






# “The assessment of corporate social responsibility at Ukrainian banks”

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## THE ASSESSMENT OF CORPORATE SOCIAL RESPONSIBILITY AT UKRAINIAN BANKS

### Abstract

Corporate social responsibility issues are becoming increasingly important in the banking sector. It refers to the responsibility of banks for their business activities subject to conceivable implications for society and the environment. Currently, the modern banking system in Ukraine is in the process of shaping its own model and integrating corporate social responsibility into all business processes. Thus, it is argued that objective comprehensive assessment of corporate social responsibility of Ukrainian banks is an essential prerequisite to enhance their performance, along with building a good rapport with clients and encouraging trust in society. From the above perspective, this article suggests an approach to assess corporate social responsibility at banks which entails implementing consistent stages in evaluating the development degree of the three corporate social responsibility components: social, environmental and economic. The assessment framework substantiates a set of indicators for measuring the degree of corporate social responsibility at banks by estimating the ratio of the GRI related aspects in the financial statements of banks, and identifying the possibility to implement the main provisions of the Social Accountability International 8,000 standard and the GRI G4 (Global Reporting Initiative). The proposed approach to measuring corporate social responsibility in banking through the instruments of a three-dimensional matrix and to positioning the banks by the areas of their corporate social responsibility has been tested by processing an array of 82 non-financial reports of 31 banks over the 2016–2018 period.

### Keywords

GRI G4 (Global Reporting Initiative), Social  
Accountability 8,000, three-dimensional matrix, integral  
indicators, non-financial reporting

**JEL Classification** D21, D71, G21

## INTRODUCTION

In an era of accelerated changes, the globalization of financial markets and investments, more and more banking institutions are trying to make their operations sustainable. Moreover, in present-day realities long-term profitability is often associated with social justice and environmental protection. Apparently, these expectations will only grow over time and become more demanding as the transition to the concept of sustainable economic development is perceived as vitally important by stakeholders.

It is anticipated that the model of moral management (Carroll, 2000) will be a prerogative of success and profitability and will translate into the increasing role of ethical behavior and philanthropy in the banking sector. In the context of making businesses socially responsible and enhancing the role of strategic corporate governance, the question arises as to the benefits of corporate social responsibility (CSR) and its impacts on building a positive image of a banking institution. A new generation of consumers is getting more sensitive and careful in their choices, which manifest itself through a growing demand for eth-

ical conduct and socially friendly policies of banking institutions (Ganushchak-Efimenko et al., 2018; Mubarak, et al., 2019). Thus, socially responsible banking becomes an integral part of the sustainable marketing concept (Kim, 2015) and the sustainable economic development throughout the globe and in Ukraine in particular.

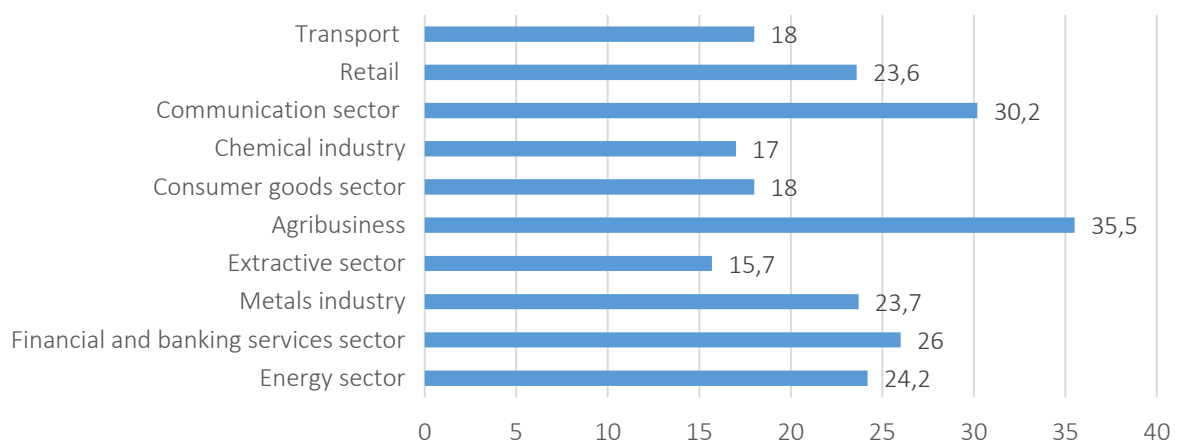
## 1. LITERATURE REVIEW

The key assessment indicator of corporate social responsibility in Ukraine is the Transparency Index which is based on the Beyond Business international methodology supported by the Center for CSR Development. According to the Center for CSR Development, the average level of CSR disclosure amounted to 21.7% in 2018 (Transparency Index, 2018). The results from the sector analysis of the website transparency of the 100 biggest Ukrainian companies by their tax contribution evidence that the financial and banking sector in Ukraine demonstrates a high degree of transparency (Figure 1), making it a socially active business.

It is argued that this ratio enables a meso-level comparative assessment and will contribute to enhancing public corporate reporting and improving the instruments of external assessment of CSR performance, which in turn creates a platform for regular monitoring of the situation in the banking sector. Oliveira et al. (2019) suggest using an innovative integrated indicator for measuring corporate social responsibility. The proposed approach allows identifying the firms with the best practices and those who have the potential for improvement. The research findings from Pislaru et al. (2019),

Jankalova and Jankal (2018), Debnath et al. (2018), Singh et al. (2017), Stindt (2017) reveal the effects of corporate social responsibility on company's business efficiency and financial performance.

Cochran and Wood (1984), in their study "Corporate social responsibility and financial performance", offer two most widely accepted, from their perspective, methods of corporate social responsibility evaluation: the reputation index and content analysis. Within the reputation index technique, competent observers (experts) rank firms based on one or more social impact indicators. The benefits of this method are internal consistency and group perception. However, there are certain limitations in this approach to measuring CSR: the ranking is rather subjective, thus the ultimate rating of companies may vary significantly from expert to expert which reduces the reliability of the obtained results; regarding the sample size, most of the rating indices are generated in such a way that cover only a small number of firms, which complicates their application to the entire population. Moskowitz (1975) suggested that three possible statuses are assigned to firms: "distinguished", "commendable", and the "worst". This method has not lost its relevance today.



**Figure 1.** Sector analysis of website transparency of the 100 biggest Ukrainian companies by tax contribution

Particular emphasis should be given to the TOPSIS methodology, which combines the benefits of ranking scores and financial ratios (Bilbao-Terol et al., 2019). The results from this study may be of interest to investors who seek to capture a global picture of companies in the process of their selection, as well as other stakeholders involved in CSR issues. The research by Mohammadi et al. (2018) demonstrates how the banking sector is sensitive to corporate social responsibility since image and reputation are critical to its successful performance.

The method of content analysis enables to measure the degree of reporting transparency across various publications, in particular in annual corporate reports. Content analysis assumes the use of both qualitative and quantitative data analysis. Thus, Siueia et al. (2019) have employed content analysis to assess the effects of corporate social responsibility on the overall profitability indicators, such as return on assets (ROA) and return on equity (ROE). The authors argue that among the key advantages of this approach is that the subjectively chosen variables are subject to fairly objective procedure of data analysis in the future. From this perspective, the results of each study are independent. Another advantage is that the methodology specifics and its mechanistic nature allows using large samples. Some scholars employ content analysis as a tool for assessing the correlation between the image of the banking institution and the degree of information openness (Al Mubarak et al., 2019).

Apart from the above, Hofer (2012) notes that content analysis techniques involve the encoding of information used in reports which makes it possible to evaluate the intensity and the availability of particular implementation of the CSR practices by reading the context information contained in the reports.

However, as with any method, content analysis has a number of limitations. Seuring and Müller (2008) emphasize certain subjectivity in selecting measurement variables. In this context, content analysis contributes to identification of company's intentions rather than the immediate outcome. Besides, high labor intensity of the method which cuts down on the sample size should also be noted. Another limitation, according to the authors, is

the subjectivity of human coding: this subjectivity can be eliminated by reading the report by multiple evaluators for checking accounts. Porter argues that validity is a key factor in the content analysis quality assurance (Potter & Levine-Donnerstein, 1999). There are two methods for establishing validity. The first is to manage the expert evaluations by using consistent and valid coding techniques. The other one is to apply the standard-based assessment framework to evaluate the experts' decisions. Calabrese et al. (2015) and Krippendorff (2004) argue that reporting on sustainable development based on the Global Reporting Initiative (GRI) is the most comprehensive and structured framework to assess CSR. The authors suggest integrating the management into a three-level coded structure which bears two main advantages: the minimization of criteria ambiguity and the reduction of the disparity between individual coders.

## 2. AIMS

The purpose of this research is to develop a methodological approach to the evaluation of corporate social responsibility at Ukrainian banks based on international standards of Social Accountability 8000 and GRI G4 (the Global Reporting Initiative).

To achieve this goal, the following objectives were set:

- to justify a set of indicators to measure the level of corporate social responsibility of banks;
- to estimate the ratio of the GRI related aspects in non-financial bank statements;
- to build a three-dimensional positioning matrix of corporate social responsibility development at banks;
- to calculate the integral indicators of the three components of corporate social responsibility of banks: social, environmental and economic;
- to calibrate corporate social responsibility areas of banks;
- to specify the positioning of banks by the areas of corporate social responsibility.

### 3. METHODS

#### 3.1. Building a three-dimensional positioning matrix of corporate social responsibility development at banks

The three-dimensional positioning matrix of bank's corporate social responsibility is presented in Figure 2.

The proposed matrix is arranged by the areas of corporate social responsibility based on the Gibbs-Rosebom triangle. In particular, each place in slits  $(i; j)$ ;  $(i; z)$ ;  $(j; z)$  of the three-dimensional bank positioning matrix is a pattern of alternatives to achieve certain level of development in the areas of corporate social responsibility. The most important step in shaping alternative solutions is identification of growth points to foster long-term development of bank's CSR. In broad terms, each plane in one of the sections should be viewed as a compromise between the interests of different stakeholders and the bank.

To estimate the actual performance of the bank's corporate social responsibility, a multivariate analysis method has been applied. This approach contributes to better understanding of which aspects of each of the three components (social, environmental or economic) and specific indicators

have the most influence upon the corporate social responsibility development level.

Thus, 20 largest Ukrainian banks have been selected to illustrate the suggested methodological approach.

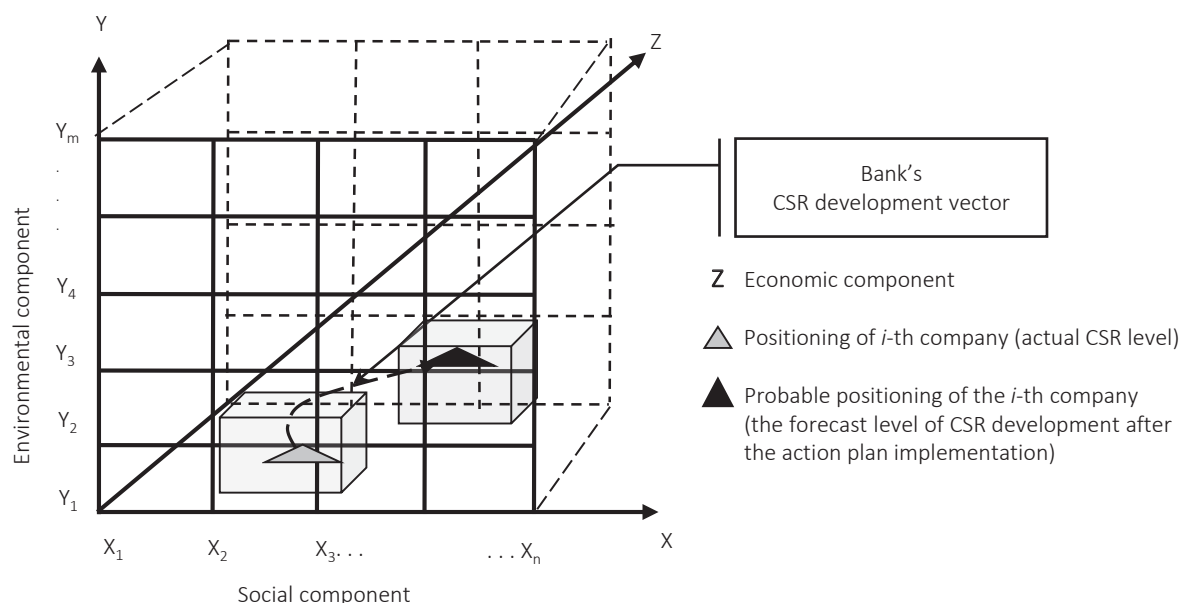
#### 3.2. The calculation of integral indicators to assess the development level of the three components of corporate social responsibility of banks: social, environmental and economic

The analysis results evidence that almost 50% (22 out of 45) aspects of the GRI (G4) are explained by more than one indicator. Hence, to conduct a multivariate analysis, the taxonomy method is used to make pre-estimates. Below is the example of applying the taxonomy technique to calculate the integral indicator for the "Economic performance" aspect.

**Stage 1.** Let's start with building an initial matrix for "Economic performance" indicators (dimension 1) which is explained by four indicators: G4-EC1, G4-EC2, G4-EC3, and G4-EC4.

$$Asp_1 = [EC1; EC2; EC3; EC4], \quad (1)$$

where  $EC1_i$ - $EC4_i$  are the indicators for dimension 1 – "Economic performance" of the  $i$ -th bank under study.



**Figure 2.** The three-dimensional positioning matrix of bank's corporate social responsibility

**Stage 2.** Further, this matrix is transformed to dimensionless standardized form:

$$asp_1 = [ec1_s; ec2_s; ec3_s; ec4_s], \quad (2)$$

where  $ec_i = EC_i / \overline{EC}$ .

**Stage 3.** Then, a matrix model is built where “0” is the best CSR development index value, column by column:

$$asp_0 = [ec1_0; ec2_0; ec3_0; ec4_0]. \quad (3)$$

**Stage 4.** At this stage, the multidimensional Euclidean distance to each standardized indicator is estimated, and the average value of the Euclidean distances from all the standardized indicators to the matrix model is assessed:

$$L_i^{asp1} = [(ec1 - ec1_0)^2 + (ec2 - ec2_0)^2 + (ec3 - ec3_0)^2 + (ec4 - ec4_0)^2]^{1/2}, \quad (4)$$

$$\overline{L^{asp1}} = \frac{1}{N} \sum_{i=1}^N L_i^{asp1}, \quad (5)$$

where  $N$  is the number of banks to be assessed by the first aspect (dimension 1).

**Stage 5.** Further, standard deviations of the multidimensional distances and respective generalized development indicators of each aspect for all selected banks are calculated:

$$\sigma^{asp1} = \frac{1}{N} \cdot \left( \sum_{i=1}^N \left( (L_i^{asp1} - \overline{L^{asp1}})^2 \right) \right)^{1/2}. \quad (6)$$

**Stage 6.** At this stage, an integral indicator for the development level of a certain aspect across the selected banks is calculated:

$$\eta^{asp1} = 1 \cdot \frac{L_i^{asp1}}{\overline{L^{asp1}} + 2\sigma^{asp1}}. \quad (7)$$

**Stage 7.** Finally, a multivariate analysis is conducted by the integral indicators of the development level of each of 45 aspects of the 20 investigated banks. The results of the multivariate analysis are presented in Appendix A.

According to the data from Appendix A, the percentage of total explained variation almost entire-

ly explains the nature of the corporate social responsibility processes taking place in the banking sector: 37.898% (factor 1), 27.2184% (factor 2), and 18.871% (factor 3), which together equals 83.9874%. The results of the multivariate analysis of CSR development in banks evidence that almost 84% of performance indicators can be accounted for the three factors. The indicators attributed to a certain factor in the STATISTICA 10 listing are given in bold (the fragment of multivariate analysis listing is provided in Appendix B).

Now the integral indicators for each of the three factors of the CSR development at banks are calculated. The calculation formula for factor 1 is as follows:

$$F_1 = 1 / 10.75424 \cdot (0.74345 \cdot asp_{16} + 0.62856 \cdot asp_{24} + 0.75322 \cdot asp_{29} - 0.66858 \cdot asp_{35} - 0.64528 \cdot asp_{37} + 0.74713 \cdot asp_{41} + 0.67452 \cdot asp_{42}). \quad (8)$$

According to formula (8), the first factor effects can be explained by eight aspects: aspect 16 “Employment”, aspect 24 “Investment”, aspect 29 “Security Practices”, aspect 35 “Combating corruption”, aspect 37 “Barriers to competition”, aspect 41 “Consumer health and safety”, and aspect 42 “Quality of banking services”. All these aspects belong to a social sphere and are associated with the banking sector specifics. Some of them (aspect 35 “Combating corruption” and aspect 37 “Barriers to competition”) take negative values, i.e. the increase in their values translates into the reduction in the social component value of the bank’s CSR.

The calculation formula for factor 2 is as follows:

$$F_2 = 1 / 7.748293 \cdot (-0.70661 \cdot asp_5 - 0.733846 \cdot asp_7 - 0.636236 \cdot asp_9 + 0.797314 \cdot asp_{10} + 0.76584 \cdot asp_{11}). \quad (9)$$

According to formula (9), the effect of the second factor can be attributed to five aspects: aspect 5 “Materials”, aspect 7 “Water”, aspect 9 “Emissions”, aspect 10 “Products and services”, and aspect 11 “Compliance”. All these aspects relate to the environmental sphere and are associated with poten-



tial threats to the environment. Almost all of them (except for aspect 10 “Products and services” and aspect 11 “Compliance”) are negative, i.e. the increase in their value triggers the decrease in the environmental component of the bank’s CSR.

Below is the calculation formula for factor 3:

$$F_3 = 1/5.341964 \cdot (0.89461 \cdot asp_1 + 0.760486 \cdot asp_3 + 0.618684 \cdot asp_4). \quad (10)$$

According to formula (10), the third factor exposure can be accounted for three aspects: aspect 1 “Bank economic performance and transparency indicators”, aspect 3 “Market presence”, and aspect 4 “Protection of banking information”. These aspects belong to the economic sphere and refer to banks’ performance. They all take positive values, i.e. the increase in their values results in the increase of the economic component of bank CSR.

## 4. RESULTS AND DISCUSSION

### 4.1. Evaluation of the GRI aspects correlation in non-financial bank reporting and applicability of Social Accountability 8000 and GRI G4 (the Global Reporting Initiative) international standards

The implementation of G4 standards in Ukraine has been underpinned by the development of corporate social responsibility and the evolution of non-financial reporting. It should be noted that the economic component (the economic performance, according to GRI) is not included in non-financial reporting that stems from the need to reduce the banks’ burden in the context of preparing processing and submitting of reporting. The release of both financial statements and non-financial reports together and at a time will allow the National Bank of Ukraine (by the financial performance), on the one hand, and a self-regulated organization (for social aspects), on the other to build ratings. The combination of these two ratings will assist a wide range of stakeholders in carrying out more accurate assessment of bank performance as well as making reasoned conclusions on their social responsibility.

The correlation of bank non-financial statements and the GRI standards are provided in Table 1.

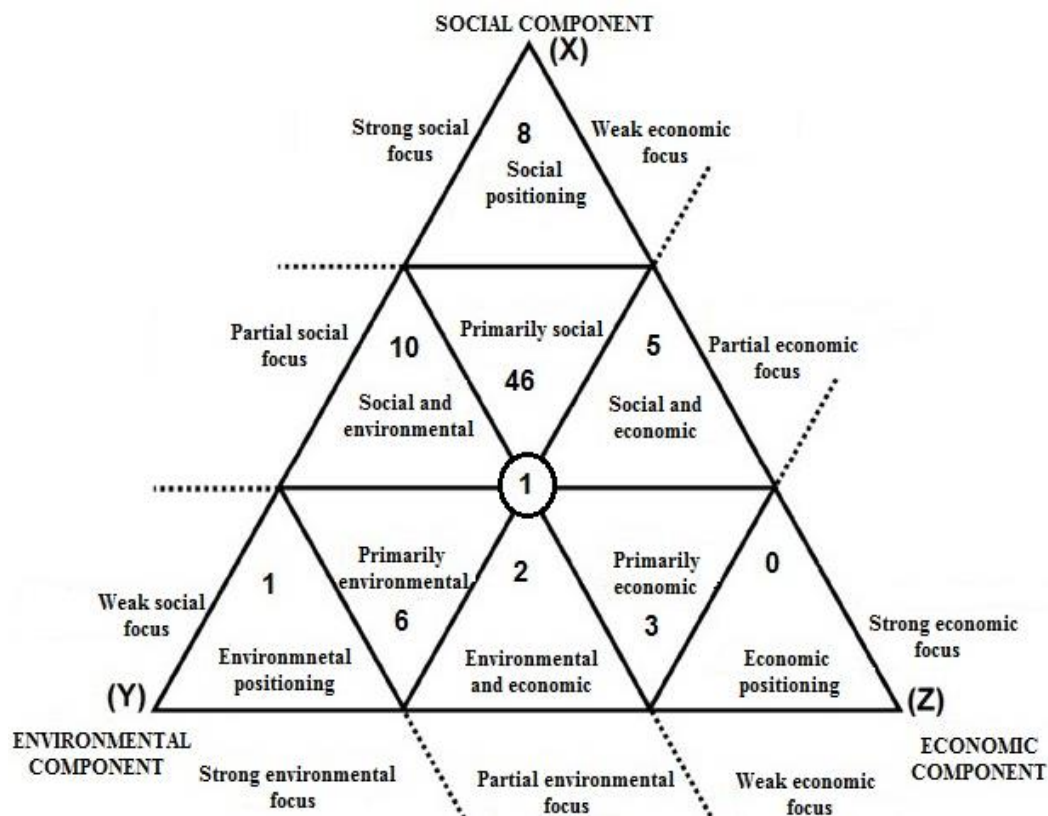
**Table 1.** The correlation of bank non-financial statement components and the Global Reporting Initiative standards

Bank non-financial reporting section	GRI indicator
Bank economic performance and transparency indicators	EC1-EC4
Market presence	EC5-EC6
Personnel social rights and guarantees	LA1-LA14; HR1-HR14; EC3, EC7
Quality of banking services	PR1-PR9; FS1-FS12, FS14
Relationships with stakeholders	SO1; FS13; SO5-SO6; EC6, EC8
Protection of banking information	PR3, PR6-PR8
Environmental section	FS1-FS5, FS7-FS12; EN1-EN30
Government – non-profit partnerships	EC4; SO5-SO8
Bank ethics	PR6-PR9

### 4.2. Evaluation of the GRI aspects correlation in non-financial bank reporting

The GRI aspects correlation in the area of non-financial statements was evaluated by mapping the bank reports positioning in the three main GRI G4 dimensions: social, environmental and economic. Content analysis of reporting has been chosen as the key research method. When processing the results, the Gibbs-Rosebom triangle model was applied (Kleine et al., 2009).

The Gibbs triangle, also known as the “concentration triangle”, “triangle diagram”, or the “ternary plot”, enables visualization of ternary mixture (combination of three components) in the 2D environment. Application of the Gibbs-Rosebom triangle allows identifying, with no ambiguity, the components of non-financial reporting: the social, environmental or economic issues. The triangle vertices are equivalent to the dimensions under study in their pure form, the points on the axes display the binary combinations, the points within the triangle describe the combination of three variables. All the three components make up 100% of the whole, and the sum of grid points on the axis should equal the length of one of its sides. After their location has been identified, the points must be described to understand the focus of a particular report. To this end, the lines shaping the outer



**Figure 3.** The Gibbs-Rosebom triangle of non-financial bank reporting in corporate social responsibility areas

sides of the triangle are divided into three sections, and all the planes inside the triangle are divided respectively (Figure 3).

The Gibbs-Rosebom triangle method has been applied to evaluate 82 non-financial reports of 31 banks for the period of 2016–2018. The results of the analysis on the report content is presented in Table 2.

**Table 2.** A breakdown of bank non-financial reports in the areas of corporate social responsibility

Rank	Positioning	Number of reports, units	Ratio, %
1	Primarily social	46	56.1
2	Social and environmental	10	12.2
3	Social	8	9.8
4	Primarily environmental	6	7.3
6	Social and economic	5	6.1
7	Environmental and economic	3	3.7
8	Primarily economic	2	2.4
9	Environmental	1	1.2
	Social-environmental-economic	1	1.2
Total		82	100

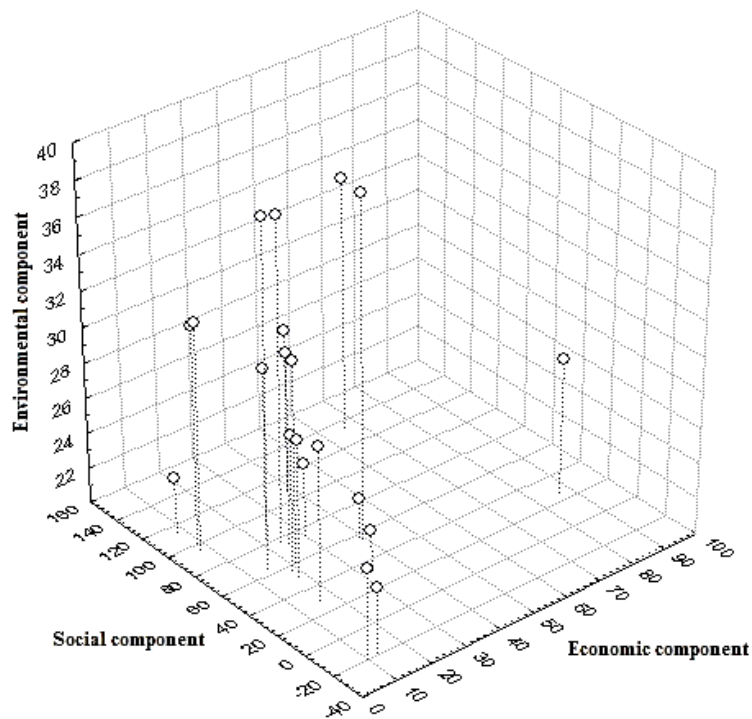
Table 2 evidences that the majority of Ukrainian banks are positioning themselves as primarily socially oriented. The study of non-financial reports of domestic banks contributes to a broader understanding of the current trends and modern challenges behind the transition to sustainable development.

#### 4.3. Calibrating the areas and the positioning of corporate social responsibility of banks

The value calculation for all three factors in the banks under study makes it possible to build a three-dimensional positioning matrix of corporate social responsibility and to assess the level of its maturity. This conceptual model is presented in Figure 3. Based on the results of actual value calculation for the three factors, a three-dimensional positioning matrix to evaluate the level of CSR development in the surveyed banks has been constructed (Figure 4).

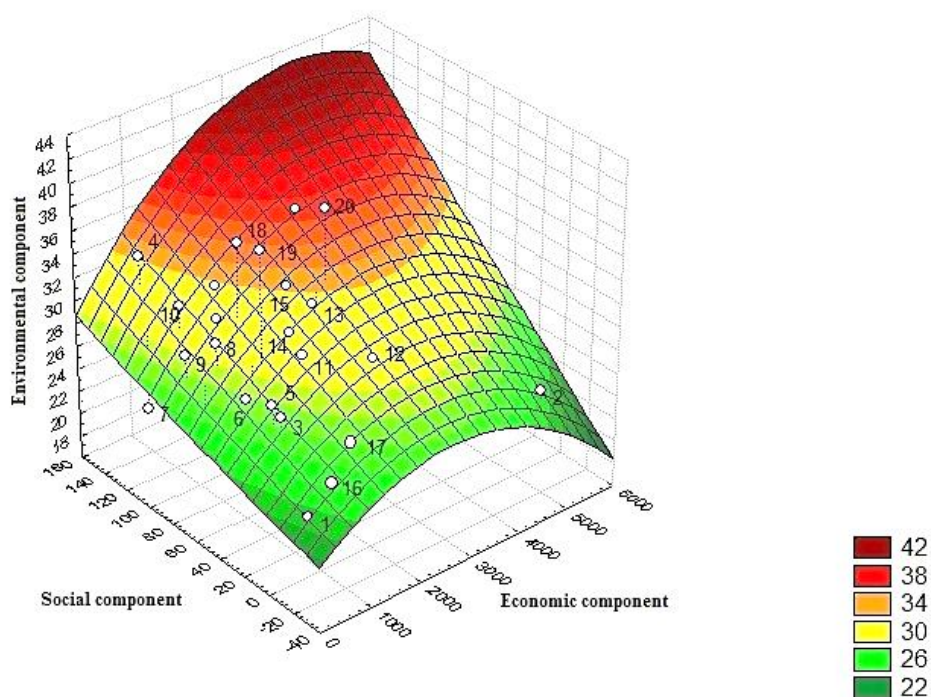


Source: STATISTICA 10 Listing, Worksheet: 3D Scatterplot.



**Figure 4.** A three-dimensional positioning matrix to evaluate the level of CSR development at banks

Source: STATISTICA 10 Listing, Worksheet: 3D SurfacePlot.



Note:  $CSR = 22.8237 + 0.0044 \cdot x + 0.0325 \cdot y - 7.2858 \cdot 10^{-7} \cdot x \cdot x + 1.275 \cdot 10^{-5} \cdot x \cdot y + 2.6812 \cdot 10^{-5} \cdot y \cdot y$ .

**Figure 5.** A three-dimensional matrix of corporate social responsibility areas for the TOP 20 banks operating in the territory of Ukraine, according to the Ranking 2018

**Table 3.** Banks that have disclosed their non-financial reports for 2016–2018

Symbol	Bank name
1	Alfa-Bank
2	ING Bank Ukraine
3	Idea Bank
4	Credit Agricole Bank
5	Credobank
6	OTP Bank
7	Oschadbank
8	Pivdennyi Bank
9	Piraeus Bank
10	Pravex Bank
11	Privat Bank
12	Procredit Bank
13	PUMB
14	Raiffeisen Bank Aval
15	Citybank Ukraine
16	Ukrghazbank
17	Ukreximbank
18	Ukrsibbank
19	ING Bank Ukraine
20	Ukrsotsbank

Further analysis of the suggested three-dimensional positioning matrix to evaluate the level of CSR development in surveyed banks revealed the presence of six areas of corporate social responsibility: from 22 to 42% (Figure 5). This demonstrates a low level of corporate social responsibility in the Ukrainian banking sector, so far.

The bank symbols for those banks that got into each of the six areas of corporate social responsibility are given below in Table 3.

The data from Figure 5 evidence that only one bank (Ukrsotsbank) got into the area of average level of responsibility – 38-42%. The worst results are demonstrated by the following banks: Alfa-Bank (the CSR level is 22%) and the Ukrghazbank (the CSR level is 26%). Other banks demonstrated mostly below the average level of corporate social responsibility – 30-34%, indicating the need for working out and implementation of sound development programs to enhance corporate social responsibility.

## CONCLUSION

Thus, the research findings acknowledge that the suggested methodological approach to the assessment of the level of corporate social responsibility at Ukrainian banks will contribute to further enhancement of self-regulation of reporting on their social performance in a range of bank social activities; building the rating of socially responsible banks along with setting a specific regulation standard to manage corporate social responsibility in the banking sector. All these factors together will encourage successful implementation of the concept of corporate social responsibility in banks within their embedded architectonic components: social, environmental and economic CSR aspects.

The proposed sequence of stages to calculate the integral indicators of the three components of corporate social responsibility at banks involves only significant impact factors and international standard indicators (the Social Accountability 8,000 and GRI G4 (Global Reporting Initiative)). It has been justified that building a three-dimensional positioning matrix to evaluate the level of corporate social responsibility development in banks allows performing the calibration of the areas of corporate social responsibility of banks and identifying the positioning of banks in the areas of corporate social responsibility. The suggested positioning of banks in the areas of corporate social responsibility revealed that as of January 1, 2019, most of Ukrainian banks (85%) demonstrate low level of corporate social responsibility – up to 40% which triggers a need for designing and implementing effective CSR development programs.

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## APPENDIX A

**Table A1.** The results of the multivariate analysis on corporate social responsibility development level

Integral indicators of the CSR development level	Indicators included in the calculation of the CSR particular aspect development level	Factor 1	Factor 2	Factor 3
$\eta_{asp1}$	P4-US1b P4-US2b P4-US3b P4-US4	0.69461	0.605257	0.133818
$\eta_{asp2}$	P4-US5b P4-US6	0.67906	0.617215	0.158872
$\eta_{asp3}$	G4-EC7, G4-EC8	0.76048	0.538177	0.169975
$\eta_{asp4}$	G4-EC9	0.61868	0.672373	0.240621
$\eta_{asp5}$	G4-EN1, G4-EN2	0.55774	0.706610	0.115624
$\eta_{asp6}$	G4-EN3, G4-EN4, G4-EN5, G4-EN6, G4-EN7	0.63309	0.644818	0.166872
$\eta_{asp7}$	G4-EN8, G4-EN9, G4-EN10	0.73384	0.556497	0.091401
$\eta_{asp8}$	G4-EN11, G4-EN12, G4-EN13, G4-EN14	0.60060	0.400753	-0.092703
$\eta_{asp9}$	G4-EN15, G4-EN16, G4-EN17, G4-EN18, G4-EN19, G4-EN20, G4-EN21, G4-EN22, G4-EN23, G4-EN24, G4-EN25, G4-EN26	0.60745	0.636236	0.237947
$\eta_{asp10}$	G4-EN27, G4-EN28	0.68017	-0.307976	-0.242823
$\eta_{asp11}$	G4-EN29	0.76584	-0.134976	-0.228996
$\eta_{asp12}$	G4-EN30	0.56469	-0.477554	-0.138103
$\eta_{asp13}$	G4-EN31	0.36187	-0.339999	-0.226147
$\eta_{asp14}$	G4-EN32, G4-EN33	0.28933	-0.179822	-0.603477
$\eta_{asp15}$	G4-EN34	-0.20793	0.166796	-0.460095
$\eta_{asp16}$	G4-LA1, G4-LA2, G4-LA3	0.74345	-0.293477	-0.097869
$\eta_{asp17}$	G4-LA4	0.54421	0.154189	-0.081183
$\eta_{asp18}$	G4-LA5, G4-LA6, G4-LA7, G4-LA8	0.60306	-0.378878	0.155759
$\eta_{asp19}$	G4-LA9, G4-LA10, G4-LA11	0.03830	0.008652	-0.388978
$\eta_{asp20}$	G4-LA12	0.27122	0.342596	-0.087744
$\eta_{asp21}$	G4-LA13	0.42797	-0.550452	-0.041863
$\eta_{asp22}$	G4-LA14, G4-LA15	0.58706	-0.232279	-0.450475
$\eta_{asp23}$	G4-LA16	0.48464	-0.201470	-0.273944
$\eta_{asp24}$	G4-HR1, G4-HR2	0.62856	-0.468476	0.028528
$\eta_{asp25}$	G4-HR3	0.68762	-0.444016	-0.234131
$\eta_{asp26}$	G4-HR4	0.26728	-0.157731	-0.533534
$\eta_{asp27}$	G4-HR5	0.13719	-0.235308	-0.707322
$\eta_{asp28}$	G4-HR6	0.54957	-0.012698	-0.448382
$\eta_{asp29}$	G4-HR7	0.75322	-0.217074	-0.321360
$\eta_{asp30}$	G4-HR8	0.25864	-0.566166	0.615925
$\eta_{asp31}$	G4-HR9	0.24005	-0.561830	0.615703

**Table A1 (cont.).** The results of the multivariate analysis on corporate social responsibility development level

Integral indicators of the CSR development level	Indicators included in the calculation of the CSR particular aspect development level	Factor 1	Factor 2	Factor 3
$\eta_{asp32}$	G4-HR10, G4-HR11	0.26989	-0.567860	0.614623
$\eta_{asp33}$	G4-HR12	0.21935	-0.559630	0.594410
$\eta_{asp34}$	G4-SO1, G4-SO2	0.27605	-0.566589	0.612472
$\eta_{asp35}$	G4-SO3, G4-SO4, G4-SO5	0.22360	-0.547217	0.191356
$\eta_{asp36}$	G4-SO6	0.00547	-0.424785	0.064619
$\eta_{asp37}$	G4-SO7	0.54528	-0.139278	0.528285
$\eta_{asp38}$	G4-SO8	0.33857	0.051542	0.052811
$\eta_{asp39}$	G4-SO9, G4-SO10	0.28757	-0.092086	-0.005710
$\eta_{asp40}$	G4-SO11	-0.23431	0.287821	0.257333
$\eta_{asp41}$	G4-PR1, G4-PR2	-0.24713	0.431805	0.340282
$\eta_{asp42}$	G4-PR3, G4-PR4, G4-PR5	-0.00745	-0.036601	0.139208
$\eta_{asp43}$	G4-PR6, G4-PR7	0.31534	-0.361596	0.205257
$\eta_{asp44}$	G4-PR8	0.45378	0.308916	0.400294
$\eta_{asp45}$	G4-PR9	0.27926	-0.198802	-0.352942
Expl.Var (Explanatory variable)		10.75424	7.748293	5.341964
Prp.Totl (Percentage of total explained variation)		0.37898	0.272184	0.188710

## APPENDIX B

**Table B1.** The results of the multivariate analysis on the level of development of particular aspects of corporate social responsibility in banks

Source: STATISTICA 10 Listing, a fragment.

Variable	Factor Loadings (Unrotated) (13_new)		
	Extraction: Principal components (marked loadings are > 0.700000)		
	Factor 1	Factor 2	Factor 3
asp27	0.13719	-0.235308	-0.012698
asp28	0.54957	-0.012698	-0.448382
asp29	0.75322	-0.217074	-0.321360
asp30	0.25864	-0.566166	0.615925
asp31	0.24005	-0.561830	0.615703
asp32	0.26989	-0.567860	0.614623
asp33	0.21935	-0.559630	0.594410
asp34	0.27605	-0.566589	0.612472
asp35	-0.66858	-0.547217	0.191356
asp36	0.00547	-0.424785	0.064619
asp37	-0.64528	-0.139278	0.528285
asp38	0.33857	0.051542	0.052811
asp39	0.28757	-0.092086	-0.005710
asp40	-0.23431	0.287821	0.257333
asp41	0.74713	0.431805	0.340282
asp42	0.67452	-0.036601	0.139208
asp43	0.31534	-0.361596	0.205257
asp44	0.45378	0.308916	0.400294
asp45	0.27926	-0.198802	-0.352942
Expl.Var	10.75424	7.748293	5.341964
Prp.Totl	0.37898	0.272184	0.188710