of commercial banks to the crisis caused by the COVID-19 pandemic: the case of Poland, *Equilibrium. Quarterly Journal of Economics and Economic Policy*, No. 15(2), pp. 205–234, DOI: <https://doi.org/10.24136/eq.2020.010>.
- Korzeb Z., Niedziółka P. (2020b). Credit payment deferrals for companies in the context of SARS-CoV-2 consequences and forbearance, “Review of Law, Business & Economics”, The John Paul II Catholic University of Lublin (forthcoming).
- Kozińska, M., Zaleska, M. (2018). Sprawozdawczość bankowa i ocena kondycji finansowej banku. In: Zaleska, M. (ed.), *Świat bankowości*, Warszawa, Difin.
- Kulińska-Sadłocha, E., Marcinkowska, M., Szambelańczyk, J. (2020). The impact of pandemic risk on the activity of banks based on the Polish banking sector in the face of COVID-19, *Bezpieczny Bank*, No. 2(79), pp. 31–59, DOI: <https://0.26354/bb.3.2.79.2020>.
- KZBS – Krajowy Związek Banków Spółdzielczych (2020). Dane finansowe sektora banków spółdzielczych w Polsce. Krajowy Związek Banków Spółdzielczych, Available online: <https://www.kzbs.pl/Dane.html>. Accessed 30 March 2020.
- Malliet, P., Reynès, F., Landa, G., Hamdi-Cherif, M., Saussay, A. (2020). Assessing Short-Term and Long-Term Economic and Environmental Effects of the COVID-19 Crisis in France, *Environmental and Resource Economics*, No. 76, pp. 867–883, DOI: <https://doi.org/10.1007/s10640-020-00488-z>.
- Niedziółka, P. (2015). Kowenanty finansowe jako narzędzia zarządzania i ograniczania ryzyka kredytowego. In: Wiatr, M.S. (ed.), *Bankowość korporacyjna*, Wydanie II zmienione i rozszerzone, Warszawa: Difin.
- OECD (2020). COVID-19 and international trade: Issues and actions. *Organisation for Economic Co-operation and Development*. Retrieved 06.10.2020 from <http://www.oecd.org/coronavirus/policy-responses/covid-19-and-international-trade-issues-and-actions-494da2fa/>
- Sarker, P.K. (2020). Covid crisis: Fiscal, monetary and macro-financial policy responses. *Theoretical & Applied Economics*, No. 27(3), pp. 41–54. Retrieved 06.10.2020 from <http://www.ectap.ro/covid-crisis-fiscal-monetaryand-macro-financial-policy-responses-provash-kumer-sarker/a1472/>.
- Shahabi, V., Azar, A., Razi, F.F., Shams, M.F.F. (2020). Simulation of the effect of COVID-19 outbreak on the development of branchless banking in Iran: case study of Resalat Qard-al-Hasan Bank, *Review of Behavioral Finance*, DOI: <https://doi.org/10.1108/RBF-06-2020-0123>.
- Singh, J., Bodla, B.S. (2020). Covid-19 pandemic and lockdown impact on india’s banking sector: A systemic literature review, In: Singh, R.P., Singh, A., Kumar, R. (eds.), *COVID-19 Pandemic: A Global Challenge*, pp. 21–32, New Delhi: Aryan Publications.
- Song, L., Zhou, Y. (2020). The COVID-19 Pandemic and Its Impact on the Global Economy: What Does It Take to Turn Crisis into Opportunity? *China & World Economy*, No. 28(4), pp. 1–25, DOI: <https://doi.org/10.1111/cwe.12349>.
- Usman, M., Ali, Y., Riaz, A., Riaz, A., Zubair, A. (2020). Economic perspective of coronavirus (COVID-19). *Journal of Public Affairs*, DOI: <https://10.1002/pa.2252>.
- Wang, Q., Su, M. (2020). A preliminary assessment of the impact of COVID-19 on environment – A case study of China. *Science of The Total Environment*, Vol. 728, 138915, DOI: <https://doi.org/10.1016/j.scitotenv.2020.138915>.
- Wu D.D., Olson D.L. (2020). The Effect of COVID-19 on the Banking Sector. In: Wu D.D., Olson D.L. (eds.), *Pandemic Risk Management in Operations and Finance. Computational Risk Management*, pp. 89–99, Cham: Springer, DOI: https://doi.org/10.1007/978-3-030-52197-4_8.
- ZBP – Związek Banków Polskich (2020). *Komunikat ZBP w sprawie działań pomocowych podejmowanych przez banki w związku z pandemią koronawirusa COVID 19*, ZBP, 16 marca 2020 roku. Retrieved 10.07.2020 from <https://www.zbp.pl/Aktualnosci/Wydarzenia/Komunikat-ZBP-w-sprawie-dzialan-pomocowych-podejmowanych-przez-banki>.