

INFORMATION PROGRESS AND TECHNOLOGY TRANSFORMING THE WORLD

Monograph

Edited by

Irina Tatomyr

Communal institution «Center for Professional Development of
Pedagogical Workers» Boryslav City Council (Ukraine)

Liubov Kvasnii

Precarpathian Institute named of M. Hrushevsky of
Interregional Academy
of Personnel Management (Ukraine)

eBook ISBN 978-80-88618-70-6

OKTAN PRINT
PRAHA 2024

Recommended for publication by the Precarpathian Institute named of
M.Hrushevsky
of Interregional Academy of Personnel Management
(Protocol №1 dated 02.09.2024)

Reviewers:

Levan Jakeli Professor, Dean of the Faculty of Law of Batumi State University.
Sh. Rustaveli (Georgia)

Justyna Krzywkowska, Doctor of Law, assistant professor Department of Legal
Theory and History Faculty of Law and Administration University of Warmia and
Mazury in Olsztyn (Poland)

Oksana Vivchar, Doctor of Economic Sciences, Professor of the Security, Law
Enforcement Practice and Financial Investigations Department Ternopil National
Economic University, Academician of Academy of Economics Sciences of Ukraine
(Ukraine)

Editors:

Irina Tatomyr PhD in Economics, Associate Professor

Liubov Kvasnii Ph.D in Economics, Associate Professor

**INFORMATION PROGRESS AND TECHNOLOGY TRANSFORMING
THE WORLD:** monograph. Edited by Irina Tatomyr, Liubov Kvasnii. Praha:
OKTAN PRINT, 2024, 342 p.

No part of this eBook may be reproduced or transmitted in any form or by any means,
electronic, mechanical, recording, or otherwise, without written consent from the
Publisher

The publication is assigned with a DOI number: <https://doi.org/10.46489/ipatttw-24-24>

The publication is available in electronic version on the website:
<https://www.oktanprint.cz/p/information-progress-and-technology-transforming-the-world/>

Cover design: Irina Tatomyr

eBook ISBN 978-80-88618-70-6

OKTAN PRINT s.r.o.

5. května 1323/9, Praha 4, 140 00

www.oktanprint.cz

tel.: +420 770 626 166

Contents

.....

| | |
|--|----|
| 1. RESEARCH OF THE FACTORS OF INFLUENCE ON THE DEVELOPMENT OF THE TOURISM INDUSTRY | |
| <i>Myroslava Haba, Lilia Bublyk</i> | 7 |
| 2. THE PRINCIPLE OF COOPERATION AGAINST THE ABUSE OF DEEPFAKE TECHNOLOGY | |
| <i>Andrii Hachkevych</i> | 18 |
| 3. IMPACT ASPECTS OF THE INTEGRATION OF COUNTRIES INTO THE EU ON THE LEVEL OF DEPRIVATION OF THE POPULATION (based on scientific metric analysis) | |
| <i>Mariana Cherednichenko, Oleksii Demikhov, Inna Bielova</i> | 28 |
| 4. BUDGETARY AND TAX STIMULATION OF THE DEVELOPMENT OF THE FINTECH-ECOSYSTEM IN UKRAINE | |
| <i>Nazar Demchyshak, Roksolana Paslavaska, Oksana Shchurevych</i> | 39 |
| 5. ASSESSMENT OF THE IMPACT OF DIGITAL TRANSPARENCY OF BANKS ON THE FINANCIAL RESULTS OF THEIR ACTIVITIES | |
| <i>Oleksii Zakharkin, Karyna Pos</i> | 50 |
| 6. MECHANISMS OF IMPLEMENTATION OF ELECTRONIC DEMOCRACY AT THE LOCAL LEVEL | |
| <i>Artem Ahekyan, Zenovii Kvasnii, Olesya Lobyk, Yuriy Strohush</i> | 61 |
| 7. PUBLIC POLICY OF SOCIAL INTEGRATION OF UKRAINIAN SOCIETY IN THE CONDITIONS OF TECHNOLOGICAL PROGRESS | |
| <i>Viktorija Paslavaska, Halyna Sysyn, Oleg Gatskov</i> | 72 |
| 8. IMPACT OF DIGITALIZATION ON FINANCIAL SECURITY OF TERRITORIAL COMMUNITIES OF UKRAINE | |
| <i>Oksana Kvasnii, Yurii Danilenko</i> | 87 |

| | |
|--|-----|
| 9. FEATURES OF THE TOURISM AND RECREATION SPHERE IN THE ECONOMY OF TERRITORIAL COMMUNITIES OF LVIV REGION | 95 |
| <i>Zenovii Kvasnii, Ivan Voronchak, Mykola Danyliuk.....</i> | |
| 10.PECULIARITIES OF THE DIGITAL SOCIETY IN THE CONDITIONS OF INFORMATION PROGRESS | 105 |
| <i>Liubov Kvasnii, Liubov Malik, Oresta Shcherban.....</i> | |
| 11.PUBLIC MANAGEMENT OF COAL COMMUNITIES IN THE CONDITIONS OF TECHNOLOGICAL CHALLENGES | 112 |
| <i>Liubov Kvasnii, Svitlana Senyshyn, Sviatoslav Kostiuk.....</i> | |
| 12.EXERCISE OF THE RIGHT TO SUBSTITUTE LEGAL OBLIGATIONS DUE TO RELIGIOUS BELIEFS IN THE CONDITIONS OF TECHNOLOGICAL PROGRESS | 119 |
| <i>Nataliia Marych.....</i> | |
| 13.IMPLEMENTATION OF DIGITAL TECHNOLOGIES IN MEDICINE AND THEIR IMPACT ON IMPROVING THE QUALITY OF MEDICAL SERVICES | 127 |
| <i>Liubov Kvasnii, Volodymyr Mural, Andrii Petsukh, Nazar Balanda.....</i> | |
| 14.FEATURES OF THE IMPACT OF DIGITALIZATION ON THE GLOBAL ENVIRONMENT | 133 |
| <i>Yurii Shulzhik, Olha Kondra, Olena Moravska</i> | |
| 15.BALANCED SCORECARD FOR FINTECH COMPANIES: INTEGRATION OF FINANCIAL AND NON-FINANCIAL INDICATORS FOR STRATEGIC PERFORMANCE MANAGEMENT | 145 |
| <i>Bohdan Kyshakevych.....</i> | |
| 16.DIGITAL MARKETING STRATEGY IN THE MARKET OF CONSUMER ORGANIZATIONS | 156 |
| <i>Nataliia Kuzo, Nataliia Kosar, Nataliya Pytulyak.....</i> | |
| 17.DIGITAL MARKETING PRACTICES IN RESTAURANT BUSINESS OF UKRAINE IN WARTIME | 167 |
| <i>Anastasiia Mostova.....</i> | |
| 18.ARTIFICIAL INTELLIGENCE IN ARCHITECTURAL DESIGN: ESSENCE AND APPLICATION ANALYSIS | 182 |
| <i>Natalia Novoselchuk, Liudmyla Shevchenko, Elena Mass.....</i> | |

| | |
|---|-----|
| 19.STUDY OF ATTACKS ON DIGITAL WATERMARKING SYSTEMS | |
| <i>Andrii Petrenko, Valentyna Teliushchenko</i> | 193 |
| 20.DIGITIZATION OF THE ECONOMY OF UKRAINE UNDER MARTIAL LAW | |
| <i>Yurii Radionov</i> | 204 |
| 21.DIGITAL INNOVATIONS OF UKRAINIAN AGRIBUSINESS: ENTREPRENEURIAL TRENDS AND SOURCES OF FINANCING | |
| <i>Oksana Radchenko, Tetiana Matsybora, Larisa Malik, Inna Bezhenar, Nataliia Usata</i> | 220 |
| 22.MARKETING RELATIONSHIPS IN THE DIGITAL ECONOMY | |
| <i>Kęsy Marcin, Svitlana Reshmidilova, Pavlo Aleynyk, Denis Bondarenko</i> | 234 |
| 23.MODELING OF THE INTERACTION “STATE-REGION-ENTERPRISE-HOUSEHOLD” FOR THE DEVELOPMENT OF THE WASTE MANAGEMENT SYSTEM | |
| <i>Anna Rosokhata, Karyna Khramova</i> | 250 |
| 24.SOCIAL NETWORKS AS AN EFFECTIVE TOOL OF DIGITAL MARKETING | |
| <i>Emre Harorli, Anatoliy Telnov, Serhii Tretko</i> | 263 |
| 25.DIGITAL MARKETING AS A TOOL FOR DEVELOPING THE COMPANY'S POTENTIAL | |
| <i>Nadiia Yurkiv, Ivan Didovych</i> | 274 |
| 26.PROJECT MANAGEMENT AND TECHNOLOGICAL TRANSFORMATION OF THE WORLD | |
| <i>Tetiana Ostapenko, Yevheniia Osypova, Oksana Polishchuk, Oleksandr Ponomarov, Olena Danchenko</i> | 284 |
| 27.THE TRANSFORMATION OF MONEY AS A MEANS OF PAYMENT UNDER THE INFLUENCE OF DIGITAL TECHNOLOGIES | |
| <i>Iryna Pasinovych, Galyna Myskiv</i> | 305 |
| 28. THE STUDY OF MODERN VARIETIES OF TOMATO IN THE CONDITIONS OF THE FOREST-STEPPE ZONE OF UKRAINE DURING CULTIVATION WITHOUT IRRIGATION | |
| <i>I. Lebedynskiy, S.Gromovy</i> | 315 |

5.ASSESSMENT OF THE IMPACT OF DIGITAL TRANSPARENCY OF BANKS ON THE FINANCIAL RESULTS OF THEIR ACTIVITIES

Oleksii Zakharkin

Doctor of Sciences (Economics),
Associate Professor of the Department of
Finance and Entrepreneurship,
Sumy State University
E-mail: o.zakharkin@biem.sumdu.edu.ua
ORCID ID 000-0001-9317-252X

Karyna Pos

Student,
Sumy State University
E-mail: karyna_pos@ukr.net
ORCID ID 0009-0002-7127-9160

Introduction. At the current stage of the development of financial relations, the critical role in ensuring their effective functioning is played by the observance of the principles of publicity and transparency. These principles act as a foundation for increasing the efficiency of financial management at all levels of the economy and also contribute to strengthening the state's economic security.

In the banking context, transparency means open provision by banks of information that allows interested parties to adequately assess both the general functioning and the specific results of the work of an individual bank or the entire banking system. This involves free access to essential data for everyone interested in the bank's activities. Such information includes data on the bank's resources, achievements and performance, volumes, and methods of attracting both equity and loan capital. In addition, this also applies to information about sources of financing and ways of their use when requesting information. This level of transparency is essential not only for current and potential investors and creditors but also for the general perception of the reliability and stability of the country's financial system. The availability of complete and up-to-date information helps to reduce risks, improves the investment climate, increases the trust of clients and partners in the bank, and generally contributes to the stable development of the banking sector.

Literature review. The analysis of publication activity regarding transparency issues in the banking sector showed that this topic is insufficiently elaborated in the scientific opinion of Ukrainian scientists and practitioners. Today, there is a small number of publications, most of which reveal banks' transparency from the angle of ensuring the publicity and transparency of their financial statements. Thus, V. Butenko and Yu. Belinska [1] emphasizes that developing a strategy in the field of information policy, increasing the volume of information

exchange, and increasing the level of openness to investors and clients becomes an essential task of banks. The integration of the principles of transparency into the daily activities of Ukrainian banks is one of the main goals for bank management and state regulation in the banking sector.

T. Savchenko, A. Yaroshyna, O. Kasyanenko, Zh. Oleksich [2,3] offers a calculation of the level of bank transparency based on the analysis of the Management Report, which includes financial and non-financial data, highlights the current state and opportunities for development, and describes the main risks associated with the activity. According to the results of their research, the authors indicate a constant increase in the disclosure of financial and non-financial information in banks. Depending on the form of ownership, banks with foreign capital and state-owned banks are more transparent, which, in turn, helps to reduce the volume of shadow transactions. It should be noted that this approach to determining the level of transparency of banks is somewhat limited because it does not consider the information contained directly on the banks' websites or other informational banking resources.

Publicity and transparency of the banking sector as a factor in preventing the emergence of banking crises and ensuring financial stability are considered in their works by I. Dyakonova and Yu. Cinyagovskyi [4], A. Buryak, A. Tsyavuk, and K. Yemtseva [5]. According to the authors, from the point of view of microeconomics, transparency plays a vital role in the formation and maintenance of stable and long-term relations between banks and their stakeholders, such as investors and customers, which contributes to increasing their competitiveness in the financial market. This includes providing access to complete and accurate information about the bank's financial position and strategies, enabling stakeholders to make informed decisions.

Also, among domestic scientists, V. Romanchukevich, O. Lymanska [6], V. Piddubna [7], A. Buryak, K. Vyakhireva [8], K. Busko [9] and other researchers made a significant contribution to the development of the methodology and practice of solving problems of implementing the principles of transparency in the banking sphere. At the same time, the analysis of scientific literature on the topic of the study allows us to state that the issues of determining the level of bank transparency and evaluating the impact of such transparency on its financial results remain unresolved, which determines the study's relevance.

Results. Transparency at the second level of Ukraine's banking system is implemented through several legislative and regulatory acts and corporate governance practices. The critical normative document regulating the provision of transparency of banks in Ukraine is the Resolution of the Board of the National Bank of Ukraine, «On Establishing a List of Information to be Mandatorily Published by Banks of Ukraine,» dated February 15, 2018, No. 11 [10]. This document establishes rules and norms to ensure openness and availability of information about the activities of banking institutions in Ukraine. It details the information banks must regularly publish, including financial statements, ownership structure, liquidity and

capital ratios, and information on risk and risk management. This aims to ensure the economic system's transparency and protect the rights and interests of depositors and other market participants.

In the modern development of digital technologies, the primary tool for implementing banking transparency is publishing information on the bank's official website. A review of the websites of Ukrainian banks demonstrates a wide variety of information and different approaches to its presentation. The individuality of each bank explains this, as well as its desire to create its unique «portrait» and to illuminate all aspects and «highlights» of its activity as much as possible. The analysis showed that the information published by the bank about its activities can be divided into mandatory and individual.

Mandatory includes documents that the bank is required to publish by the requirements of the NBU. First, this is information about the bank's management, namely about its owners, the board's chairman, his deputies and members, and the supervisory board. At the request of the NBU, annual financial statements must be made public by international financial reporting standards (IFRS) and national standards. At the same time, the financial statements are submitted together with the management report (management report) and the report of independent auditors. At the same time, as a rule, leading auditing companies Deloitte, PricewaterhouseCoopers, Ernst & Young, and KPMG act as independent auditors. Information on the indicators of the bank's activity, the content of which is defined in [10], is also made public as mandatory. This includes the current balance sheet, information on the distribution of loans and deposits of individuals, capital ratios and their components, etc.

In addition to mandatory information, banks often publish information on their websites, which may include news and press releases about the bank's latest events and initiatives, analytical reports and market research, information about social responsibility and participation in social projects, details about new products and services, instructions and advice for clients on financial management, security of transactions, as well as information materials and videos to improve financial literacy. The disclosure of such information allows the bank's clients to learn more about the services offered by the bank for individuals and legal entities, such as entrepreneurs.

Also, many banks provide information on additional services for online services, such as the purchase of transport tickets, insurance, transactions with securities, depository services for an account in the central bank, individual safes, etc.

Banks' Transparency can positively affect their financial results, increasing the trust of customers and investors, thereby reducing the cost of raising capital. Openness to information about the financial condition, risks, and management practices helps attract new customers and keep existing ones. Also, it contributes to a better assessment of the market, improving the investment attractiveness of the bank. It can also reduce regulatory risks and costs as the bank demonstrates compliance with regulations and standards.

To assess such an impact, it is advisable to determine the level of transparency of the bank and conduct modeling of the relationship of this level with the financial results of the bank's activity by the methodical approaches developed by the authors [11]. As the review of the official websites of banks showed, public information on them is provided by directions (blocks), according to which it is proposed to determine the relevant transparency indicators:

- general information about the bank (General Information Transparency Index (I_{git}));
- information for private clients (Index of transparency of private clients (I_{tpc}));
- information for business clients (enterprises) (Index of transparency of business clients (I_{tbc})).

To determine the appropriate index of transparency, it was proposed that the information content of the sites be analyzed and the partial indicators that will form the value of the appropriate index be determined. For the objective determination of partial, mainly qualitative indicators, it is advisable to use their expert evaluation with further generalization of the obtained results. At the same time, the reduction of partial indicators to the general index can be implemented as an arithmetic mean of their values.

It is advisable to evaluate the value of partial indicators on a 5-point scale using the following criteria:

5 points – the information has been provided in full for the last five years and earlier, its search is easy and convenient; the format of the information presentation is clear;

4 points – individual components of information are not provided or are not provided in full; outdated information is available; navigation on the site is not convenient enough;

3 points – information is partially available, but its search is difficult;

2 points – mandatory information and some components of additional details are available, its search is inconvenient;

1 point - only mandatory information is available

0 points - there is no information on the site.

According to the first block, the Index of General Information Transparency (I_{git}) is determined based on information that is mainly provided on bank websites in the «About the Bank» tab. This includes the following partial indicators:

$X_{1.1}$ – management of the bank (Management of the bank (surnames, positions, biography, photo, etc.), Supervisory Board (surnames, positions, biography, photo, etc.), Bank owners (structure, information about the owners), availability of information about award of influential persons, etc.);

$X_{1.2}$ – information for the bank's shareholders (information about shareholders' meetings, decisions, protocols, etc.);

$X_{1.3}$ – documents regulating the bank's activities (licenses, certificates, information on membership in organizations, etc.);

X_{1.4} – financial reporting, audit report, management report (management report) (completeness of information disclosure, quality of information presentation, etc.);

X_{1.5} – partners of the bank (collection companies, appraisal companies, insurance companies, independent experts, etc.);

X_{1.6} – information about the branch network, ATMs, participation in payment systems, and contact data;

X_{1.7} – compliance and corporate ethics;

X_{1.8} – information on compliance with the principles of sustainable development;

X_{1.9} – system for receiving feedback from the Bank's clients (appeals from citizens, hotline);

X_{1.10} – news, notices, bank press, analytical reviews, People's Banker, shares, etc.

Along with traditional information about the bank, most banks have a «compliance» tab on their websites. The term «compliance» in translation from English means «compliance» or «compliance.» Compliance is one of the modern approaches to risk management that has gained popularity in the business environment. In the process of development and functioning, any bank faces specific challenges and problems in its activities. These problems can lead to significant financial losses and reputational damage among key stakeholders: customers, investors, business partners, shareholders, and government regulators. This prompted banks to develop and implement effective risk management mechanisms to reduce the possibility of such problems.

The essence of compliance is to prevent risks associated with violation of legal norms, non-compliance with internal policies and procedures of the company, as well as standards of fair competition and corporate ethics. Compliance risk includes the potential for sanctions from regulators, financial losses, and reputational losses due to non-compliance with the above standards, a conflict of interests, or other violations.

Banks are actively implementing the Code of Corporate Ethics as part of compliance risk management. This vital document establishes ethical standards and rules of conduct for employees, emphasizing the fundamental principles of the bank's activities. The Code covers all employees without exception, regardless of their positions, professional duties, or place of work. It aims to ensure clarity of corporate values and mission, establish ethical standards in relations with clients and partners, form a healthy internal environment, prevent conflicts and violations, and support transparency in the bank's activities. Violation of these norms entails the application of appropriate measures by the law.

According to the second block, the transparency of banks is aimed at its private clients based on the information provided on the bank's website. At the same time, the (Index of transparency of private clients (I_{tpc})) will include the following partial indicators:

$X_{2.1}$ – deposits (terms of placement, rates, availability of a deposit calculator, etc.);

$X_{2.2}$ – loans (credit terms, rates (actual), repayment schemes, loan calculator, etc.);

$X_{2.3}$ – payment cards, current accounts, salary projects (formation conditions, tariffs, terms of use, etc.);

$X_{2.4}$ – information on providing other services (cash orders, currency exchange, individual safes, etc.).

The third block determines bank transparency at the level of corporate clients. At the same time, the Index of transparency of business clients (I_{tbc}) will include the following partial indicators:

$X_{3.1}$ – deposits (terms of placement, rates, availability of a deposit calculator...);

$X_{3.2}$ – loans (credit terms, rates (actual), repayment schemes, loan calculator...);

$X_{3.3}$ – terms of service provision for business (letters of credit, guarantees, documentary collections, factoring, promissory note transactions, leasing...);

$X_{3.4}$ – information on settlement and cash service;

$X_{3.5}$ – information on providing other services (operations with securities, depository services, Internet acquiring...).

On the websites of some banks, such information is differentiated for subjects of various forms and sizes of business.

To determine the impact of transparency on the financial indicators of the bank's activity, it is advisable to decide on the level of the relationship between the transparency indices and the indicator of the profitability of the bank's capital, similar to [12]. At the same time, the level of profitability of own capital was adopted as the dependent variable, which was determined based on the results of the banks' work in 2023 using data from the Minfin website [13]. An expert assessment was used to determine the partial indicators of transparency based on the analysis of the information provided on the banks' websites. The results of such an assessment are given in Table 1.

Table 1. Indicators of transparency and profitability of banks

| Bank | I_{git} | I_{tpc} | I_{tbc} | ROE (%) |
|------------------------|-----------|-----------|-----------|---------|
| 1. Privatbank | 4.500 | 4.750 | 4.800 | 56.27 |
| 2. Savings Bank | 4.300 | 4.750 | 3.400 | 34.35 |
| 3. Raiffeisen Bank | 4.600 | 5.000 | 4.800 | 30.35 |
| 4. Ukrsibbank | 4.400 | 4.750 | 3.400 | 34.37 |
| 5. PUMB | 3.900 | 5.000 | 3.800 | 33.69 |
| 6. OTP Bank | 4.400 | 4.750 | 4.400 | 30.97 |
| 7. Universal Bank | 4.100 | 3.500 | 2.800 | 33.8 |
| 8. Ukgasbank | 4.100 | 4.500 | 3.800 | 31.06 |
| 9. Sense Bank | 4.400 | 4.750 | 3.600 | 44.61 |
| 10. Citibank (Ukraine) | 3.900 | 4.500 | 3.000 | 46.52 |

| | | | | |
|-----------------------------------|-------|-------|-------|-------|
| 11. Credit Agricol Bank | 4.200 | 4.500 | 4.200 | 35.92 |
| 12. Ukreximbank | 4.300 | 4.750 | 4.600 | 56.34 |
| 13. Credobank | 4.500 | 4.250 | 4.200 | 27.59 |
| 14. Bank «Southern» | 4.000 | 5.000 | 4.000 | 24.94 |
| 15. ING Bank Ukraine | 3.400 | 2.000 | 1.000 | 15.46 |
| 16. Taskombank | 2.500 | 3.750 | 4.600 | 7.15 |
| 17. Procredit Bank | 4.200 | 3.750 | 3.200 | 30.25 |
| 18. Abank | 3.400 | 5.000 | 3.800 | 21.02 |
| 19. Bank Credit Dnipro | 3.200 | 3.750 | 3.200 | 13.78 |
| 20. Vostok Bank | 3.800 | 3.750 | 3.600 | 17.7 |
| 21. Idea Bank | 4.000 | 4.250 | 3.800 | 45.64 |
| 22. Industrialbank | 2.400 | 3.500 | 3.400 | 6.38 |
| 23. MTB Bank | 3.300 | 4.500 | 3.600 | 5.01 |
| 24. Pravex Bank | 2.100 | 3.250 | 2.800 | -1.64 |
| 25. Bank «Clearing House» | 4.100 | 4.500 | 3.600 | 24.67 |
| 26. Alliance Bank | 2.700 | 3.750 | 3.400 | 7.21 |
| 27. Poltava Bank | 3.400 | 4.500 | 3.800 | 14.57 |
| 28. Bank Lviv | 3.200 | 4.750 | 4.000 | 14.42 |
| 29. Kominbank | 3.100 | 3.500 | 3.000 | 11.87 |
| 30. Deutsche Bank | 3.900 | 1.500 | 1.000 | 23.9 |
| 31. Bank «Globus» | 3.300 | 4.000 | 3.400 | 13.18 |
| 32. Investment and Savings Bank | 3.400 | 3.750 | 1.400 | 8.3 |
| 33. Piraeus Bank | 3.100 | 3.500 | 3.000 | 18.05 |
| 34. Bank «Grant» | 3.500 | 3.750 | 3.600 | 15.82 |
| 35. Bank 3/4 | 2.300 | 4.500 | 3.600 | 4.1 |
| 36. Acordbank | 4.100 | 4.250 | 4.200 | 32.35 |
| 37. Radabank | 3.600 | 4.500 | 3.200 | 17.22 |
| 38. Asvio Bank | 3.000 | 4.000 | 3.600 | 4.79 |
| 39. Avangard Bank | 3.400 | 2.000 | 1.400 | 52.2 |
| 40. Creditvest Bank | 2.900 | 4.250 | 3.000 | 7.28 |
| 41. Crystal Bank | 3.100 | 4.000 | 4.400 | 8.98 |
| 42. Credit Europe Bank | 4.100 | 2.000 | 1.600 | 24.58 |
| 43. International Investment Bank | 2.400 | 3.500 | 2.400 | 1.58 |
| 44. Metabank | 3.900 | 3.500 | 3.200 | 0.28 |
| 45. Sky Bank | 3.600 | 4.250 | 3.000 | 35.61 |
| 46. Kominvestbank | 2.100 | 4.500 | 4.200 | 0.74 |
| 47. Europrombank | 2.700 | 3.250 | 3.800 | 4.2 |
| 48. Altbank | 2.800 | 3.500 | 2.600 | 12.12 |
| 49. Policombank | 3.200 | 4.500 | 3.600 | 1.63 |
| 50. Family Bank | 3.400 | 3.500 | 3.400 | 18.3 |
| 51. Bank «Trust capital» | 2.700 | 2.500 | 1.200 | 1.3 |
| 52. Bank «Ukrainian capital» | 2.900 | 3.250 | 3.600 | 8.32 |
| 53. First Investment Bank | 4.800 | 4.500 | 4.200 | 0.25 |
| 54. OKSI Bank | 2.100 | 3.500 | 3.200 | -9.57 |

| | | | | |
|---|-------|-------|-------|--------|
| 55. Motor Bank | 1.700 | 3.000 | 3.400 | -20.13 |
| 56. Bank «Portal» | 3.800 | 3.250 | 2.400 | 0.55 |
| 57. BTA Bank | 2.900 | 3.750 | 3.800 | 10.33 |
| 58. Ukrainian Bank for Reconstruction and Development | 2.700 | 3.250 | 3.600 | 1.49 |
| 59. Yunex Bank | 2.500 | 3.000 | 3.200 | 0.39 |

Source: Developed by the authors

To determine the relationship between these indicators, a correlation analysis was conducted using the capabilities of the EXCEL table editor. The results of such an analysis are shown in Table 2, which represents the correlation matrix formed based on the results of the calculations.

Table 2. Correlation matrix

| | I_{git} | I_{tpc} | I_{tbc} | ROE (%) |
|-----------|-------------|-------------|-----------|---------|
| I_{git} | 1 | | | |
| I_{tpc} | 0.369228119 | 1 | | |
| I_{tbc} | 0.189105604 | 0.765331502 | 1 | |
| ROE (%) | 0.740212038 | 0.308868817 | 0.146743 | 1 |

Source: Developed by the authors

Analyzing the correlation matrix between ROE % and other indicators (I_{git} , I_{tpc} , and I_{tbc}), the following conclusions can be drawn:

- the correlation coefficient between ROE % and I_{git} equals 0.740, indicating a strong positive correlation. This means that with an increase in overall information transparency, ROE % values also tend to increase. A high correlation coefficient shows that I_{git} can have a significant impact on the return on equity;

- the correlation coefficient between ROE % and I_{tpc} equals 0.309, which indicates a weak to moderate positive correlation. This means that with the increase in the values of I_{tpc} , the values of ROE % tend to increase, but the relationship between these variables is not as strong as between I_{git} and ROE %;

- the correlation coefficient between ROE % and I_{tbc} is 0.147, which indicates a very weak positive correlation. This means that disclosing information to business clients minimizes changes in ROE %, and the relationship between these variables is minimal.

These conclusions make it possible to understand the relationship between the return on equity and other financial indicators, which can be helpful for further financial planning and analysis. This may include analyzing the impact of market competition, the regulatory environment, the bank's ownership structure, and other macroeconomic indicators. The results of such an analysis will form the basis for developing recommendations for improving transparency policies in the banking sector, which will contribute to increasing their financial stability and competitiveness in the market.

In continuation of the study of the impact of general information transparency on the financial results of banks, it is advisable to conduct a regression analysis,

which allows us to identify quantitative relationships and assess the degree of influence of the level of transparency on the return on equity (ROE). Such an analysis will also allow us to determine whether there are significant differences in profitability between banks with a high and low level of information transparency and assess the influence of external and internal factors on this relationship. The results of such an analysis, carried out using the capabilities of the EXCEL table editor, are shown in Fig. 1.

| SUMMARY OUTPUT | | | | | | | | |
|------------------------------|---------------------|-----------------------|---------------|----------------|-----------------------|------------------|--------------------|--------------------|
| <i>Regression Statistics</i> | | | | | | | | |
| Multiple R | 0,740212038 | | | | | | | |
| R Square | 0,547913861 | | | | | | | |
| Adjusted R Square | 0,539982526 | | | | | | | |
| Standard Error | 11,29622841 | | | | | | | |
| Observations | 59 | | | | | | | |
| <i>ANOVA</i> | | | | | | | | |
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> | | | |
| Regression | 1 | 8815,214464 | 8815,214464 | 69,0821669 | 2,09249E-11 | | | |
| Residual | 57 | 7273,472255 | 127,6047764 | | | | | |
| Total | 58 | 16088,68672 | | | | | | |
| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> | <i>Lower 95,0%</i> | <i>Upper 95,0%</i> |
| Intercept | -38,4760438 | 6,933087315 | -5,54962631 | 7,7612E-07 | -52,35931166 | -24,5927759 | -52,3593117 | -24,5927759 |
| X Variable 1 | 16,42361138 | 1,975994286 | 8,311568259 | 2,0925E-11 | 12,46675108 | 20,38047169 | 12,46675108 | 20,38047169 |

Source: Developed by the authors

Figure 1. A regression model of the influence of the level of bank transparency on the return on equity

The multiple R-value of 0.7412 indicates that about 74.12% of the variation in the dependent variable can be explained by the independent variable in the model. This is considered a reasonably high value, indicating a strong relationship between the variables. The R^2 value of 0.5479 supports the previous point, showing that 54.79% of the variation in the dependent variable is explained by the model. Normalized R-Square: A value of 0.5399, slightly lower than R-Square, considers the number of predictors in the model and adjusts for the number of degrees of freedom. This indicates that after adjustment, the model still explains 53.99% of the variation. The model's standard error is 11.2962, which means the average deviation of the observed ROE values from the regression line. 59 observations were used in the analysis, which is sufficient to obtain statistically significant results. The F-statistic value is very high (69.082), and its corresponding p-value is extremely small (2.09249E-11), indicating that the model is statistically significant at the commonly accepted significance level (e.g., 0.05).

Considering these results, it can be concluded that the regression analysis shows that an increase in the bank's general information transparency index has a statistically significant positive effect on the return on equity (ROE).

Conclusion. The study of the influence of individual components of bank transparency on its financial results, namely on the return on equity, highlighted the importance of openness and transparency in the operational activities of financial institutions. Transparency, in this context, means the availability of information about the bank's owners and shareholders, as well as the regular publication of financial statements and other essential documents that reflect the state of affairs in the bank. Transparent reporting and clarity of information about owners and shareholders strengthen the trust of investors and customers. This, in turn, can positively attract investment and increase capital, which increases the return on equity. Transparency allows the market to assess better the risks associated with the bank, thereby reducing the cost of capital. Banks with a higher level of transparency can have access to cheaper sources of financing, which also contributes to the growth of the return on equity. Openness and availability of information help to comply with regulatory requirements, reducing the likelihood of fines and sanctions that can negatively affect the bank's financial position. Banks that actively support a high level of transparency can gain competitive advantages by attracting customers who value transparency and openness.

This research was funded by the Ministry of Education and Science of Ukraine (projects No. 0122U000774 «Digitalization and transparency of public, corporate and personal finance: the impact on innovation development and national security»).

REFERENCES

1. Butenko V.V., Belinska Yu.V. (18 February 2022). Transparentnist bankivskoho sektoru Ukrainy [Transparency of the banking sector of Ukraine] *Research of financial institutions and development tools of the state, territories and business entities: theoretical, methodological and practical aspects. Proceedings of the VI International Scientific and Practical Conference on February 18, 2022, Odesa.; ONU named after Mechnikova.* Odesa: M.A. Bondarenko, 2022. P. 30-32.
2. Savchenko T., Yaroshyna A., Kasianenko O. (2021). Zvit pro upravlinnia banku yak instrument detinizatsii ekonomiky Ukrainy [Bank management report as a tool of detinization Ukrainian economy]. *Economy and society*, 24, DOI://doi.org/10.32782/2524-0072/2021-24-32.
3. Oleksich Zh.A., Yaroshyna A.P. (2023). Metodyka rozrakhunku intehralnoho pokaznyka transparentnosti bankiv Ukrainy [Method of calculating the integral indicator of transparency of Ukrainian banks]. *Bulletin of V.N. Karazin Kharkiv National University Economic Serie*, 104, 31-36. DOI: <https://doi.org/10.26565/2311-2379-2023-104-04>.
4. D'iakonova I.I., Ciniakovskiy Yu.V. (19-20 November 2020). Transparentnist yak faktor zapobihannia vynyknenniu bankivskykh kryz [Transparency as a factor in preventing the emergence of banking crises]. *Problems and prospects of developing the financial and credit system:*

- materials of the International Scientific and Practical Conference*. Sumy: Sumy State University, P. 32-35.
5. Buriak A.V., Tsiavuk A.O., Yemtseva K.Iu. (2017). Teoretychni aspekty transparentnosti bankiv Ukrainy [Theoretical aspects of the transparency of banks of Ukraine]. *Odesa National University Herald. Economy*, 22, 4(57), 97-101.
 6. Romanchukevych V., Lymanska O. (2018). Transparentnist tsentralnoho banku ta otsinka yoho komunikatsii iz pytan monetarnoi polityky [Central bank transparency and evaluation of monetary policy communications]. *Bulletin of Taras Shevchenko National University of Kyiv. Economics*, 1(196), 68-76. DOI: <https://doi.org/10.17721/1728-2667.2018/196-1/10>.
 7. Piddubna V.H. (2018). Marketynhovi komunikatsii ta yikh vplyv na transparentnist diialnosti bankiv Ukrainy [Marketing communications and their influence on transparency of the activities of the Ukrainian banks]. *Scientific Bulletin of Kherson State University. Series «Economic Sciences»*, 28(2), 92-96.
 8. Buriak A., Viakhirieva K. (2017). Mekhanizm zabezpechennia transparentnosti bankiv v konteksti vidnovlennia doviry do finansovoho sektoru krainy [The mechanism of providing banks transparency in the context of restoration trust in financial sector of the country]. *Sustainable Development of Economy*, 4(37), 157-162.
 9. Busko K.A. (2017). Model vzaiemozviazku transparentnosti ta ryzykiv diialnosti bankiv [The model of the relationship of transparency and risks of bank activity]. *Economic scope*, 123, 107-118.
 10. Pro vstanovlennia pereliku informatsii, shcho pidliahaie oboviazkovomu opublikuvanniu bankamy Ukrainy: Postanova Pravlinnia natsionalnoho banku Ukrainy vid 15.02.2018. №11. URL: <https://zakon.rada.gov.ua/laws/show/v0011500-18#Text>.
 11. Zakharkina L.S., Zakharkin O.O. (2024). Svidotstvo pro reiestratsiiu avtorskoho prava na tvir «Naukovo-metodychnyi pidkhid do otsiniuvannia rivnia transparentnosti bankiv»; Sumy State University; April 2024
 12. Asteriou D., Pilbeam K., Tomuleasa I. (2021). The impact of corruption, economic freedom, regulation and transparency on bank profitability and bank stability: Evidence from the Eurozone area. *Journal of Economic Behavior & Organization*, 184, 150–177. DOI: <https://doi.org/10.1016/j.jebo.2020.08.023>.
 13. Renkinh NBU. Minfin. Veb-sait. URL: <https://minfin.com.ua/ua/banks/ranking/>