DETERMINANTS OF SAMPLE SELECTION IN BUSINESS CLIMATE SURVEY WITHIN THE SECTOR OF BANKING AND FINANCIAL INSTITUTIONS

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Abstract

The aim of this study is to propose new directions of changes in research methodology, which are necessary due to the statistical quality of analysis and, at the same time, to take into account and adapt to the evolutionary changes in the Polish banking and financial sectors. An important criterion for the proposed recommendations is to maintain continuity and comparability of results in the period both before and after considering the new methodology.

In this study, two subject areas are covered: (i) assessment of the sample selection, and (ii) an overview of the proposed evolution of the survey. With regards to the first area, the main focus of analysis is placed on the decrease in the number of banks in the sector (including the aspect of statistical representativeness of the study). In the second case, focus is shifted towards the rising importance of other non-bank institutions in the financial sector as well as their impact on the national economy.

The development of a new survey is accompanied by three key considerations. First, it is a premise for maintaining continuity and comparability of historical data with that new. Secondly, the questions asked in the survey were reviewed and critically selected. Some questions, which were asked 20 years ago, are now not only less relevant, if not meaningless. On the other hand, recent developments in the banking sector are significantly different to the ones occurring 20 years ago. As such, it is now necessary to review the posed questions and ensure that they survey covers a wide spectrum of new issues reflecting these developments. Finally, the need to extend the sample to other financial market segments poses a challenge of unifying the survey to cover specifics of a number of individual market segments while, at the same time, obtaining comparable market data.

Keywords: banks, banking sector, financial sector, financial institutions, economic situation in the banking sector, sampling, methodology for analysing the economic situation in the banking sector.

JEL codes: C81, C83, E32, G2, G21, G22, G23.

Introduction

The Economic Development Institute (IRG) has been conducting business climate surveys in the Polish economy since the 1980s (Adamowicz, 2008), which have resulted in the following indicators:

- industrial confidence indicator (ICI);
- consumer sentiment index (CSI)—condition of households;
- construction confidence indicator (CCI);
- agricultural confidence indicator (ACI);
- banking confidence indicator (IRGBAN), and
- IRG SGH barometer (BARIRG).

The business climate survey in the banking sector was the last to supplement a wide range of business climate surveys conducted by the IRG. The idea to develop this research was born in the second half of the 1990s, along with the development and growing importance of the banking sector in the market economy during the transformation period. In 1997, work began on a methodology for analysing the business climate for the banking sector (Kluza & Kluza, 1998).

The research proposal prepared at that time, as well as methods for constructing forecasts and indices, have become the basis for conducting research over the last 20 years. As there have been no changes in the sample selection, survey structure or index construction, data collected over that time remained consistent, which is one of the major benefits of this survey.

On the other hand, the last 20 years of transformation have been characterised by dynamic development and numerous changes in the Polish economy. Similar processes could be observed in the entire financial sector, including the banking area. While in the 1990s the banking sector served as a benchmark for almost the entire financial sector, nowadays, attention must also be paid to the insurance sector and capital markets. In addition, the technological revolution that happened in financial services was not something that could have been fully predicted in the 1990s. Another determinant of the financial sector developments in the 21st century was the Great Financial Crisis started by the collapse of Lehman Brothers in 2008. It showed governments and public authorities the utopia of market self-regulation. Reflection on the fact that financial stability is a public good resulted in increased involvement of the state in functioning of the financial sector, and in particular, the banking sector. Since then, there has been significant development of financial market supervision institutions and an increased level of new regulations. All these events resulted in a significant change in the environment and conditions for doing business in the financial industry. The identification of these events should properly be reflected in the examination of business processes in the banking and financial sectors.

1. Research development

After 20 years of conducting business surveys in the banking sector, it is tempting to make corrections and modifications to the original survey. It is also an opportunity to assess whether the goals set for the study had been accomplished over that time. As a next step, it is also worth setting new research challenges. In the authors' view, it is worth undertaking a comprehensive review of the entire study and, at the same time, proposing various modifications. This study refers to 2 areas of further development of the study:

  • sample selection,
  • survey questionnaire update.

In the first case, the sample representativeness is assessed, i.e. whether the proposed group of entities identified 20 years ago is large enough in order to continue the survey in the future, and also whether the processes taking place in the financial sector have not meant that it should be extended to other groups of financial institutions. For example, attention should be paid to the development of the insurance and capital markets, as well as that of non-banking loan institutions. Furthermore, in the group of deposit and credit entities, one should notice processes that took place at that time in cooperative institutions.

Not only the events related to the evolution and maturation of the financial sector in the transformation period had significant impact on the shape of the Polish financial sector. In 2004, Poland joined the European Union, which caused the adoption of a set of rules resulting from the principles of the single market and solutions developed for the functioning of the financial sector in the EU. Moreover, the Great Financial Crisis started by the collapse of Lehman Brothers in 2008, affected structural and ownership processes in the banking sector and, more broadly, in the entire financial sector. The last 10 years have exposed the utopia of the idea regarding the financial sector's self-regulation and changed attitudes towards the state's regulatory and ownership role in the banking sector. In parallel, globalisation processes, as well as the penetration and development of comprehensive and complex financial services, have begun to blur the classic differences between banking, insurance and investment services. As a result, it is now more comprehensive and more appropriate to examine the economic situation in the entire financial sector (while, at the same time, acknowledging differences between its segments) rather than only in the selected group of just over 30 commercial banks.

From the point of view of assessing and forecasting the economic situation, it is important to predict the occurrence and increase (or disappearance) of systemic risks for the financial sector, the entities it serves, and consequently, for the entire economy.

In this study, an attempt has been made to identify these entities, to which the scope of the survey should be extended. In the next section of the study, various groups of entities operating on the Polish financial markets are identified and discussed, the assessment of which leads to a recommendation as to either include or omit them in the updated study. The study should take into account entities that, due to the scope of their activities, as well as their scale, significantly monitor and forecast the course of sectoral and macroeconomic processes.

The extension of the study to new groups of entities while, at the same time, limiting the sample to entities significant enough, is important in order to avoid such an effect that the excess of observations from less significant entities could outweigh the results designating systemic and leading entities, e.g. if the study diluted the answers and results stemming from around 30 commercial banks (over 90% of the sector's assets) in a large group of cooperative banks (over 500 entities). On the other hand, if appropriate proportion is maintained, the voice of smaller entities should also be represented in the study.

Along with changes in the method of sample selection, as well as the need to update the questions and problems of the survey to new sector and macroeconomic conditions, it is recommended to review and update the survey, taking the following rules into account:

1. **Principle of continuity:** A number of questions that have been asked in previous versions of the survey should remain in an unchanged or comparable formula to the fullest extent possible, so that the knowledge and comparability of data from the last 20 years is not lost in the process. The revision of the study is not intended to create a new product, but to adapt it to the new reality and accurately reflect that changes that have taken places over the past 2 decades.

2. **Revision and update:** A set of new questions should be added in a way that relates to the relevant topics and problems reflecting the current point of view and also, the future of the financial sector in Poland.

3. **Elimination:** It is beneficial to remove individual questions relating to issues that were relevant in the past but have now lost their topical importance due to the fast-changing reality of the financial sector.

4. **Differentiation:** It is beneficial to formulate a survey capturing differences of opinion on similar issues from a perspective of varying segments within the broader financial market.

5. **Generalisation:** The original survey was dedicated only to the banking sector. Currently, with the unchanged sense of the questions, they should be formulated in a more general way in order to allow for other market segments to be properly included in the sample.

2. Sample selection

Business climate surveys in the Polish banking sector encounter a problem of small sample size. This problem is also gaining significance due to consolidation trends in the banking sector, which have increased in recent years. For example, only in 2013–2018, the number of domestic commercial banks dropped from 39 to 30 (i.e. by nearly a quarter), see the NBP report *Rozwój system finansowego w Polsce w 2018 r.* (Financial system in Poland in 2018, NBP, 2019). In the authors' opinion, the consolidation of the banking sector may be continued in subsequent years, which is supported by, among others:

1. strategic decisions of foreign investors on the sale of Polish subsidiaries;
2. insufficient level of capital of some foreign investors;
3. earlier ownership changes, as a result of which some banks currently operating as separate entities have a joint majority shareholder.

If these consolidation trends continue, the sample size of surveyed entities will become even smaller, unless the scope of the study is extended.

Other business climate surveys in the Polish banking sector have also faced the problem of small sample size. The authors of some surveys decided to monitor the economic situation in bank branches (Garczarczyk, 2003; Idzik, 2003). The large number of bank branches allows for a significant increase in the sample which can easily exceed, e.g. 1,000 elements or more. However, the quality of such a study is disputable, as responses coming from different branches of the same bank are likely to be uniform, while branch employees may not have the necessary level of expertise required to comment on business developments in the entire banking sector or the national economy.

The above-mentioned issues relating to the quality of the study of bank branches should be viewed from a historical perspective. In the 1990s, bank branches had some level of independence, particularly with regard to sales, credit and HR policies. The approach to examining the economic situation at the branch level was therefore justified. This remained true even though, at the time, some methodological doubts were raised because of the varying level of independence of branches in individual banks or even different branches in the same bank. Nevertheless, despite these doubts, at that time, it gave a sense of correct sample selection.

There have been a number of intensive centralisation processes that have taken place in banks over the course of the first 2 decades of the 21st century. The branches were basically deprived of autonomy in conducting local or regional sales policy. The entire creditworthiness assessment process has been standardised and centralised. HR policies have also been largely centralised. Over the years, the role of bank branches has been technically reduced to customer service points only

and, in the authors' opinion, the current organisational framework of the banking sector does not allow to extend the scope of the study to bank branches.

Another way of solving the problem of small sample size could be its extension to non-bank financial institutions. However, the survey would have to be revised so that it does not lose the continuity of data collected in relation to the banks themselves, as well as the comparability of these data with other sectors.

In Table 1, the types of entities are indicated that operated among the Polish financial sector in 2018, together with their number (although, since not all types of activities are subject to licensing or registration, reliable data on their number is not available for each type of institution) and an indication of the arguments for or against their inclusion in the study.

Table 1. Entities operating in the financial sector in Poland in 2018 within the context of a business climate survey

Type of institution	Number	Current participation in the study	Proposed participation in the future	Arguments
Commercial banks	32	yes	yes	included in the study so far
Branches of foreign credit institutions	31	no	yes	activity comparable to domestic banks (especially in the area of corporate and investment banking)
Representative offices of foreign banks	10	no	no	principal marketing function
Notification of cross-border activities	500	no	no	no physical branch in Poland
Affiliation banks for cooperative banks	2	yes	yes	included in the study so far
Cooperative banks (excluding affiliates)	549	no	yes, if total assets over PLN 500 mln	competing with commercial banks on a local market
Saving and loan affiliations	30	no	yes, if total assets over PLN 500 mln	competing with commercial banks on a local market
Insurers	49	no	yes (only one for each type of an insurer)	insurance is one of the most common financial products
Mutual insurance companies (TUW)	11	no	yes, if total assets over PLN 500 mln	competing with commercial insurers
Pension fund management companies (PTE)	10	no	yes	part of the mandatory pension scheme
Private pension funds	8	no	no	portfolio management outsourced
Employee pension funds	3	no	no	portfolio management outsourced
Employee pension plans (PPE)	2398	no	no	portfolio management outsourced
Mutual fund companies	63	no	yes	mutual funds are one of the most common financial products

Table 1 – cont.

Type of institution	Number	Current participation in the study	Proposed participation in the future	Arguments
Brokerage houses	40	no	yes	trading in financial instruments
Commodity brokerage houses	1	no	yes	trading in commodity derivatives
Banks conducting broker-age activities	9	no	no	included as banks
Custodian and depositary banks	15	no	no	included as banks or bro-kerage houses
Investment firm agents	500	no	no	acting on behalf of brokerage houses
Entities keeping registers	7	no	no	activity auxiliary to TFIs
Distributors of mutual funds	79	no	no	activity auxiliary to TFIs
Exchanges and clearing houses	5	no	yes	facilitating trading in finan-cial instruments
Rating agencies	4	no	yes, if accredited by ESMA	important role in credit worthiness assessment
National payment institutions	38	no	yes	growing role in handling digital transactions, includ-ing the issue of electronic money
Loan companies	473	no	yes, if total assets over PLN 500 mln	competing with banks

Source: Based on (NBP, 2018) and the KNF website.

In 2018, the business climate survey in the banking sector covered 32 domestic commercial banks and 2 affiliations for cooperative banks, which gave a total number of 34 entities. However, this sample could have been extended to 65 entities if other monetary financial institutions, whose business takes deposits and grants loans or invests in securities on its own account, were also to included. This group includes 3 types of institutions: branches of foreign credit institutions, cooperative banks and credit unions.

Branches of foreign credit institutions operate in a similar way to domestic banks, except that they are subject to supervision from the home country belonging to the European Economic Area. The scale of operations concerning some of these institutions is similar to domestic commercial banks, especially in the area of corporate and investment banking. Due to the relatively small size of this group, and the fact that in their home countries they are treated as commercial banks, it seems justifiable to include all of them in the study. However, in the authors' opinion, this group should not include representative offices being in charge of

mainly marketing functions or institutions conducting cross-border activity on the basis of notification without a physical presence in Poland.

Cooperative banks other than affiliate banks are, in turn, a heterogeneous group of entities. Out of 549 institutions, as many as 294, or more than a half, have assets of less than PLN 200 million. Only 56 institutions, i.e. approximately 10%, have assets exceeding PLN 500 million, and only 2 are fully independent. In the authors' opinion, institutions with total assets exceeding PLN 500 million may appear on the local market as competitors to commercial banks. Including them in the study allows to increase the sample size to 121 entities.

Similar reasoning can be applied to saving and loans associations. As in the case of cooperative banking, the assets of individual associations are characterised by considerable concentration: the assets of the 4 largest associations constitute as much as 86% of the total assets for all 30 associations, and only 3 of them have total assets of above PLN 500 million. Including these 3 saving and loan associations leads to an increase in the sample size to 124 entities.

A further increase of the sample size requires going beyond the group of monetary financial institutions. The authors propose to extend the survey to entities from the insurance, pension and capital markets, as well as payment and loan institutions. The arguments for inclusion of individual types of institutions are presented below.

The inclusion of insurer institutions can be motivated by the fact that insurance is one of the most common financial products, save for basic banking services. Therefore, insurance companies have the opportunity to observe changes in the behaviour of consumers and enterprises which, at least, may be partly associated with economic fluctuations. In 2018, there were 24 companies operating in the field of property insurance in Poland and 24 in the area of life insurance, as well as 1 reinsurer. Since the companies conducting both types of insurance activities belong to the same capital groups and are characterised by a high level of interdependence, the authors propose to include only 1 institution for both types of the insurance business which, in turn, gives 24 entities and 1 additional reinsurer.

Apart from insurance companies, on the Polish market, there are mutual insurance companies, which may be seen as competing with commercial insurers, just like cooperative banks or saving and loans are, to some extent, competing with commercial banks. In 2018, only 1 institution met the criterion for the total assets of over PLN 500 million. Including this together with the commercial insurance companies allows to increase the sample size to 150 entities.

Furthermore, moving on to the pension market, for many years, it was the pension fund management companies (PTEs) that played a major role. However, changes in the pension system relating to the introduction of Employee Capital Plans may be likely followed by a transformation of PTE into mutual fund companies (TFIs). Nonetheless, until this happens, PTEs remain an important

participant in the financial market, managing assets of PLN 157 billion at the end of 2018 on behalf of nearly 16 million Poles. In the authors' opinion, this justifies the extension of the sample to this group of institutions which, in turn, increases the sample size to 160.

There are also 3 other groups of entities operating on the pension market: employee pension funds, private pension funds and employee pension plans (PTE). However, since investment portfolios of all of these entities are managed by PTEs or TFIs, the authors believe that their inclusion in the sample would not add any significant or new information. To the contrary, it would extend the sample to institutions which, in fact, do not operate on the financial markets, but are merely intermediaries.

With regard to the capital market, there is a particularly large diversity of entities, among which the basic role is played by TFIs, managing investment portfolios and brokerage houses, providing investors (both institutional and individual) with access to trading in financial instruments. TFI assets at the end of 2018 reached PLN 256 billion, making them key participants in the domestic financial market. In turn, brokerage houses kept over PLN 1.2 million investment accounts. Therefore, both of these groups of institutions have good insight into the economic situation on the financial market, which speaks in favour of including them in the study. In addition, there were also 9 banks conducting brokerage activities (they have been already included in the study and categorised as banks) and 1 commodity brokerage house. Taking into account the latter allows to increase the sample to 264 entities.

Moreover, there are also a number of entities in the capital market whose activities are ancillary to TFIs or brokerage houses. This group includes custodian banks and depositaries, investment firm agents, entities that keep investment fund registers and distributors of mutual funds. Despite that, custodian banks and depositaries keeping securities accounts for individual and institutional clients are already included in the survey as they are legally subsidiaries of banks or brokerage houses. In turn, agents of investment firms do not conduct independent operations, but act for brokerage houses. Similarly, the role of entities keeping registers and distribution of investment funds is strictly limited and ancillary to the activities carried out by the TFIs.

On the other hand, stock exchanges and clearing houses play a key role in the capital markets, and without them, it would not be possible to execute transactions in financial instruments. At the end of 2018 there were 5 such entities in Poland.

In recent years, fixed income instruments, in particular bonds, have been gaining in significance. Rating agencies, which assess creditworthiness of issuers, play an important role in supporting bond trading. Out of these, 4 agencies operating in Poland had been awarded with accreditation by the pan-European supervisor ESMA. Including these 2 groups of entities allows to increase the sample size to 273.

Changes in socio-economic life, particularly the dissemination of electronic transactions, favoured development of non-bank institutions providing payment services, including those issuing electronic money. Among these entities only national payment institutions (KPI) operate independently. Digitalisation of subsequent areas of life and the related development of electronic payment methods suggests that the role of these institutions will increase and so will their insight into economic fluctuations. Therefore, in the authors' opinion, they should be included in the study; the sample then increasing to 311 entities.

The final group of entities that should be included in the study are loan companies, provided that their scale of operations is sufficient. As a result of changes in the banking sector after the Great Financial Crisis, combined with an increase in regulation and capital requirements, loan companies have taken over a significant share of the consumer loan market. At the end of 2018, as many as 473 loan companies operated on the Polish market and their assets were estimated at PLN 11.1 billion. However, in the absence of official data, an analysis of the asset size of these institutions remains a challenge. The NBP reports that 9 institutions exceeded the PLN 200 million threshold of assets. According to the authors, at least one institution had assets above PLN 500 million, a threshold which was used in the analysis of cooperative banks, saving and loan institutions and mutual insurance companies, which supports its inclusion in the sample.

As a result of the above analysis, the authors propose to expand the sample to include further types of institutions conducting competitive or complementary activity in relation to domestic commercial banks. Hence, it is possible to increase the sample size from 34 to at least 312 entities, i.e. by almost 10 times.

3. Questionnaire

Over the course of 20 years of research into the business climate in the banking sector, the survey has been only partially reviewed. Compared to the 1998 survey (when the study was started), 10 of the 26 questions have been modified. Those altered related to a bank's total revenues, overall financial position, as well as interest on loans and deposits. The survey has also been updated by removing questions about the value of services provided to foreign customers, the order of investment expenditure, the ratio of loans to deposits, the competitiveness of foreign banks, the mandatory reserve rate and the amount of NBP foreign exchange reserves. In addition, 4 possible answers were removed from the question about business barriers: lack of domestic cash, lack of qualified management staff, risk of currency crisis, way of thinking and habits of employees.

On the basis of the information given above, the survey can be primarily associated with a change in socio- economic realities. Specifically, the central bank's

monetary policy has changed significantly over the last 20 years, thus, making the questions about the amount of FX reserves or the risk of a currency crisis less relevant. Similarly, along with a systematic decrease in the reserve ratio, this parameter also lost significance. With the growing openness and internationalisation of the economy, questions about the value of services provided to foreign entities or the competitiveness of foreign banks have also become less relevant. On the other hand, factors such as inflation have become more pertinent. Since the adoption of the direct inflation target by the NBP, it has become 1 of the major variables influencing expectations of future interest rates.

Moreover, with regard to so-called soft factors, the systematic dissemination of higher education and the widespread availability of third studies for managers has reduced the problem of the lack of qualified management staff that could have previously be seen as a barrier to business. Interestingly, the habits and way of thinking of employees as barriers to activity were also abandoned, although in the era of technological transformation, this factor may once again become significant.

Minor changes also concerned the survey form. Compared to 1998, only 2 questions were removed: the first one in relation to the headquarters of the bank (in the vast majority of cases it was currently only Warsaw) and the other relating to the country of the bank headquarters (in case of international institutions).

The information discussed above concerns small scale of changes that allowed for the consistency of recorded data. On the other hand, the significance of individual questions may have changed over time, and some could now be detailed or broken down into component questions. Therefore, it seems reasonable to develop a new survey that would fully encompass the changes in socio-economic life from the past 20 years and the current conditions prevailing in the financial sector. Despite this, the study is less focused on the deeper problem of survey updating and other areas of the research methodology. Its main focus is reflection on expanding the sample to include new segments of the financial market, the importance of which has increased in the 21st century in the Polish financial sector. This should be accompanied by appropriate standardisation of the survey.

Expanding the sample of surveyed entities implies that the survey should be modified accordingly. The inclusion of non-banking institutions in the survey calls for the generalisation of questions so that they do not refer only to banks and that employees of such a wide range of entities as payment institutions or rating agencies can answer them. On the other hand, developing a new survey poses a methodological challenge with regards to maintaining continuity of the survey.

The authors propose the creation of 1 coherent version of the survey: (1) addressed to the current group of surveyed entities (i.e. banks) and branches of foreign credit institutions and cooperative banks (banking entities); (2) addressed to financial institutions other than banks, whose main activity is based on managing portfolios of assets and liabilities at their own risk (saving and loans, insurers,

including mutual insurance companies, brokerage houses, including commodity brokerage houses, loan companies, domestic payment institutions); (3) addressed to financial institutions other than banks, the main activity of which is managing portfolios of assets and liabilities at the client's risk (mutual fund companies, public pension funds); (4) addressed to financial institutions other than banks, whose main activity is not managing portfolios of assets and liabilities (stock exchanges and chambers of accounting, rating agencies).

For the sake of parsimony, instead of presenting all 4 versions of the new survey, the authors have reproduced only questions from the original survey, which is the basis for version (1), comparing them with the proposed set of new questions in versions (2) to (4). This process also allows for greater transparency (Table 2).

Table 2. Four different versions of the new survey—a comparison

Ques-tion No.	Version 1	Version 2	Version 3	Version 4
	How has/have… changed over the last quarter and will… change in this quarter, respectively…?			
1	net banking income of **your bank**	net operating income of **your institution**	net operating income of **your institution**	net operating income of **your clients**
2	conditions of your **banking operations**	conditions of your **operations**	conditions of your **operations**	conditions of your **clients' operations**
3	your net profit	your net profit	**your** net profit	net profit of **your clients**
4	quality of your **loan portfolio**	credit risk of your **assets**	credit risk of your **assets under management**	credit risk of your **clients**
5	interest of your clients in **banking services**	interest of your clients in **your services**	interest of your clients in **your services**	interest of your clients in **financial services**
6	level of employment	level of employment	level of employment	level of employment **in your clients' companies**
7	major barriers for growth	major barriers for growth	major barriers for growth	major barriers for growth **of your clients**
8	expenses and invest-ments in fixed assets	expenses and invest-ments in fixed assets	expenses and invest-ments in fixed assets	expenses and invest-ments in fixed assets **of your clients**
9	capital investments	capital investments	capital investments	capital investments **of your clients**
10	number of retail clients	number of retail clients	number of retail clients	*not applicable*
11	number of institutional clients	number of institutional clients	number of institutional clients	number of institutional clients
12	off-balance sheet operations	off-balance sheet operations	off-balance sheet oper-ations **of your invest-ment portfolios**	off-balance sheet oper-ations **of your clients**
13	net interest income	net interest income	*not applicable*	*not applicable*
14	the general condition of the Polish economy	the general condition of the Polish economy	the general condition of the Polish economy	the general condition of the Polish economy

Ques-tion No.	Version 1	Version 2	Version 3	Version 4
	How has/have… changed over the last quarter and will… change in this quarter, respectively…?			
15	the general condition of the financial industry in Poland	the general condition of the financial industry in Poland	the general condition of the financial industry in Poland	the general condition of the financial industry in Poland
16	Polish zloty exchange rate	Polish zloty exchange rate	Polish zloty exchange rate	Polish zloty exchange rate
17	official interest rates	official interest rates	official interest rates	official interest rates
18	central bank reverse repo operations	not applicable	not applicable	not applicable
19	money supply	money supply	money supply	money supply
20	inflation	inflation	inflation	inflation

Source: Own work.

Version (1) of the questionnaire is the original survey as of January 2020, with 1 minor change that should help maintain continuity of the study. This version is addressed to the group of institutions which have been analysed so far, and to other institutions exhibiting the greatest similarity to the original group. The only change relates to the question about money supply instead of the real money supply—as in the era of persistently low inflation being reasonably close to the central bank's target the differentiation between both of them is no longer that relevant.

In version (2) of the survey, questions referring strictly to banking operations have been replaced by those about operations in general, and questions referring to the spread between interest rates on loans and deposits have been replaced by more general questions about the net interest income. In this and all subsequent ones, i.e. (3) and (4) versions of the survey, the question about the central bank's reverse repo operations has been abandoned, given that the institutions to which these versions of the survey are addressed, do not participate in such operations.

In version (3) of the survey, similarly to version (2), questions referring to banking operations have been replaced by those referring to operations, while assets of a given institution have been changed in relevant questions to assets under management. In contrast to version (2) of the survey, the question about net interest income has been abandoned due to the fact that the institutions, to which this version is addressed, do not manage portfolios on their own behalf. Moreover, the question about the number of branches has been removed, given that these institutions operate in a strictly centralised form.

In version (4) of the survey, relative to version (3), questions referring to operations have been replaced by those referring to the activity of clients concerning the analysed institutions. The question about the number of individual clients has also been removed because, in principle, the institutions targeted by this version of the survey only serve institutional clients.

Conclusions and recommendations

Based on the analysis above, the authors recommend commencement of works on the modification and further development of the business climate surveys in the banking sector as part of the research palette of the SGH Institute of Economic Development. This recommendation comprises a two-step process. At the first stage, it is recommended to:

1. Extend the survey to cover other entities of the financial sector in order to increase the size of the surveyed population, both in terms of methodically increasing the currently small sample and also better rendering of business processes, not only in the banking sector, but more broadly, in wider financial market entities.
2. Change the title of the study in such a way that there is no loss of continuity and perception so that it is essentially still the same study, but only extended to other financial sector institutions. The proposed revised title being: "Business Climate Survey in the Banking Sector and Other Financial Institutions".
3. Maintain the continuity of the study and comparability of variables (before and after sample adjustment). This should be achieved by maintaining the survey in its current form and unifying it by taking into account the diversity of entities operating in the financial sector. It could be also possible to slightly extend the survey in order to include relevant contemporary issues.
4. Test (for about 10 editions) the effects of extending the sample without making deeper changes to the test methodology. The goal is to capture possible random or systematic errors as well as permanent differences resulting from sample modification (qualitative and quantitative).
5. Generate parallel results (for about 10 editions) regarding the banking sector vs. other financial institutions, to capture the scale and direction of the differences resulting from the new sample.

After testing the results of extending the sample to include institutions from the entire financial sector, it is recommended to proceed to the second stage of work on the research methodology. The second stage should be focused on 2 key issues:

1. In-depth survey review, taking the possibility of significant adjustments to the posed questions into account. This would provide the opportunity to both remove questions deemed no longer relevant, and also, to add new ones.
2. Overviewing the calculation and structure of the business climate index in the banking sector (and other financial institutions) due to the selection of variables and their associated weights.

The process of conducting both stages of study modification should be evolutionary and spread out over the time. This process should serve the quality of the results, their comparability over time and better monitoring of the applied changes.

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