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Do Commercial Banks in Poland Pass the Bank Tax On to Their Customers?

Keywords: bank tax; bank levy; profitability; market power

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Abstract

Theoretical background: Bank tax was introduced in Poland in February 2016. As a consequence, several banks with assets surpassing certain value need to cope with the additional burden.
Purpose of the article: The aim of the research is to verify whether Polish banks that nominally are subject to the bank tax indeed shifted onto their clients most of the cost connected with this new levy and, thus, now these are the clients who effectively bear the burden of bank tax.
Research methods: The analysis is based on monthly data for the years 2010–2021, for which a multilayer comparison of performance of banks subject to the bank tax was made from various perspectives: (1) before and after the introduction of bank tax and (2) with remaining banks not subject to a bank tax – which serve as a control sample. The analysis took into account the composition of Polish bank sector, while focusing on the development of: (1) revenues, costs and income from commissions and charges, (2) revenues and income from interest, (3) level of commissions and charges as well as interest imposed on different bank products, (4) banks profitability, (5) their balance sheet total and (6) ROA.
Main findings: The analysis does not confirm increases in revenues of commercial banks and foreign branches following the introduction of the bank levy, whereas the profitability and ROA of these banks worsened significantly. At the same time, the performance of banks not affected by the levy did not deteriorate, which allows to conclude that banks did not manage to shift the cost of bank tax onto their customers. Conclusions are important primarily from the perspective of fiscal policy (they answer the question on effective tax incidence) and supervisory policy (to what extent the introduction of the tax erodes the performance of the banking sector, inhibiting the accumulation of capital determining the level of financial stability).

Introduction

After the subprime crisis was brought under control, banks and other financial institutions were imposed new regulatory and reporting obligations (Kozińska, 2018) as well as specific taxes. The tax revenues received from banks should be used to compensate for the support that governments have given to the financial sector, as a source of financing for measures to promote financial stability, and as a prerequisite for the transformation of banks' operating towards lower-risk business models (Kozłowska, 2017). The concept of top-up taxation of financial institutions, in particular banks, was widely accepted (Mara, 2012), and its implementation was preceded by a comprehensive comparative analysis of the different types of taxation schemes (Claessens et al., 2010). Finally, the IMF recommended two solutions:

1. Financial Stability Contribution (FSC) – this option is a contribution to the state budget or a separate fund for the resolution of weak financial institutions and credit institutions. The FSC often assumes that the level of the charge depends on the institution's impact on systemic risk.
2. Financial Activity Tax (FAT), which is paid directly to the state budget, the amount of which is linked to the income of the financial institution (gross or net result) and in some cases income increased by bonuses to the bank's top managers.

In addition to the tax forms mentioned above, which are reserved exclusively for financial and credit institutions, the Financial Transaction Tax (FTT), the tax on top-up (above a certain threshold) managerial salaries and the tax resulting from the increased corporate income tax rate (CIT) are subject to implementation in some jurisdictions (Martysz & Bartlewski, 2018; Marcinkowska, 2011). This paper focuses on the FSC. If the FSC revenue flows directly into the state budget, this burden is referred to as a "bank tax" or "bank levy", and if it supplies a separate fund it is called a "bank fee" (Mielczarek, 2020). In practice, the tax base in the FSC formula can be calculated according to the value of:

– assets,
– liabilities,
– capital requirements,
– risk-weighted assets (RWA).

The following components are built into the bank tax algorithms (Pawłowicz, 2015; Gajewski, 2016; Dec & Masiukiewicz, 2013):

– thresholds for the tax base above which the levy is calculated (i.e. small banks are practically wholly or partly exempt from the tax),
– adjustments to the tax base for certain categories of assets or liabilities (e.g. capital, interbank loans or treasury bonds are not taken into account when taxing assets; liabilities are deducted by capital and insured deposits),
– individual exclusions (e.g. state banks).

The choice of a particular form of taxation is largely determined by the government's intention to maximize the revenue derived from it, which, however, requires first identifying the key determinants of these revenues (Karpowicz et al., 2022).

The subject of the analysis is the FSC in Poland, which takes the form of a bank tax. It was introduced in February 2016 (Ustawa z dnia 15 stycznia…, 2016). It is based on a surplus of assets of more than PLN 4 billion, reduced by own funds of the banks and the treasury bonds. The tax base is determined on the last day of the month and the rate is 0.0366%, or 0.44% per annum. No tax is paid by state-owned banks and banks under a resolution scheme. Consequently, the scope of exempt institutions – also taking into consideration their size – is very limited.

Many authors criticise the bank tax due to:

– a negative impact on economic growth with relatively low (compared to other taxes) tax revenues (Osvát & Osvát, 2010),
– a squeeze of lending and a decrease in the banks' profitability affecting negatively banks' capital (Giżyński, 2021; Stypułkowski, 2020; Puławska, 2021),
– an increase in the prices of banking products and services.

The latter issue, including the problem of shifting the bank tax onto bank customers, is the subject of this article. Its aim is to verify whether the cost of Polish bank tax was passed on the bank's clients. In the era of high inflation and falling real value of household income, it is not without significance who is the actual payer of the bank tax: bank shareholders, bank employees, depositors or borrowers. Moreover, a phenomenon of transferring the tax to bank stakeholders would be a kind of confirmation of the level of competitiveness of the banking sector in Poland and the market power of Polish banks.

In this paper, the authors sought to observe whether such a shift indeed took place and if so – then with respect to what bank products. Based on a review of the literature on the subject and commonly expressed opinions, a hypothesis was formulated that Polish banks, which nominally are subject to the bank tax, shifted onto their clients most of the cost connected with this new levy and, consequently, these are predominantly the clients who effectively bear the burden of bank tax.

This analysis was based on monthly data from the Polish Financial Supervision Authority (FSA) (*Komisja Nadzoru Finansowego*, KNF) database for the period 2010–2021, which was employed to execute a comparative analysis of the performance of banks for the period before and after the introduction of the banking tax and compare the results with a control population of banks not affected by the levy.

The article is structured as follows. Section 2 reviews the most relevant literature referring to the phenomenon of passing on taxes. The next one describes the data and methodology employed in the empirical research. Section 4 presents the results which are then discussed in the next part of the paper. The last part of the manuscript contains the main conclusions.

Literature review

Passing on the tax

In the tax law, a distinction is made between the active tax entity (state or local authority) and the passive one (individual or company liable for payment of the tax, i.e. the taxable entity). The formal taxable entity is referred to as the body that pays the tax directly to the state treasury or the local authority, whereas the actual taxable entity effectively bears the tax burden. The formal taxable entity is also referred to as a taxable one in the legal sense, while the actual taxable entity is understood as an economic taxable entity. Having in mind the aforementioned definitions, there is an alternative: the taxable entity is concurrently the formal taxable person or there are two separate organisations playing roles of the formal and actual taxpayers. The second option involves introducing the concept of the tax shifting. Transferability occurs when the persons of the formal and actual taxpayer are split, or even when the actual taxpayer is a stakeholder of the formal taxpayer. Passing on the tax, which often takes place without the knowledge or even against the will of the active entity or fiscal authorities and society, takes the form of "forward" or "backward". Forward shifting involves passing on the fiscal burden to the purchaser of products or services supplied by the formal taxpayer (an increase in prices quoted by the formal taxpayer). Similarly, backward shifting involves placing the burden on the suppliers or employees of the formal taxpayer and implies a reduction in the price charged by the supplier (Wiśniewski, 2017; Smoleń & Wójtowicz, 2021). The phenomenon of tax pass-through is considered to be something natural, as every taxpayer strives to preserve or increase his or her income (Famulska, 1993), although its significant scale may lead to a limitation of the possibility to achieve the objectives set by the state when constructing the tax system, and for this reason it is assessed negatively (Owsiak, 2017, pp. 272–273). A broad discussion of the factors affecting the level of corporate income tax pass-through is provided by Bernal (2016), who points to labour cost as a common explanatory variable in models to determine the extent of income tax pass-through.

Passing on the bank tax

Bank taxes and levies were introduced in the wake of the subprime crisis. Before this happened, numerous analyses were carried out to find the optimal form of taxation, also in the sense of minimising the magnitude of negative spillover effects. These simulations, taking into account different levels of tax pass-through, were already carried out by the IMF in September 2010 (Claessens et al., 2010). The authors of the IMF report point to the problems facing regulatory and tax policies such as: incidence, perimeter, calibration, and coordination and they wonder how far the real burden of any of the potential taxes would fall on rents of financial institutions and what part of it will be passed on to the clients. In many countries, the pass-through of fees and taxes imposed on banks in connection with the subprime crisis, is prohibited or significantly restricted. For example, Art. 14 of the Law on Tax on Certain Financial Institutions, in force in Poland since 2016, indicates that the introduction of the tax cannot constitute a basis for changing the terms and conditions of financial and insurance services performed on the basis of contracts concluded before the date of entry into force of the law (Ustawa z dnia 15 stycznia…, 2016). This means only that the tax can be passed on to borrowers in the case of new loan agreements concluded from February 2016 onwards. Contracts only annexed after that date should not contain clauses concerning the increase in costs due to the introduced tax. This solution is questionable for at least two reasons. Firstly, the tax is imposed on exposures whose profitability and capital charge were calculated without taking into account the bank tax, and an increase in the bank's costs by the bank tax may result in a loss of profitability (this particularly applies to long-term exposures to public sector entities). Secondly, the adopted solution forces the replacement of annexes with new credit agreements, which is detrimental to the collateral of bank loans (the period of their hardening must start anew). At the same time, it should be realistically stated that it is not possible to construct the bank levy in such a way that at least part of it is not passed on to stakeholders other than shareholders. This is evidenced by the position of the National Australia Bank (NAB): "The levy is not just on banks, it is a tax on every Australian who benefits from, and is part of, the banking industry. This includes NAB's 10 million customers, 570,000 direct NAB shareholders, those who own NAB shares through their superannuation, our

1,700 suppliers and NAB's 34,000 employees. The levy cannot be absorbed; it will be borne by these people" (Adetunji, 2017). Studies on the pass-through of bank levies and taxes can be divided into those devoted solely to one national market and those analysing the phenomenon from an international perspective. The first strand includes an analysis by Wiśniewski (2017). He shows that after the introduction of the tax on certain financial institutions in Poland, despite the stable level of basic interest rates of the National Bank of Poland, banks experienced a decline in deposit interest rates and an increase in lending interest rates (net interest margin grew).

This phenomenon testifies to the effectiveness of the process of passing the bank tax in Poland, which had the features of both "backward" (in addition to diminishing interest rates on deposits, banks reduced staff costs) and "forward" passing. At the same time, this author analyses the condition of the banking sector, proving its deterioration. This shows that part of the cost of the new levy has not been passed on to bank stakeholders. The thesis on the effectiveness of bank tax shifting to Polish bank customers is also confirmed by Twarowska-Ratajczak (2018). She indicates that the main objectives of introduction of a tax on financial institutions in Poland was the need for rising additional tax revenues for the state budget and the necessity of increased involvement of the financial sector in financing public expenditures. The mentioned author proves that while the first objective was achieved, the second one was not, as the tax was passed on to the customers of banks and other financial institutions. On the other hand, Capelle-Blancard and Havrylchyk (2017), studying the Hungarian banking system and the effects of the introduction of a bank tax in this country in 2010, show that the tax pass-through by banks is stronger in banking segments characterised by a relatively low elasticity of demand for credit (e.g. retail banking). Banerji et al. (2017), while analysing large Japanese banks with operations in Tokyo, in addition to confirmation of the phenomenon of fiscal pass-through to customers in the form of increases in net interest margins and commissions conclude that following the introduction of bank tax, the depositors are the most affected group of bank customers. At the same time, these authors find that fiscally affected banks reduced the volume of loans compared to banks that were not taxed. The above conclusion corresponds to the one formulated by Schandlbauer (2013), who finds that the problem of decreasing lending particularly affects worse-capitalized banks that constrain the expansion of customer loans. Buch et al. (2016), surveying the German market arrive at three key conclusions. First, bank tax receipts turned out to be lower than expected. Second, the dominant share of bank tax revenues came mainly from large commercial banks. Third, the banks most affected by the new levies reduced their lending rates and increased their deposit rates. Among the international studies, one should mention the analysis carried out by Chiorazzo and Milani (2011). These authors study the impact of changes in CIT and VAT rates on the pre-tax profit of European banks between 1990 and 2005. One of the conclusions of this research is that banks managed to pass on a significant part of the new fiscal burden to their customers. The tax pass-through has mainly taken the form of a "forward" shift. In the short run, it is approximately 45% of the tax burden passed on to consumers, while in the long term, it can be even 80%. The shift of as much as 90% of the tax burden is in turn reported by Albertazzi and Gambacorta (2010), who study the banking sectors of the main industrialized countries over the period 1981–2003. Weder di Mauro (2010), in the IMF study on the pros and cons of different forms of taxation of financial institutions, argues that the burden on banks in the form of the FSC will result in the transfer of this levy to borrowers. There will therefore be a "forward" tax shift. However, the increase in the cost of credit will be less than proportional compared to the size of the bank levy. Also Kogler (2016, 2019), studying 2,987 banks from 23 EU countries between 2007 and 2013, notes that the pass-through of bank taxes and fees is "forward", i.e. the real taxpayers become mainly the borrowers. Kogler estimates that under the influence of the tax, interest rates increased by 20 to 24 basis points. The approach based on raising lending rates under the influence of an increase in the fiscal burden is used mainly by banks with a high loan/deposit ratios. Although an increase in central bank rates raises deposit rates, it does so to a lesser extent than the aforementioned increase in central bank rates. Like Wiśniewski (2017), Kogler sees an augmentation of net interest margins under the impact of increased fiscal burdens on banks. The Kogler study also argues that in banking systems with high concentration, the tax pass-through process is easier and deeper. Furthermore, banks with high capital adequacy ratios shift the fiscal burden to a relatively lesser extent. The resulting growth of margins due to higher cost of tax and its transfer to households and corporate clients through boosted interest rates on loans is also confirmed by Boscá et al. (2019), and a positive correlation between the amount of corporate tax imposed on banks and net interest margins is shown by Demirgüç-Kunt and Huizinga (2001).

Data and research methodology

The analysis was performed taking into consideration data from the FSA. All data that were processed are monthly. Thus, in comparison to yearly observations, the used sample was both broader and more detailed. Taking into consideration periods tracked by the mentioned institutions, it was decided to review months from December 2010 to October 2021. As a result, there were 131 observations for each item available. All source data are expressed in PLN (except for the level of interest charges given in percentage terms). To test if the bank tax was indeed shifted to consumers, the authors compared performance of banks from different perspectives: before and after the introduction of the bank tax – i.e. in months from March 2016 going forward and periods preceding that date. Although the bank tax has been effective since March 2016, it was decided to observe developments already from 2010. This results from the fact that in several EU countries bank taxes were imposed primarily in the years 2010–2012. Hence, it could be expected that although no such tax was introduced in Poland at that time, local banks could have anticipated future developments and might have an incentive to increase the cost of bank products already in the early 2010s. Taking into consideration the above, comparison was made from a time period perspective.

Except for observation of time trends, the authors used a control population of banks that even after March 2016 were not taxed. Such banks not subject to the bank tax included: (1) all state-owned banks, (2) banks/credit institutions under sanitation plans, and (3) financial institutions with assets below PLN 4 billion (defined as assets resulting from the statement of transactions and balances determined on the last day of the month on the basis of entries in the general ledger accounts; moreover, the tax base is also reduced by own funds and treasury securities).

The FSC collects data separately for the following categories of credit institutions:

– domestic commercial banks operating with foreign branches,
– branches of credit institutions,
– cooperative banks.

In practice, from this group only the first one is subject to the bank tax. Both – branches of credit institutions and cooperative banks – do not pay bank tax as they do not surpass the threshold of assets value. Therefore, there was a possibility to compare the first mentioned group with the second and the third, which served as control groups. As the two latter sets in practice are not subject to the bank tax, it can be expected that their performance would differ from commercial banks subject to the levy. As for the end of 2020, the structure of the Polish banking sector reveal great dominance of commercial banks and foreign branches. This is followed by cooperative banks and branches of credit institutions. Figures 1 and 2 present the structure in more detail.

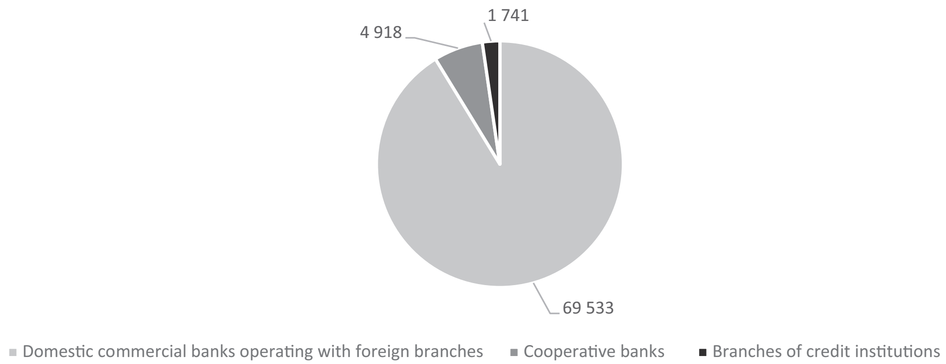

Figure 1. Total operating revenues of the Polish banking sector, 2020 (in million PLN)

Source: Authors' own study based on (KNF, 2021).

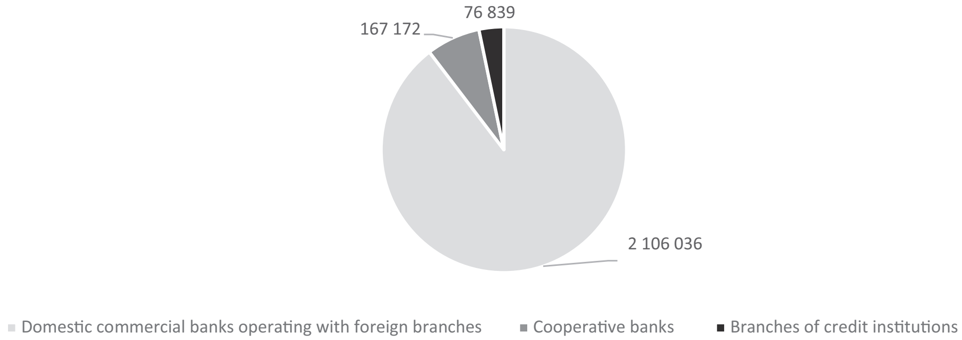

Figure 2. Total assets of the Polish banking sector, 2020 (in million PLN)

Source: Authors' own study based on (KNF, 2021).

In general, the shift of the bank tax onto consumers could potentially happen in three ways, i.e. (1) banks could increase commissions and charges, (2) institutions may rise the interest rate on credit products, and/or (3) decrease the interest rate accrued on deposits.

To find the potential shift of the bank tax, the authors prepared several figures based on empirical data to look for any impact of the bank tax on the behaviour of banks. In particular, the following graphs were prepared for commercial banks and foreign branches and focus on several issues:

1) revenues, costs and income from commissions and charges – to observe if there is a reason to claim that the bank tax was shifted this way,

2) revenues and income from interest – to get an impression of any increase in these values in potential reaction to the bank tax,

3) level of commissions and charges as well as interest imposed on different bank products – in order to track the developments in pricing after the introduction of the bank tax,

4) profitability of banks – the authors calculated monthly income after the bank tax; therefore, potential deviations from the long-term trend of banks profitability could suggest an impact of the bank tax,

5) balance sheet total – there are no comprehensive data available on commissions and charges imposed on single products as well as on quantity of products sold. Therefore, some approximation to track it, is the analysis of balance sheet total of banks as assuming that demand for bank products is elastic, then higher charges should result in limitation of sale and consequently balance sheet total should decrease. Analyses were performed both for different kinds of assets as well as for equity and liabilities,

6) ROA – eventually profitability was calculated in relation to total assets. Such an approach enabled to view the profitability of different bank sectors from another angle, which again give some hints with respect to the bank tax shift issue.

Results

The popular claim of the shift of the bank tax onto clients, especially via the increase of commissions and charges, is not explicitly reflected in empirical data. In particular, revenues from commissions and charges indeed have been recently increasing but the rise started in 2019 (i.e. 3 years after the introduction of the bank tax) and therefore it is doubtful that this could be the effect of such belated reaction.

In the period November 2016 – March 2017, revenues from commissions and charges were significantly more volatile (ranged from PLN 99.9 million to PLN 152.7 million) than in the previous 5 months (i.e. between June 2016 and October 2016, where values were between PLN 125.8 million and PLN 131.5 million). This is the key development that can be observed in months following the introduction of the bank tax with respect to revenues from commissions and charges earned by commercial banks and foreign branches. Yet explanation of this instability does not seem to be linked with the introduction of the bank tax as both: (1) it happened not immediately but only 7 months after the introduction of the bank tax (whereas in the following months, some stabilization is again observable) and (2) there is no clear trend, which can suggest transfer of the tax burden onto consumers.

Figure 3 shows the developments in revenues from commissions and charges earned by commercial banks and foreign branches.

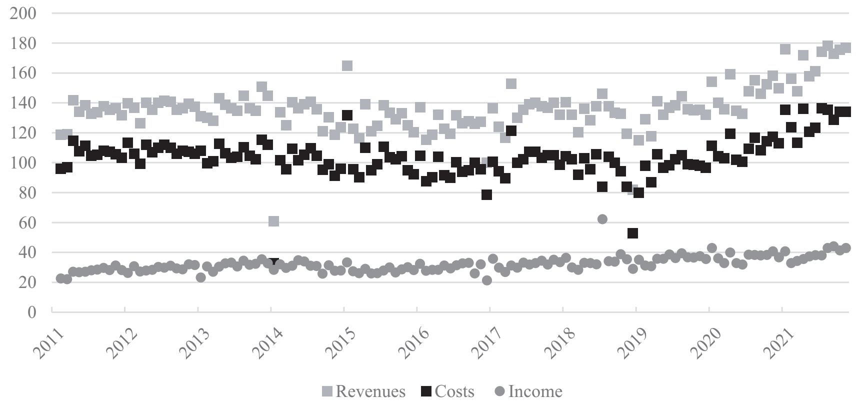

Figure 3. Monthly revenues, costs and income from commissions and charges of commercial banks and foreign branches (in million PLN)

Source: Authors' own study based on (KNF, 2021).

Developments in revenues, costs and income from commissions and charges was compared with the controlled sample of branches of credit institutions and cooperative banks (see Figure 4). For the sake of clarity of the figures below, they do not contain data on costs.

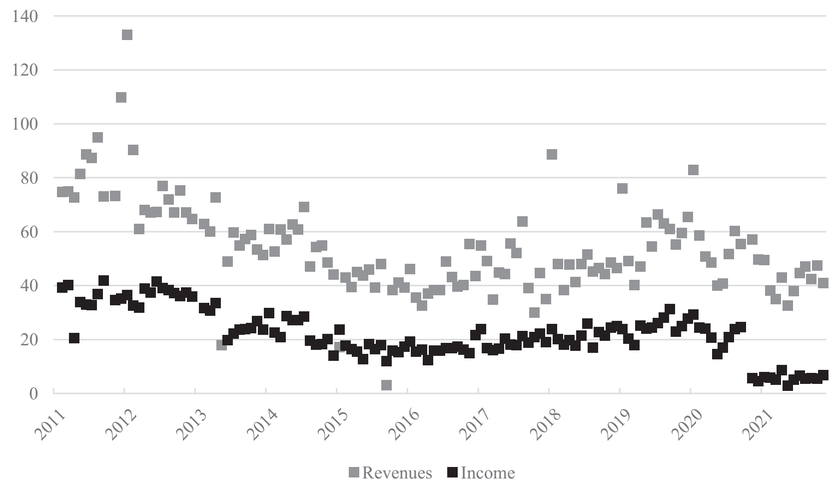

Figure 4. Monthly revenues and income from commissions and charges of branches of credit institutions (in million PLN)

Source: Authors' own study based on (KNF, 2021).

What is striking – unlike in the case of commercial banks and foreign branches – is that income volatility is generally lower. In addition, it seems that earnings from commissions and charges were generally falling until 2016, when the trend changed. This is in opposition to commercial banks and foreign branches, where overall trend of falling revenues changed as late as in 2019. A gradual increase in inflows among branches of credit institutions observable from 2016 may suggest that some clients shifted to those institutions from commercial banks and foreign branches, on which the bank tax was imposed.

The next controlled sample are cooperative banks, which are also not subject to the bank tax (Figure 5).

The performance of income from commissions and charges in case of cooperative banks seems very stable over the years (there are only regular outliers at the turn of the year, which is mainly connected with recognition of high costs at closing of each year and low costs recognition in each January). However, no impact of the bank tax is observable in any period (i.e. no move of clients to cooperative banks at the expense of taxed banks).

Similarly to the above situation, the authors decided to verify what happened to interest revenues and income. For commercial banks and foreign branches, the Figure 6 shows no effect of introducing the bank tax whatsoever. There is a clear trend of rise in revenues and interest income from April 2015 up to mid-2019, whereas no deviations occurred in 2016, when the bank tax entered into force. Therefore, it seems that the bank tax did not affect the level of imposed margins. Both the height

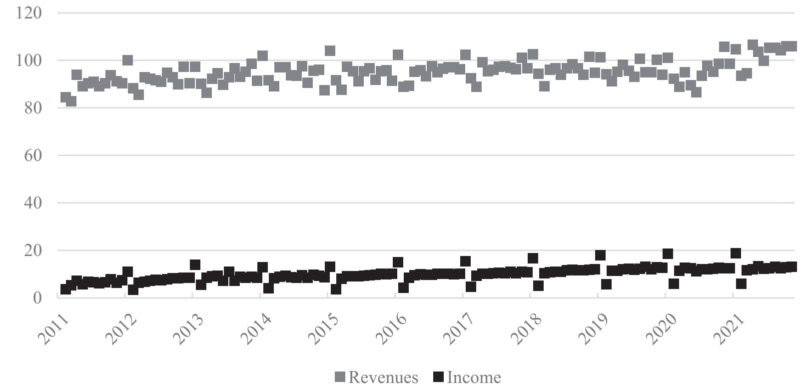

Figure 5. Revenues and income from commissions and charges of cooperative banks (in million PLN)

Source: Authors' own study based on (KNF, 2021).

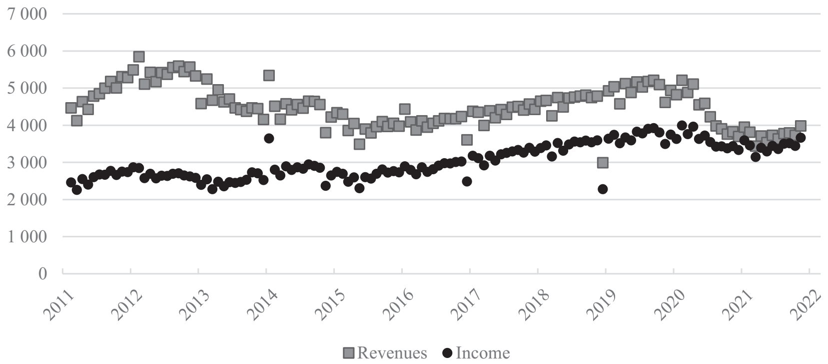

Figure 6. Revenues and income from interest of commercial banks and foreign branches (in million PLN)

Source: Authors' own study based on (KNF, 2021).

of the WIBOR and the scale of sale of bank products was probably of much greater significance for interest revenues.

Again, we compared the performance of revenues and income from interest with that of branches of credit institutions and cooperative banks. The respective Figures (7 and 8) are included below.

The shape of Figure 7 for cooperative banks is very similar to the one presented for commercial banks and foreign branches. In particular, no special developments can be observed in a group of institutions subject to the bank tax and the controlled group even in the year of the introduction of the bank tax, i.e. in 2016.

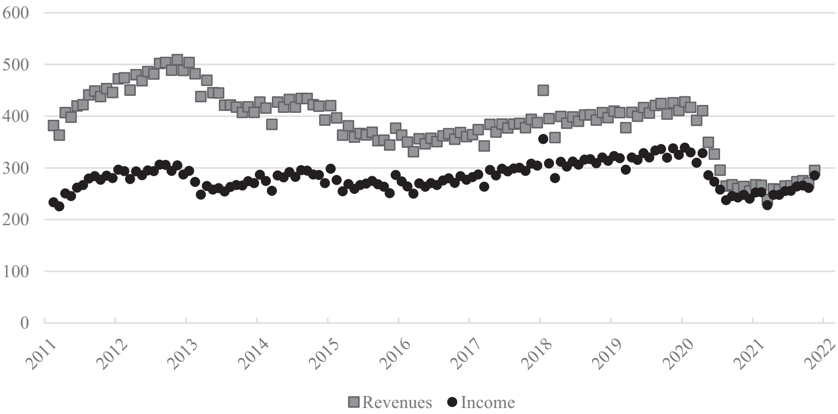

Figure 7. Revenues and income from interest of cooperative banks (in million PLN)

Source: Authors' own study based on (KNF, 2021).

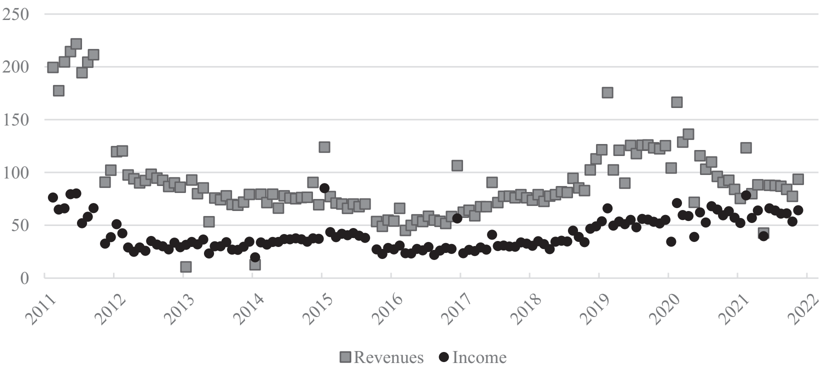

Figure 8. Monthly revenues and income from interest of branches of credit institutions (in million PLN)

Source: Authors' own study based on (KNF, 2021).

The trends of performance of revenues and income from interest for branches of credit institutions does not strictly remind those discussed above. Yet there seem to be also a long-term trend of rising revenues from interest, followed by a decline starting in 2020 – which is also the case in other groups of banks discussed above.

As no clear effect of bank tax was observed with respect to both revenues from (1) commissions and charges as well as those concerning (2) interest, the authors decided to take different perspective and observe developments in commissions, fees and margins imposed by banks on their unit products. The below graph prepared for consumer loans (see Figure 9), shows that the interest rate did not increase after March 2016 and even a slight downward trend is visible (Figures 9–15, bigger markers are used for better readability for March 2016 when bank tax was introduced as well as for March 2015 and March 2020, which are the extreme months when the National Bank of Poland kept interest rates on the same level).

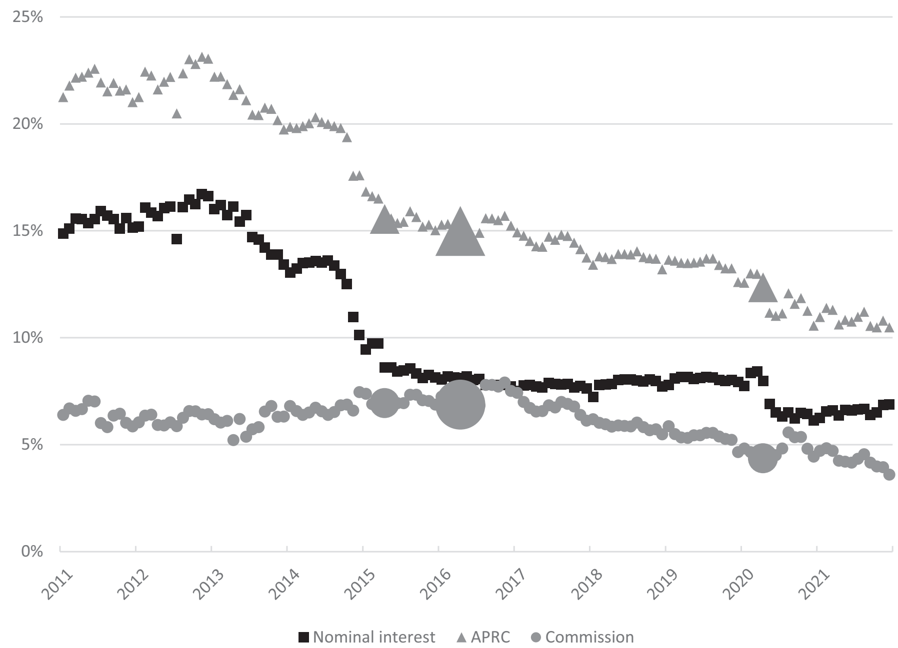

Figure 9. Cash loans

Source: Authors' own study based on (KNF, 2021).

Annual percentage rate of charge (APRC) – which contains the information on charges and commissions – increased significantly in the first months after the introduction of the bank tax. This happened even though from March 2015 up to March 2020, the National Bank of Poland maintained interest rates unchanged. Assuming that the difference between APRC and pure nominal interest rate is responsible for commissions and charges, it may suggest that fees were indeed raised in reaction to bank tax introduction. Commission calculated in this manner peaked in October 2017, when it reached 7.9%, which was 1 pp higher than in March 2016 – the moment of bank tax introduction. However, from that moment, a long-term downward trend is visible. This suggests that although banks, to some extent, tried to shift the cost of bank tax onto their clients in the first months after the levy entered into force, they were not able to maintain the increased charges over time and were probably forced by market conditions to reduce the fees (yet in this article it is not our objective to analyse the reasons for such potential actions of credit institutions, but rather to spot the overall developments). The above data are quoted for the whole banking sector – i.e. not only for banks subject to the bank tax. Therefore, it might be expected that if cooperative banks and foreign credit institutions were not covered by these aggregated data, the increase in commissions would be higher. Yet no data to prove this assumption is available. However, it must be underlined that banks from our control group constitute only 10% of banking sector that we analyse. Therefore, knowing that figures verified here are quoted for the whole Polish banking sector, any deviations in particular groups should be minimal.

Next, the authors performed similar analysis with respect to housing loans (Figure 10). And here one can observe an almost uninterrupted continuous increase in commissions since the introduction of the bank tax. Credit spreads, on the other hand, did not increase. Thus, it might be assumed that through gradual increase of commissions and charges banks have been able to shift to some extent the cost of the bank tax onto consumers. Moreover, they managed to sustain their pricing politics in this respect also in the long term. Yet, the above claim should be regarded as one of several possibilities as pure observation of trends cannot give certain cause-and-effect linkage. Hence, the authors acknowledge that the introduction of the bank tax and the rise of charges may even turn out to be a coincidental event.

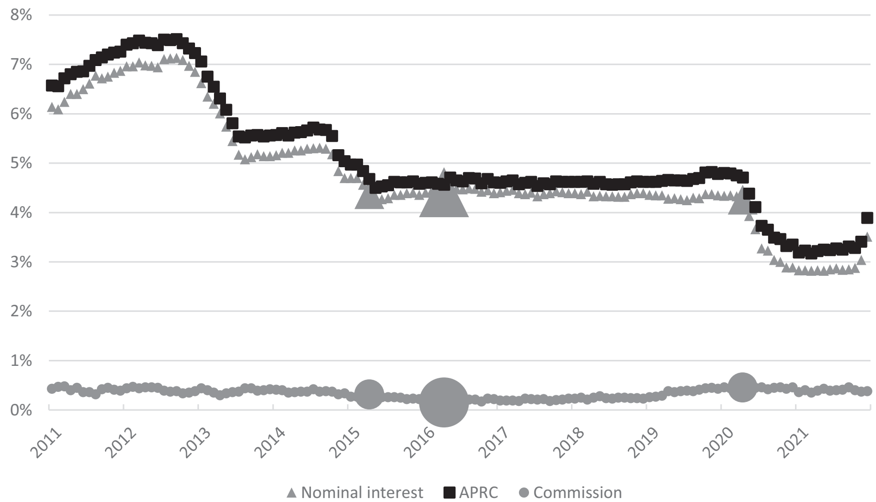

Figure 10. Mortgages

Source: Authors' own study based on KNF (2021).

There is also an upward trend in the period March 2016 – March 2020 with respect to loans granted to (1) individual enterprises and (2) non-financial enterprises (Figures 11 and 12, respectively). For individual enterprises, however, there is a lot of monthly variability. In terms of these loans, there is no information on APRC. Therefore, it is impossible to break down these data into interest and commissions – as it has been done for consumption credits and mortgages.

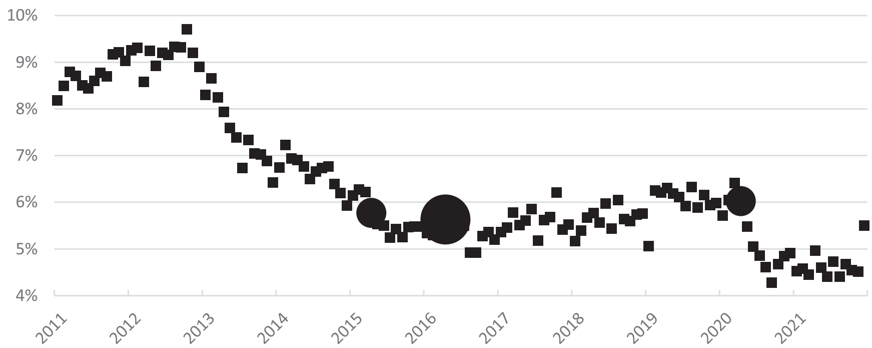

Figure 11. Loans and other receivables granted to households and private non-profit organisations and micro companies

Source: Authors' own study based on (KNF, 2021).

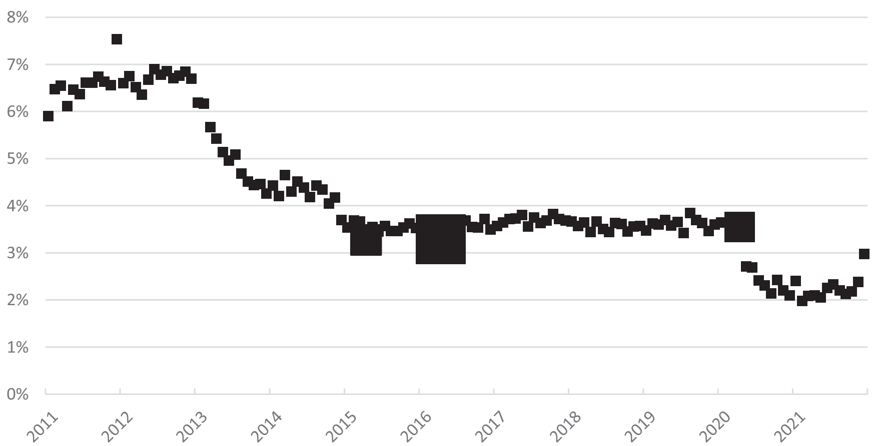

Figure 12. Loans and other receivables granted for non-financial corporations

Source: Authors' own study based on (KNF, 2021).

As far as loans for households and private non-profit organisations other than micro companies are concerned, the trend between March 2015 and March 2020 is generally horizontal (with even a slight decrease) and no effect of the introduction of the bank tax is visible (see Figure 13).

The cost of the bank tax could have been shifted also by decreasing the interest rate accrued on deposits. However, when it comes to deposits, fluctuations are minimal and the authors did not spot any reduction in interest rates given to deposits in response to the introduction of the bank tax. This refers both to households savings (Figure 14) and those of enterprises (Figure 15).

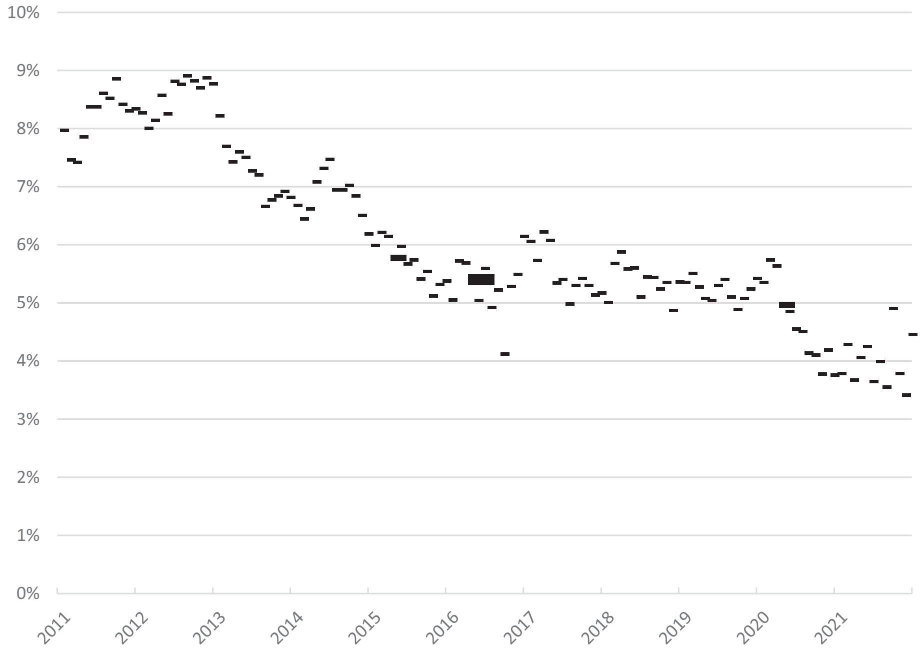

Figure 13. Loans and other receivables for households and private non-profit organisations other than micro companies

Source: Authors' own study based on (KNF, 2021).

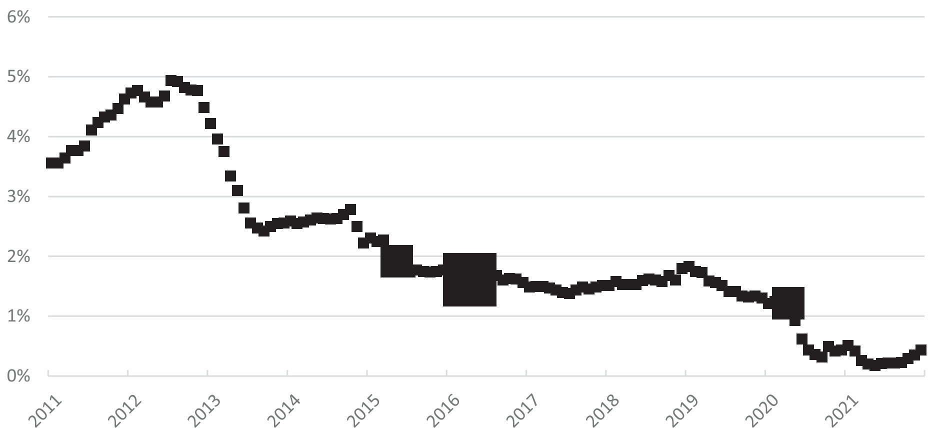

Figure 14. Deposits and other liabilities for households and private non-profit organisations

Source: Authors' own study based on (KNF, 2021).

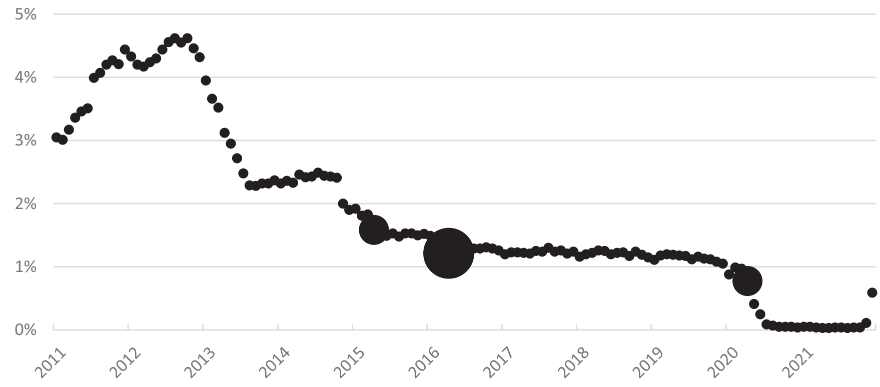

Figure 15. Deposits and other liabilities for non-financial corporations

Source: Authors' own study based on (KNF, 2021).

To sum up, commissions/interest rates increased after March 2016 in about half of analysed cases. On the other hand – as indicated earlier in this article – there were no increase in commission or interest income. As the hints are not conclusive, the authors decided to track overall profitability of the sector – appropriate graphs are presented below (Figures 16–18).

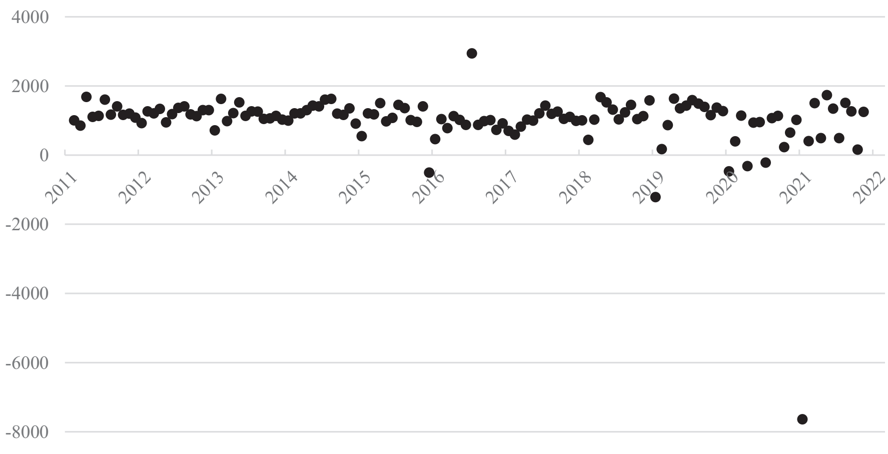

Figure 16. Total monthly net income (loss) of commercial banks and foreign branches (in million PLN)

Source: Authors' own study based on (KNF, 2021).

There is no clear indication of the bank tax entering into force based on income figures (Figure 16). The vivid development in months following bank tax introduction is that (1) there is an outlier connected with exceptionally high profits recorded by banks in June 2016 and (2) since 2018 the instability of banks' income has increased significantly. Interestingly, in the period December 2010 – February 2016, monthly profits of commercial banks and foreign branches amounted to PLN 1.156 billion, whereas from March 2016 to October 2021, they fell to PLN 864 million. This means that in earlier years, where no bank tax existed, income was on average 34% higher. In annual nominal terms, the average difference was PLN 3.504 billion. Interestingly, this figure is very similar to government revenues from the bank tax that ranged from PLN 3.51 billion for 10 months of 2016 up to PLN 4.87 billion for 2020. Therefore, there are grounds to claim that the cost of the bank tax is born primarily by banks and only small part of it is transferred onto consumers.

We compared the profitability of commercial banks and foreign branches also with selected control groups. The performance of cooperative banks improved in the long term (see Figure 17). Before the bank tax became effective, their monthly profit was on average level of PLN 37.7 million but from March 2016, such value exceeded PLN 49.1 million which is more than 30% hike. This is very unlike commercial banks and foreign branches discussed above. These results may confirm the claim that, indeed, commercial banks and foreign branches were economically affected by the tax and did not shift it.

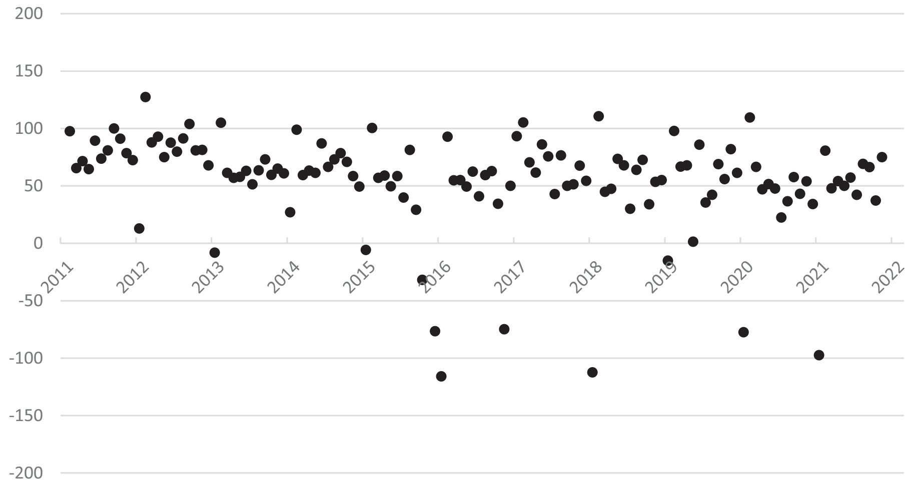

Figure 17. Total monthly net income (loss) of cooperative banks (in million PLN)

Source: Authors' own study based on (KNF, 2021).

At the same time, it turned out that performance of branches of credit institutions – which is another control group – deteriorates (compare Figure 18). While in the period December 2010 – February 2016, their monthly income reached PLN 20 million, from March 2016 to October 2021, it fell to PLN 8 million. These may question the thesis proposed above. Yet it must be underlined that branches of credit institutions account for a very small part of the market and therefore, by its nature, prone to higher volatility.

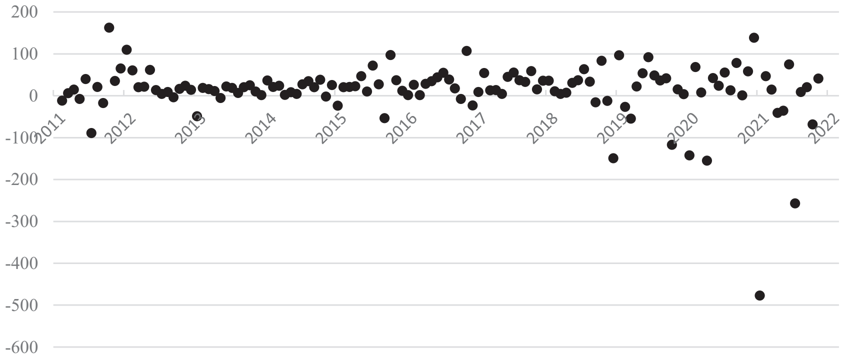

Figure 18. Total monthly net income (loss) of branches of credit institutions (in million PLN)

Source: Authors' own study based on (KNF, 2021).

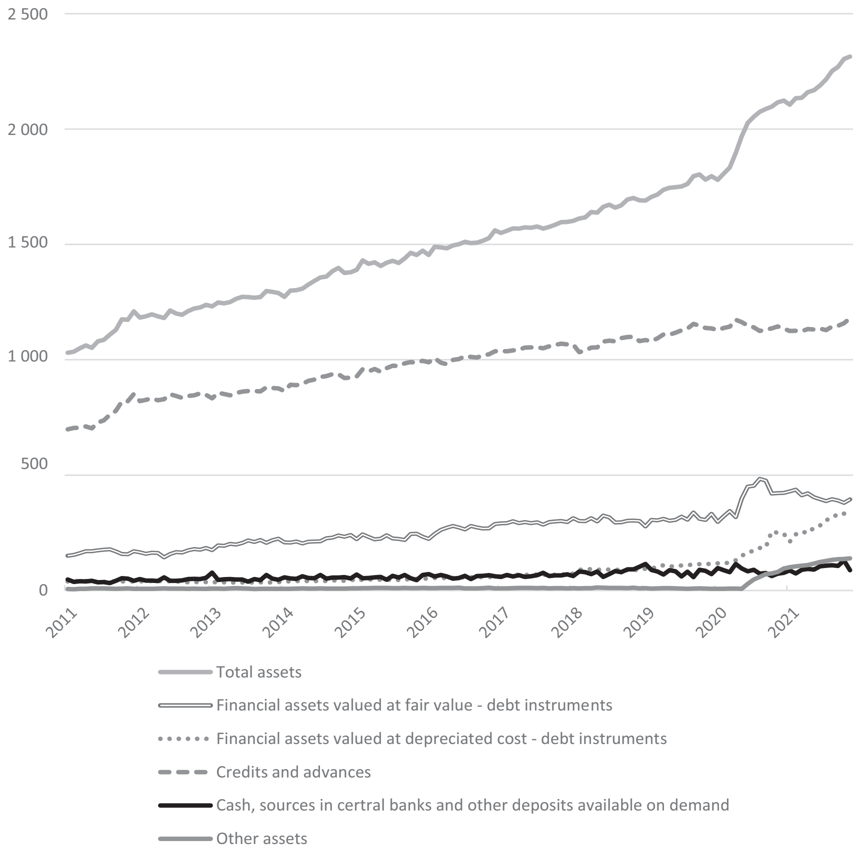

Figure 19. Total assets including selected assets of higher value of commercial banks and foreign branches (in billion PLN)

Source: Authors' own study based on (KNF, 2021).

Another approach to analyse potential shift of bank tax onto consumers was verification of balance sheet total. The assumption is that the figure may potentially fall as a consequence of lesser sale of bank products due to allegedly higher charges, commissions or interest. Figure 19 presents balance sheet total and development of selected assets of higher value.

With respect to the above kinds of assets, no developments at the moment of the introduction of the bank tax are visible.

Figures 20 and 21 present the remaining assets (there are several kinds of assets of different value and hence their presentation on one graph could have been illegible).

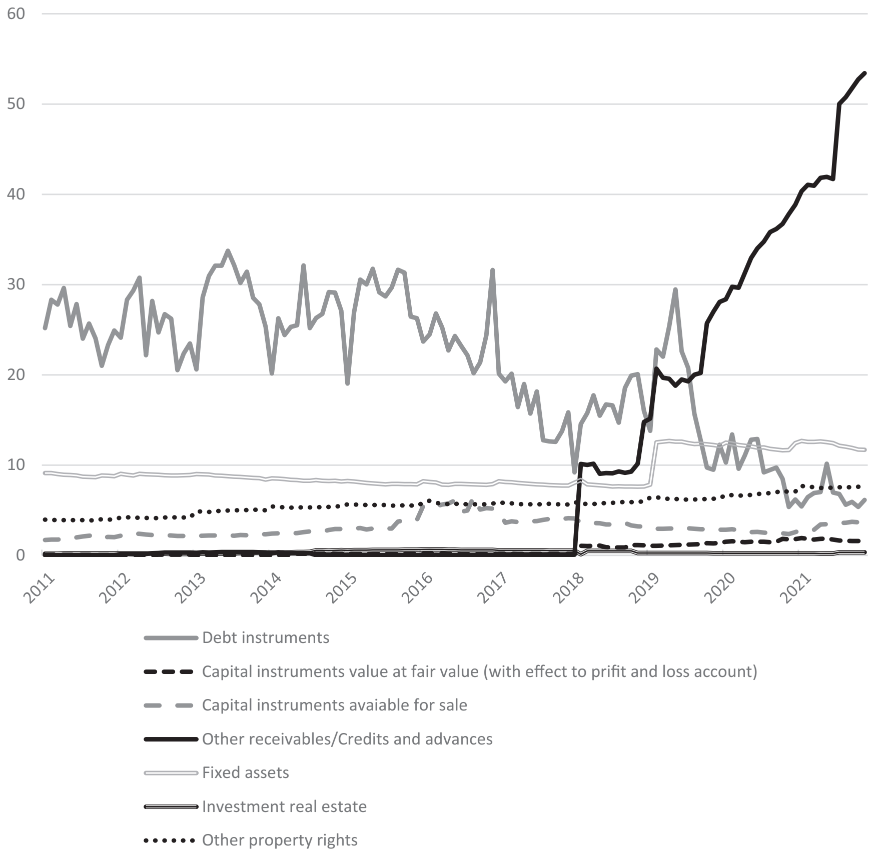

Figure 20. Bank assets of lower value – part 1 (in billion PLN)

Source: Authors' own study based on (KNF, 2021).

Figure 20 shows that after the introduction of the bank tax, a fall of debt instruments connected with "Financial assets held for trading" is visible. Concurrently, "Other receivables/loans and advances" related to "Financial assets available for sale/re-valued at fair value through other comprehensive income" are subject to the growth.

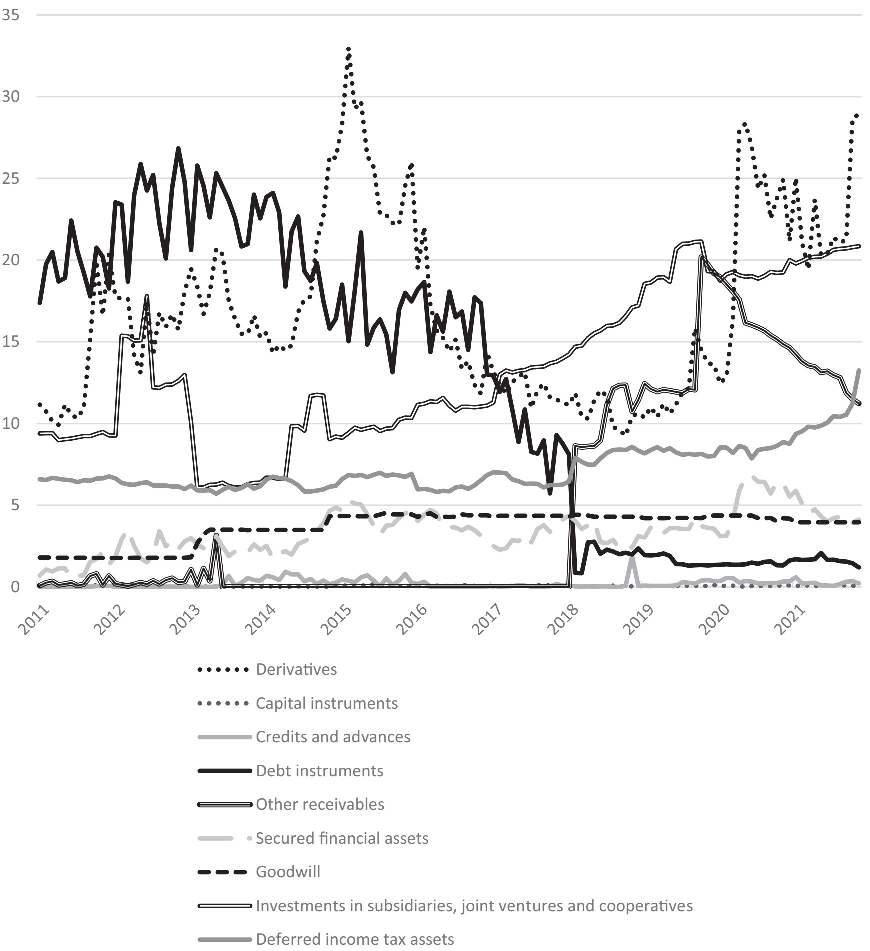

Figure 21. Bank assets of lower value – part 2 (in billion PLN)

Source: Authors' own study based on (KNF, 2021).

As total assets were on the rise and income was decreasing, unsurprisingly the fall of return on assets was sharp (see Figure 22).

The monthly average ROA in the period December 2010 – February 2016 was 1.1%. However, from March 2016 to October 2021, it was only 0.61%. This again suggests that there are grounds to claim that banks were not able to shift the cost of bank tax on clients. For comparison, in case of cooperative banks the fall was not so severe – i.e. decline from 0.58% to 0.43%. This fact again supports the claim that it is unlikely that the bank tax was mostly shifted onto clients. Just on the contrary – institutions subject to the levy absorbed it by themselves (as their ROA declined). Also, no developments connected with the bank tax are visible on the side of equity and liabilities. Figure 23 shows only the performance of key items.

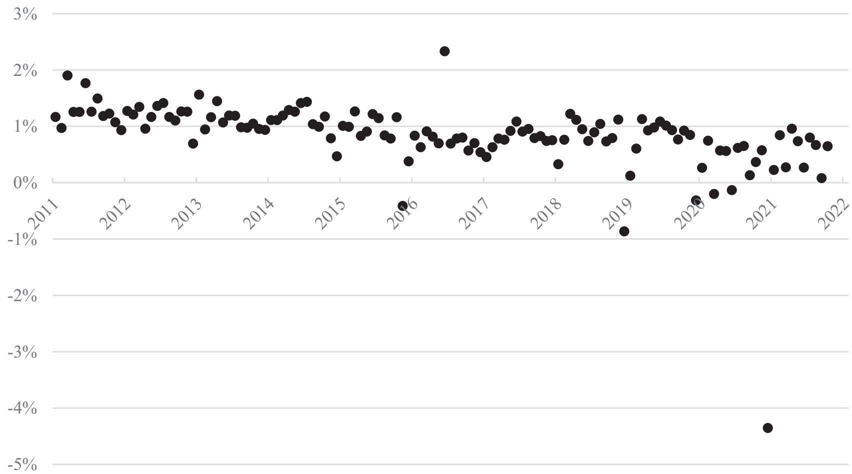

Figure 22. ROA of commercial banks and foreign branches

Source: Authors' own study based on (KNF, 2021).

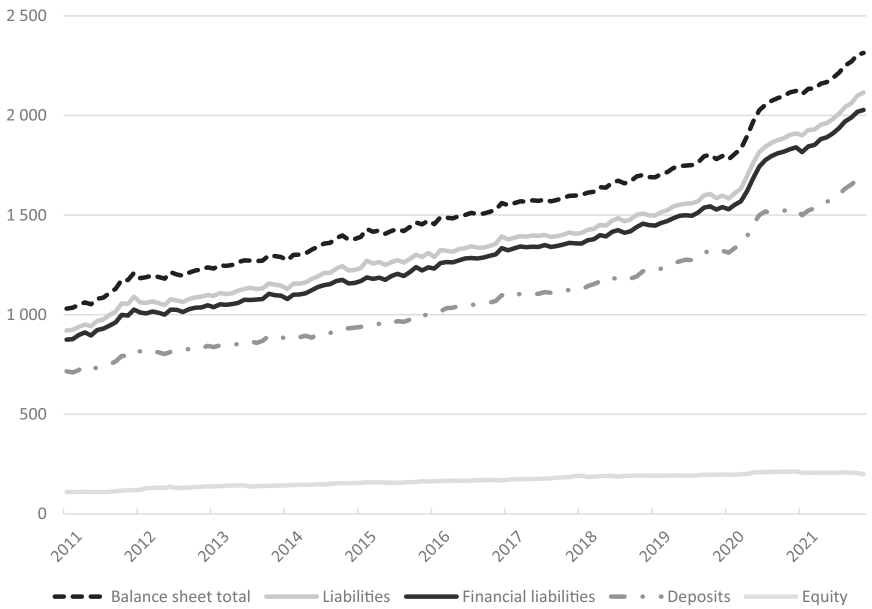

Figure 23. Liabilities and equity of commercial banks and foreign branches (in billion PLN)

Source: Authors' own study based on (KNF, 2021).

Discussion

The research carried does not clearly show that commercial banks pass on the bank tax to their customers. In general, no clear impact of the bank tax is observed with regard to both fee and commission income and interest income. Thus, the studies performed in the initial period after the introduction of the tax, which yielded different results to those presented, have not been confirmed. Janik (2018) notes that banks have subtly compensated for having to pay the bank tax at the expense of customers, pointing to three main areas of cost pass-through: (1) an increase in mortgage margins, (2) an increase in account fees and (3) an increase in credit card fees. According to Wiśniewski (2017), banks have set in motion a process of passing on the tax burden to their customers (by raising borrowing costs and lowering deposit rates). He emphasises that when comparing deposit and loan interest rates, the difference between the two (net interest margin) shows an upward trend, with an increase of 0.2 pp. In his opinion, it is mainly the growth of interest rates on loans granted by banks to households and the augmentation of interest rates on loans to businesses that is noticeable. He adds that in the case of loans granted to households, the passing on process is reported mainly in consumer loans. Analysing loans for residential purposes, the effect of bank tax on the growth of pricing is not material.

Twarowska-Ratajczak (2018), on the other hand, emphasises that the price increase is mainly noticeable in terms of fees for depositing or withdrawing cash at a bank branch and fees for transfers carried out at a bank branch, while the price increase is least noticeable in terms of e-banking services. Although the first results might have suggested such trends, for example, a decrease in interest rates on deposits for individuals up to 1 month and in the range of 1 to 3 months, as well as on corporate deposits up to 1 month, and raising interest rates on corporate loans especially with maturities of more than 1 year and on housing loans for individuals in general, it is difficult to see a clear increase in fee and commission income in the period we have analysed that could compensate for the tax introduced. The relatively higher volatility of fee and commission income in commercial banks and branches of foreign credit institutions in the period November 2016 – March 2017 can be attributed to the banks' introduction of an additional loan administration fee for corporate loans, which is charged on a quarterly or annual basis. Until the introduction of the tax on certain financial institutions, this commission was only charged occasionally. Also, the noticeable decrease in consumer loan margins in the initial period after the introduction of the tax is compensated for by an increase in commissions and fees (the difference between the APRC and the interest rate in the period analysed). However, this trend has been reversed since October 2017, when a clear downward trend has been noticeable. This may suggest that competition in the banking market has forced a reduction in fees and commissions. On the other hand, there has been an increase in commissions for mortgages since the introduction of the bank tax. It is important to note the specific nature of these loans and their role in the Polish economy during the period under review. The high demand for flats is mainly due to the increase in household disposable income, the persistence of low interest rates, the existence of government programmes supporting the purchase of flats. Investment purchases of flats are also a fairly important determinant of new housing sales. The persistently low interest rates of the National Bank of Poland resulted in a systematic increase in the attractiveness of real estate compared to alternative investments.

Confirmation of the observed trends is also provided by the decline in the profitability of business in the banking sector after the introduction of the bank tax. It is therefore reasonable to analyse the design of the tax system and the scale of the burden on banks operating in the Polish banking sector in the context of the stability of the entire banking system during the downturn resulting from the COVID-19 pandemic and the Ukrainian crisis. This solution can be taken into consideration as a potential part of the support for the banking sector provided by the safety net (Zaleska, 2021).

Conclusions

The key conclusion from our analysis is that there are no visible increases in revenues commercial banks and foreign branches achieved from sale of banking products. Profitability and ROA of these banks declined significantly. The performance of other groups of banks not subject to the tax in financial terms seems to be better. Therefore, there is evidence indicating that banks did not manage to shift the cost of bank tax onto consumers by rising charges, fees, credit interest margin or by lowering deposit interest rates.

To our knowledge, this study is the first to highlight the true performance of banks after the tax on financial institutions was introduced in Poland, while employing such a broad spectrum of raw data. It also denies the common opinion of banks shifting the bank tax onto clients. On the contrary – there are grounds to claim that the tax was borne by financial institutions on their own. As a result, we rejected the hypothesis according to which most of the costs burden of Polish bank tax in economic sense was shifted onto their consumers and only insignificant amount was absorbed by financial institutions themselves.

Key limitation of our study boils down to the fact that (1) neither detailed unit data on charges on particular bank products (2) nor comprehensive data on the quantity of bank products sold is available. As a result, the shift of bank tax costs cannot be tracked directly (i.e. through observations of developments in level of commissions, fees or margins) or indirectly (via calculation of income elasticity of bank products). The limitation connected with the lack of data on the quantity of bank products sold has been omitted to some extent by employing figures from balance sheet. In addition, the authors tried to circumvent the difficulties connected with the lack of data on unit charges by calculation the differences between APRC and pure interest cost, which resulted in some proxy of commission/charge value. Still this served only as some approximation. The authors are also aware of the fact that there is no information available on banks' products supply and demand elasticity. As a result, more precise calculations as to what extent the cost of the bank tax was shifted onto consumers is not possible as this stage. When overcoming the limitations with respect to data, an opportunity to perform a more detailed quantitative analysis would arise and information value of this initial study may increase.

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