

UDC 336.6

**Onyshchenko S.**

*Doctor of Economics, Professor,  
Professor of Finance, Banking and Taxation Department,  
National University «Yuri Kondratyuk Poltava Polytechnic», Ukraine;  
e-mail: s07onyshchenko@gmail.com; ORCID ID: 0000-0002-6173-4361*

**Brychko M.**

*Ph. D. in Economics, Associate Professor,  
Senior Lecturer of Financial Technology and Entrepreneurship Department,  
Sumy State University, Ukraine;  
e-mail: m.brychko@uabs.sumdu.edu.ua; ORCID ID: 0000-0002-9351-3280*

**Litovtseva V.**

*Ph. D. student of Financial Technology and Entrepreneurship Department,  
Sumy State University, Ukraine;  
e-mail: v.litovtseva@biem.sumdu.edu.ua; ORCID ID: 0000-0003-1170-2481*

**Yevsieieva A.**

*Leading specialist of Department of Psychology, Politology and Socio-Cultural Technology,  
Sumy State University, Ukraine;  
e-mail: g.pavlenko@socio.sumdu.edu.ua; ORCID: 0000-0003-3955-4978*

**TRUST IN THE FINANCIAL SECTOR:****A NEW APPROACH TO CONCEPTUALIZING AND MEASURING**

**Abstract.** In the new global economy, public trust in the financial system has become a central issue for financial crises overcoming. There is evidence that trust plays a crucial role in regulating economic agents' relationships. One of the most significant challenges for research is developing the unified methodological basis for element and integrated assessment of public trust level in the financial sector. This study intends to develop the methodology of public trust assessment in the financial sector at all levels, taking into account quantitative and qualitative indicators. This article examines the scientific and applied aspects of qualitative and quantitative assessment methods based on surveys of economic agents and economic-mathematical modeling tools, analyzing the researchers experience and outlines methodological approaches to assessing the public trust in the financial system in modern conditions. Important aspects are outlined, and the advantages and disadvantages of the different approaches for element and integrated assessment of public trust on different levels of the financial system are systematized.

In order to estimate the public trust in the financial system, the multidimensional factor analysis was conducted based on a set of standardized financial indicators for the period from 2010 to 2020. Multidimensional factor analysis employed for data processing and analysis was performed in the computational system STATISTICA. The multidimensional factor analysis results show that trust in the financial sector was grouped into three levels: macro-, mezo-, and micro-level. The results show that the increase in nominal salary and an increase in the share of deposits and loans in the national currency in the loan and deposit portfolio of deposit-taking corporations are statistically significant and positively affect the level of trust in the financial sector. However, the deepening crisis of trust, in turn, is due to the dollarization of the banking sector, increasing the growth of cash outside deposit-taking corporations. The scientific novelty of the obtained results is represented by a set of theoretical and practical aspects of the study, namely the methodology of public trust assessment in the financial sector at all levels of manifestation, taking into account quantitative and qualitative indicators.

**Keywords:** public trust in the financial sector, integrated assessment, element-by-element assessment, factor analysis, levels of public trust in the financial sector, monetary authority, financial institutions, financial services.

**JEL Classification** G02, G20, O11, O16

Formulas: 4; fig.: 6; tabl.: 0; bibl.: 32.

**Онищенко С. В.**

*доктор економічних наук, професор,  
професор кафедри фінансів, банківського бізнесу та оподаткування,  
Національний університет «Полтавська політехніка імені Юрія Кондратюка», Україна;  
e-mail: s07onyshchenko@gmail.com; ORCID ID: 0000-0002-6173-4361*

**Бричко М. М.**

*кандидат економічних наук, доцент,  
старший викладач кафедри фінансових технологій та підприємництва,  
Сумський державний університет, Україна;  
e-mail: m.brychko@uabs.sumdu.edu.ua; ORCID ID: 0000-0002-9351-3280*

**Літовцева В. В.**

*аспірант кафедри фінансових технологій та підприємництва,  
Сумський державний університет, Україна;  
e-mail: v.litovtseva@biem.sumdu.edu.ua; ORCID ID: 0000-0003-1170-2481*

**Євсєєва Г. В.**

*провідний фахівець кафедри психології, політології та соціокультурних технологій,  
Сумський державний університет, Україна;  
e-mail: g.pavlenko@socio.sumdu.edu.ua; ORCID: 0000-0003-3955-4978*

### **ДОВІРА ДО ФІНАНСОВОГО СЕКТОРУ: НОВИЙ ПІДХІД ДО КОНЦЕПТУАЛІЗАЦІЇ ТА ВИМІРЮВАННЯ**

**Анотація.** У новій глобальній економіці суспільна довіра до фінансової системи є ключовим елементом для подолання фінансових криз. Попередні дослідження свідчать, що довіра відіграє вирішальну роль у регулюванні взаємовідносин суб'єктів господарювання. Таким чином, одним із найбільш значущих завдань сучасних наукових досліджень є розробка єдиної методологічної основи для поелементної та інтегральної оцінки рівня довіри населення до фінансового сектору. Саме тому це дослідження має на меті розробити методологію оцінки суспільної довіри до фінансового сектору на всіх рівнях з урахуванням кількісних та якісних показників. Розглянуто науково-прикладні аспекти якісних і кількісних методів оцінки на основі опитувань економічних суб'єктів та інструментарію економіко-математичного моделювання, аналізується досвід попередніх досліджень та окреслено методологічні підходи до оцінки довіри населення до фінансової системи в сучасних умовах. Виявлено важливі аспекти і систематизовано головні переваги і недоліки різних підходів до елементної та інтегральної оцінки довіри населення на різних рівнях фінансової системи. Для оцінки довіри населення до фінансової системи було проведено багатовимірний факторний аналіз на основі набору стандартизованих фінансових показників за період з 2010 до 2020 рр., здійснений в обчислювальній системі STATISTICA.

Результати багатовимірного факторного аналізу дозволили розробити індикатор довіри / недовіри до фінансового сектору на макро-, мезо- та мікрорівні дослідження. Результати свідчать, що зростання номінальної заробітної плати та збільшення частки депозитів і кредитів у національній валюті у кредитно-депозитному портфелі депозитних корпорацій є статистично значущими і позитивно впливають на рівень довіри до фінансового сектору. Однак доларизація банківського сектору та зростання готівки поза депозитними корпораціями, у свою чергу, пов'язані з поглибленням кризи суспільної довіри. Наукова новизна отриманих результатів представлена комплексом теоретичних і практичних аспектів дослідження, а саме розробленою методологією оцінки довіри населення до фінансового сектору на всіх рівнях прояву з урахуванням кількісних та якісних показників.

**Ключові слова:** суспільна довіра до фінансового сектору, інтегральна оцінка, поелементна оцінка, факторний аналіз, рівні суспільної довіри до фінансового сектору, монетарна влада, фінансові інституції, фінансові послуги.

Формул: 4; рис.: 6; табл.: 0; бібл.: 32.

**Introduction.** Trust in the financial sector is a critical interaction element between economic entities, financial institutions, and the state in exacerbating crises and economic shocks. Given the events of the last twenty years in global financial markets, the study of trust in the financial sector has long been a question of great interest in a wide range of fields. Thus, measuring and qualifying the level of public trust in the financial sector has become the mainstream of modern economic research. The importance and relevance of the research in this direction are attributable to the complexity of the conceptualization and the necessity of finding a comprehensive methodological framework for element and integral assessment of the level of public trust in the financial sector.

**Literature review and the problem statement.** Much of the current literature on trust in the financial sector pays particular attention to qualitative assessment methods based on surveys of economic agents and expert assessments (Luncheon & Kasztelnik, 2021; Artyukhov et al., 2021; Antonyuk et al., 2021; Dzwigol, 2020). Such research is facilitated by international monitoring projects aiming to detect the level of public trust in different institutions, including the Trust Barometer survey, the World Value Survey (WVS), European Value Survey (EVS), Consumer Sentiment Index (CSI), Index of Consumer Expectations (ISE), Consumer Confidence Index (CCI), Business confidence index (BCI) among others.

Trends in public trust in social institutions, government, parliament, the judiciary, and banks are determined on national government or commercial surveys. Thus, despite many monitoring studies, the potential problem is that they have some limitations (Moskovicz, 2019; Novikov, 2021). The main criticism of qualitative methods of assessing the level of trust is related to the fact that the responses relating to trust were subjective and, therefore, were susceptible to recall bias. Secondly, qualitative assessment methods do not have a unified comparison methodology with the conducted surveys. Moreover, the questions in the surveys are structured in such a way that the concepts of confidence and trust are equal; that is why they cover only a part of the researched concept, focusing only on certain institutions or levels of trust in the financial sector.

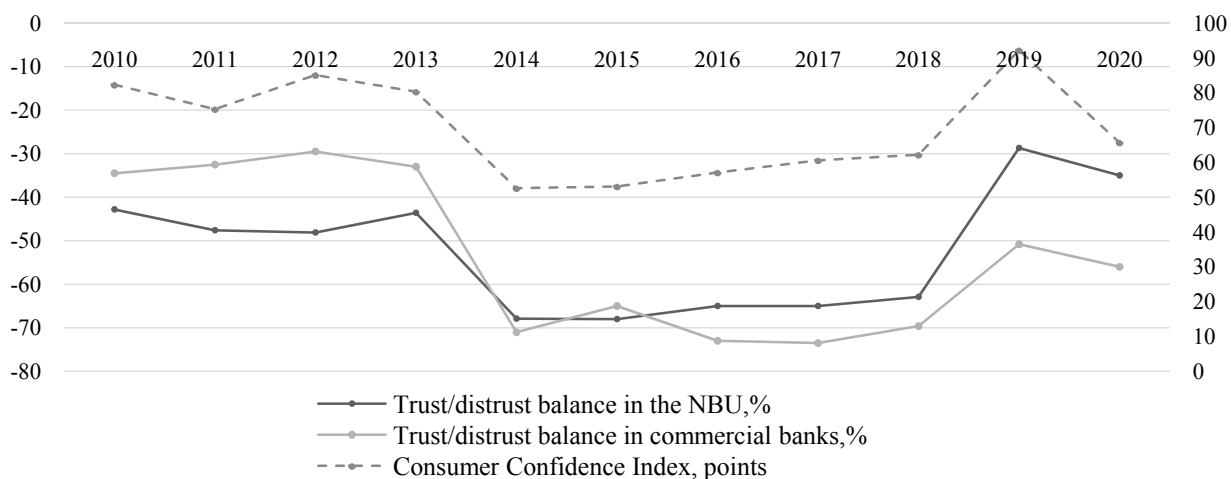
Different theories exist in the literature regarding assessing the level of public trust (Kago & Muhammad, 2021; Kuzmenko & Kolomiets, 2021; Vysochyna et al., 2021; Bappayo & Kirfi, 2019; Lewicka et al., 2018). Some studies have been focused primarily on a mathematical model of trust development, based on economic agents' expectations (Marsh, 1994); another has been focused on the qualitative methodology of determining the trust in the financial sector (Ennew, 2007; Al Halbusi et al., 2018). The debate about the level of trust in the financial sector has raged unabated for over a century. Some of these studies were aimed at the trust micro and macro levels determining (Hansen, 2012; Poliakh, 2018), while others were conducted for measuring trust of consumers in the financial services at the institutional level (Ennew et al., 2011; Zhghenti & Chkareuli, 2021). Institutional, interpersonal trust and trust in the central bank assessment were measured through a survey of a sample of UK employees working in large financial corporations (Moin et al., 2015). Publications that concentrate on public trust more frequently reckon in a role of social trust and financial inclusion (XiaoyanXu, 2020; Nur-Al-Ahad & Nusrat, 2019). The academic publications aimed at assessing the trust in banking institutions (Ahmed et al., 2017), banking services (Skvarciany et al., 2017, Ennew, 2008; Alikariev & Poliakh, 2018) and electronic banking (Belas et al., 2015) were based on existing trust indices developed by international monitoring companies.

The methods of assessing trust in the financial sector presented in the literature review reflect only part of the trust in the financial sector, taking into account separately its institutional or interpersonal level. Therefore, there is a need to develop an integrated indicator of public trust in the financial sector, which would determine trust at the macro, meso, and micro levels, and combine quantitative and qualitative assessment methods.

**Methodology and research methods.** In Ukraine, with the support of monitoring platforms, the Razumkov Center and the Kucheriv Democratic Initiatives Foundation, several polls were conducted on the trust of Ukrainian citizens in public institutions and politicians. These surveys contain information on the level of trust in the financial sector, particularly the NBU and

commercial banks. The trust / distrust balance is a qualitative indicator, calculated as the difference between those who trust and those who do not trust the public institution identified in the question.

It should be noted that the balance of trust/distrust in the NBU and commercial banks, which is shown in *Fig. 1*, did not gain positive values for the entire analyzed period. Over the last decade, the trust / distrust balance in the NBU ranged from -68% to -28.7%; the highest distrust rate was in 2014. The number of respondents who distrusted commercial banks exceeded those who trusted by 73.5% to -29.5% for the analyzed period, with the lowest level of distrust in 2019. This predominance of the distrusted part of society indicates an entrenched systemic trust crisis in the financial sector that involves the monetary authority represented by the NBU and commercial banks that provide services and banking products.



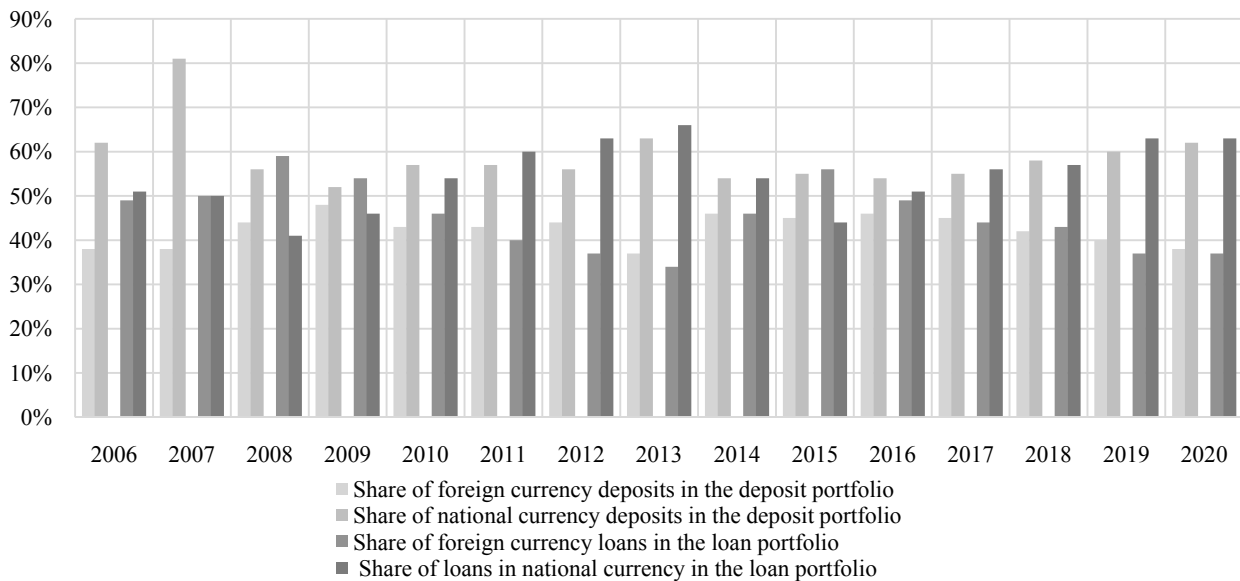
**Fig. 1. Dynamics of qualitative indicators of trust in the financial sector (2010—2020)**

*Source:* built by the authors based on the Razumkov Center, the Kucheriv Democratic Initiatives Foundation and Trading Economics polls.

In addition to the qualitative indicators of trust in the financial sector, which are determined in surveys conducted at the national level, attention is paid to the trust indicators of international monitoring platforms. Thus, Trading Economics monthly determines the Consumer Confidence Index for Ukraine by randomly surveying households. As shown in *Fig. 1*, for 2010 to 2020, the consumer sentiment indicator did not exceed 100 points and ranged from 52.6 to 92.2. In 2019, the consumer sentiment index reached its maximum, so the shares of respondents' positive and negative sentiments about the economic situation in Ukraine were almost equal. Such dynamics of the indicator demonstrate the aggravation of the crisis of consumer confidence, which is formed under the rational influence (for example, reduction of real household incomes) and irrational factors based on pessimistic attitudes of economic entities. The erosion of consumer confidence creates a prejudice against financial institutions, which is the driver of the economic and financial hunger of the economy (Kaya, 2021).

Except for qualitative indicators of public trust in the financial sector, quantitative indicators based on economic data on the state and development of the financial sector have become widely used in the economic literature. In the analysis of ways to increase trust in the banking system, researchers determined that the most informative describe the trust in the banking system indicators of the dynamics and structure of the deposit portfolio, the currency structure of deposits, dollarization of deposits and loans. Moreover, researchers used the decrease in the volume of deposits in the national currency to indicate the crisis of confidence in the banking system. In addition to these indicators, the study of the economic trust index at the macro level uses such relative indicators as the ratio of deposits and GDP, the percentage of loans and GDP, dollarization of deposits. Given the studies, the key indicators that reflect the level of trust in the financial sector are the following indicators: the level of dollarization of deposit-taking corporations' loan and

deposit portfolio and the share of deposits in the national currency of total deposits. These indicators, the dynamics of which are shown in *Fig. 2*, will be the empirical basis for further research.



**Fig. 2. Dollarization of the deposit and loan portfolio of deposit-taking corporations from 2006 to 2020**

*Source:* based on National Bank of Ukraine Statistic.

The increase of the dollarization level of the loan and deposit portfolios indicates distrust in the national currency and the national financial system. Economic entities, relying on the instability of the financial sector, the national currency devaluation, are trying to protect their savings from devaluation by choosing more stable foreign currencies.

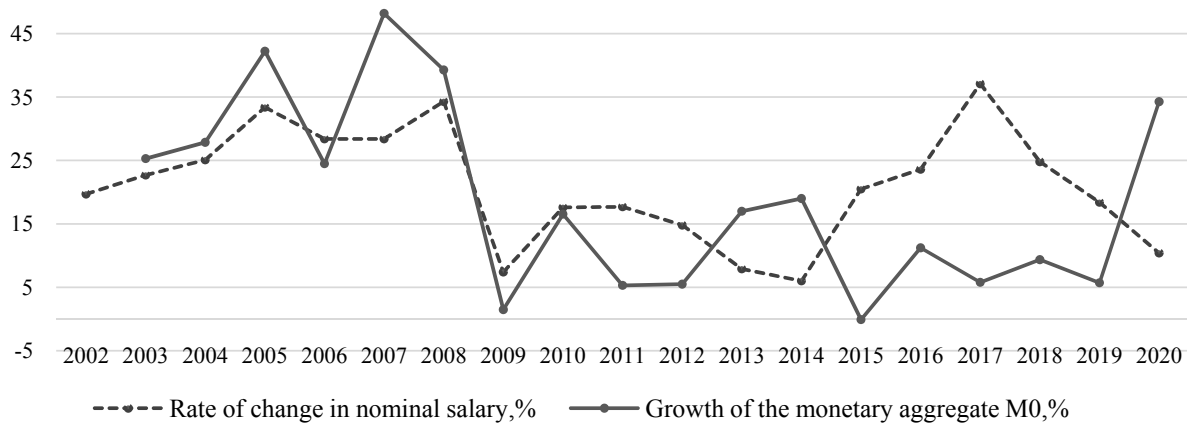
The dollarization rate of the deposit portfolio for the study period 2006—2020 were ranged from 37% to 48%, reaching its maximum in 2009, 2014, and 2016. Accordingly, the loan portfolio’s dollarization level ranged from 34% to 59% during the study period. It reached its peak in 2008 and 2015.

The above trends confirm the hypothesis that the dollarization of the banking system indicates a trust crisis in the financial sector, as maximum dollarization coincides with the aggravation (complication) of the financial and economic situation in 2008—2009 and 2014—2016.

The organized savings in the national currency, on the contrary, is an indicator of the smooth operation of the financial sector and trust in it.

The growth of hryvnia savings strengthens the national currency, promotes Ukraine’s economic independence in international financial markets, and improves the NBU policy’s effectiveness. Thus, economic agents, confident in the security of their savings, interact with depository institutions, which leads to the transformation of savings into investment potential for economic development and the smooth operation of the financial system.

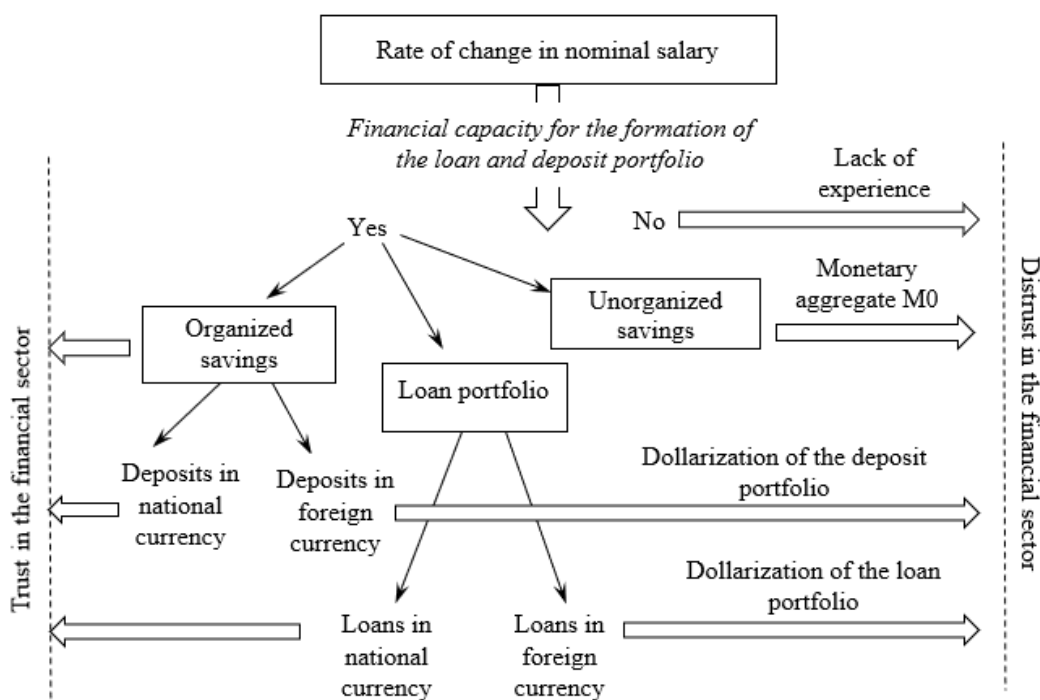
Another indicator that allows assessing public trust in the financial sector is the cash in circulation outside deposit-taking corporations, represented by monetary base (M0). As shown in *Fig. 3*, the growth rate of cash in 2002—2006 and 2010—2013 remained at about the same level, and in the crisis period of 2007—2008 and 2013—2014, the amount of cash outside deposit-taking corporations increased one and a half times.



**Fig. 3. Dynamics of the rate of change of nominal wages and monetary base**  
 Source: based on State Statistics Service of Ukraine and National Bank of Ukraine.

After 2016, the increase in cash outside deposit-taking corporations remained within 10%, and in 2020, this figure increased six times, reaching 34.27%. The reason for such monetary phenomena is the desire of economic agents to make their payments in cash outside of banking institutions due to a lack of trust in them and their services. That is why cash in circulation, which potentially serves as a source of investment in the real sector, remains in the hands of the population due to low financial literacy and distrust of the financial sector. Such trends lead to negative processes: the economy shadowing, underdeveloped financial markets, devaluation, and inflation, which deepen the trust crises in the financial sector.

Researchers singles out the low salary level as the cause of the trust crisis in the banking system. Figure 3 shows that for the period 2002—2020, there was an increase in nominal salary, but the rate of change is negligible. In 2009, 2013, and 2014, the increase in nominal salary was 7.4%, 7.9%, and 6%, respectively. Thus, due to too low growth rates of nominal salary, households cannot create organized savings and develop experience of interaction with banking institutions. Lack of experience makes a lack of trust in the financial sector (Fig. 4).



**Fig. 4. Conceptualization of a trust/distrust in the financial sector**  
 Source: author's development.

The multidimensional factor analysis was applied to present the optimal methodological basis for the element and integrated assessment of public trust in the financial sector. The search for factors will be performed using the principal components method. The advantage of this method is the ability to include the maximum possible number of significantly correlated indicators of the economic phenomenon in the model. The calculated factor loads will make it possible to build an integrated indicator of trust in the financial sector. In turn, the integrated assessment allows combining in one indicator many different in economic essence, units of measurement, weight, and other characteristics of factors that directly affect the phenomenon under study, and explain about 90% of its variance.

The information base for the integrated assessment of trust in the financial sector is a set of standardized indicators for the period from 2010 to 2020, namely: balance of trust/distrust in the NBU ( $TB_{it}^{NBU}$ ); balance of trust/distrust in commercial banks ( $TB_{it}^{bank}$ ); consumer confidence index ( $TB_{it}^{consumer}$ ); the share of loans in foreign currency in the loan portfolio of deposit-taking corporations ( $Credit_{it}^{foreign}$ ); the share of loans in national currency in the loan portfolio of deposit-taking corporations ( $Credit_{it}^{national}$ ); the share of deposits in national currency in the deposit portfolio of deposit-taking corporations ( $Deposit_{it}^{national}$ ); increase in cash in circulation outside deposit-taking corporations ( $MO_{it}^{growth}$ ); rate of change in nominal salary ( $Salary_{it}^{growth}$ ).

The selected information base of the study includes indicators that are measured in different units (percentages, points, UAH), the methodological unity of all components of the analysis was achieved by standardizing indicators. This procedure allowed the transition to normalized values while maintaining their relationship based on the min/max approach. The next step is to introduce normalized indicators to the factor model. The STATISTICA software module was chosen for factor analysis.

**Research results.** The principal component analysis is used for factor model implementation by the program. The program automatically calculates the correlation matrix; factor loads are identified as significant if more than 69% of the variance of each indicator is entered in the program. The rotation method is Varimax. As shown in Fig. 5, trust in the financial sector was grouped into three factors. In the generated table, to facilitate interpretation, red will be allocated factor loads in absolute terms greater than 0.69.

Factor Loadings (Varimax normalized) (Spreadsheet24)				
Extraction: Principal components				
(Marked loadings are >.690000)				
Variable	Factor 1	Factor 2	Factor 3	
$TB_{it}^{NBU}$	0.694681	-0.028324	0.605402	
$TB_{it}^{consumer}$	0.533941	-0.143450	0.754561	
$TB_{it}^{bank}$	0.320601	0.067291	0.906133	
$CREDIT_{it}^{foreign}$	-0.933460	-0.110433	-0.256739	
$CREDIT_{it}^{national}$	0.933460	0.110433	0.256739	
$SALARY_{it}^{growth}$	-0.206111	0.831624	-0.412397	
$MO_{it}^{growth}$	-0.026456	-0.883716	-0.329948	
$DEPOSIT_{it}^{national}$	0.815352	0.044574	0.308430	
Expl.Var	3.321134	1.524838	2.262847	
Prp.Totl	0.415142	0.190605	0.282856	

Fig. 5. Fragment of the factor loads of trust indicators in the financial sector  
Source: STATISTICA.

The indicators selected for factor analysis explain 88.9% of the total variance of trust in the financial sector, which indicates a relatively high quality of the constructed factor model, given the complexity and interdependence of the socio-economic system. According to the factor analysis results, three elements and one integral indicator of the financial sector's balance of trust / distrust have been formed. These indicators can acquire positive and negative values. Suppose the calculated trust / distrust balance is negative. In that case, the share of distrusted economic agents

exceeds the share of society that tends to trust the NBU (macro-level), commercial banks (meso-level), or financial services (micro-level).

The analysis revealed that the most significant factor in the number of qualitative and quantitative indicators is public trust at the macro level. It combines such variables as the balance of trust/distrust in the National Bank of Ukraine, the share of foreign currency loans in the loan portfolio of deposit-taking corporations, the share of loans in national currency in the loan portfolio of deposit-taking corporations, the share of deposits in local currency in the deposit portfolio of deposit-taking corporations. These indicators are attributed to this factor because they characterize the trust in the monetary authority and the trust of participants in the financial system in the consistency of the central bank's monetary policy. Trust in the national bank as a monetary regulator is transmitted through deposit and credit channels of monetary policy. Accordingly, economic entities, feeling the instability and weakness of the monetary regulator, choose to save and lend more stable foreign currencies, provoking high levels of dollarization of the financial sector and associated risks, including increased troubled liabilities due to exchange rate changes. Indicators of public trust at the macro level describe society's attitude to the regulator of the financial system responsible for making decisions about the stability of financial corporations. Related distortions in the transmission channels of the NBU's monetary policy create a fall in liquidity (liquidity trap) and a famine in the economy, causing a new wave (exacerbation) of public distrust. Moreover, a central bank with a low level of trust in economic agents cannot quickly and effectively overcome the problems of current activities and eliminate the undesirable consequences of economic crises.

Given the factor loads and their signs calculated in the STATISTICA software module, it should be noted that during 2010—2020 there is a persistent distrust in the financial sector at the macro level. Thus, the predominance of respondents who distrusted the NBU and the increase in the share of foreign currency loans in the loan portfolio of deposit-taking corporations contributed to the deepening of distrust in the financial sector while increasing the share of loans and deposits in the national currency. The balance of trust/distrust in the financial sector at the macro-level is calculated as the algebraic sum of the product of the variables included in the first factor and their factor loads (1).

$$TB_{it}^{macro} = 0.69 \cdot TB_{it}^{NBU} - 0.93 \cdot Credit_{it}^{foreign} + 0.93 \cdot Credit_{it}^{national} + 0.82 \cdot Deposit_{it}^{national}, \quad (1)$$

where  $TB_{it}^{macro}$  — the value of the trust/distrust balance in the financial sector at the macro-level;  
 $TB_{it}^{NBU}$  — Trust / distrust balance in the NBU;  
 $Credit_{it}^{foreign}$  — the value of the share of foreign currency loans in the loan portfolio of deposit-taking corporations;  
 $Credit_{it}^{national}$  — the value of the share of loans in national currency in the loan portfolio of deposit-taking corporations;  
 $Deposit_{it}^{national}$  — the value of the share of deposits in national currency in the deposit portfolio of deposit-taking corporations.

The public trust/ distrust balance in the financial sector at the macro-level for the study period 2010—2020 ranged from -19.07 to -46.58%. The predominance of economic agents who do not trust the monetary authorities increased to -46.34% in 2014. Over the next four years, public distrust in the financial sector deepened. During 2019 and 2020, there was a rapid increase in trust in the financial sector, so the balance of trust and distrust in the financial sector at the macro level was -19.07% and -23.09%, respectively (*Fig. 6*).

The third factor includes two qualitative indicators — the trust/distrust balance in commercial banks and the consumer confidence index. This factor conveys trust in the financial sector at the meso-level. Trust in financial institutions is formed through the prism of the economic



agent’s assessment of financial services’ image, quality, and reliability. A client who trusts financial institutions is more likely to use the bank’s services, open deposit accounts, send transfers, use non-cash payments, and thus promote controlled flows in the financial system. Declining trust in financial institutions can lead to a deterioration in the solvency and liquidity of a financial institution, increase the panic of depositors and customers and lead to bankruptcy. Thus, using the services of financial institutions, economic entities form financial experience that affects the trust in the financial sector at the meso-level.

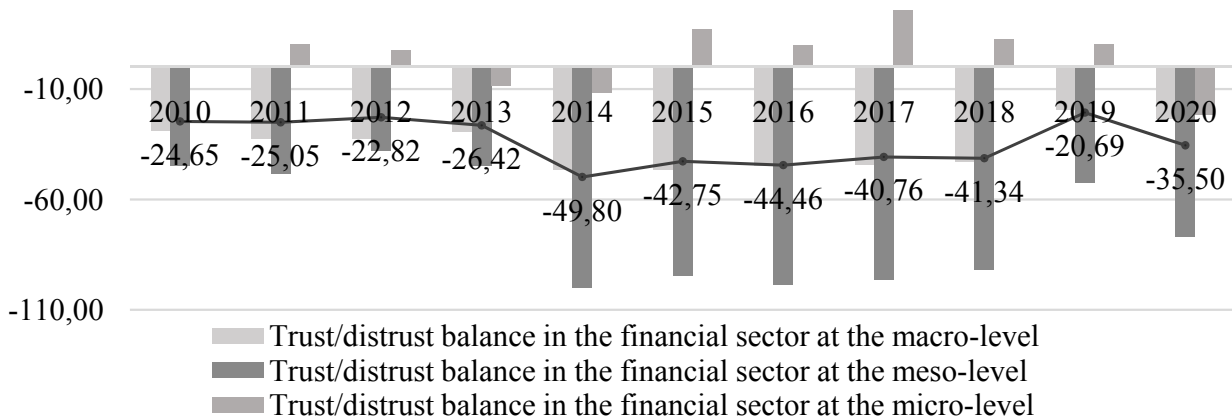


Fig. 6. **Public trust in the financial sector at the macro-, meso- and micro-levels of its manifestation in 2010–2020**

Source: based on (1–4).

As noted earlier, commercial banks’ trust/distrust balance remained negative during 2010–2020, with negative sentiment prevailing among economic agents. Such trends are evidence of economic distrust of financial institutions and, consequently, create distrust in the financial sector at the meso-level. Thus, the balance of trust/distrust in the financial sector at the meso-level could be calculated as follows (2)

$$TB_{it}^{mezo} = 0.91 \cdot TB_{it}^{bank} + 0.75 \cdot TB_{it}^{consumer}, \quad (2)$$

where  $TB_{it}^{mezo}$  — the value of the trust / distrust balance in the financial sector at the meso-level;  
 $TB_{it}^{bank}$  — trust/distrust balance in commercial banks;  
 $TB_{it}^{consumer}$  — the value of the consumer confidence index.

The calculated public trust/distrust balance in the financial sector indicates a deep crisis of trust at the meso-level of the financial sector (see Fig. 6). From 2010 to 2013, there was distrust in financial institutions; the balance trust/distrust ratio ranged from -38.02% to 48.1%. In the crisis year of 2014, the problems related to trust at the meso-level were rapidly exacerbated. The trust/distrust balance reaches its low critical level, creating a persistent distrust of financial institutions in 2015–2018. From 2019 to 2020, the prevalence of negative attitudes towards financial institutions decreased, and the trust/distrust balance in the financial sector was -52.08% and -76.69%, respectively.

The second factor includes such quantitative indicators as the growth of cash in circulation outside deposit-taking corporations and the rate of change in nominal salary. This group of variables characterizes the trust in the financial sector at the micro-level, as it covers the essential trust of an individual client in a particular financial service. Lack of trust in the financial sector at the micro level contributes to an increase in cash outside deposit-taking corporations, as potential consumers of financial services have a negative experience and consider organized savings to be an unreliable method of storing funds. Thus, calculating the trust / distrust balance in the financial sector at the micro-level includes increasing salary growth and decreasing cash outside deposit-taking corporations (3)

$$TB_{it}^{micro} = 0.83 \cdot Salary_{it}^{growth} - 0.88 \cdot MO_{it}^{growth}, \quad (3)$$

where,  $TB_{it}^{micro}$  — the value of the trust / distrust balance in the financial sector at the micro-level;  
 $Salary_{it}^{growth}$  — the value of the rate of change in nominal salary;  
 $MO_{it}^{growth}$  — the value of the growth rate of cash outside deposit-taking corporations.

The calculated trust / distrust balance in the financial sector at the micro-level suggests that trust in financial services in Ukraine is much higher than in financial institutions and monetary authorities. Thus, from 2010 to 2012, there is a positive value of the trust/distrust balance, from 0.06% to 10.04%. In 2013, a socio-economic crisis was brewing, leading to distrust in financial services in 2014 and a negative value of the trust / distrust balance at the micro-level, which amounted to -11.74%. In the period from 2015 to 2019, financial services are restoring their trust positions; the maximum value of the trust/distrust balance was in 2017 and amounted to 25.71%, which transmits the highest level of trust at the micro level for the entire study period from 2010 to 2020 (see *Fig. 6*).

Levels of trust / distrust balance allow forming an integrated indicator of public trust in the financial sector, which is a generalization of the existing value of trust / distrust at all levels. Factor analysis data shows that the identified variables describe 88.9% of the total variance. The first factor, which characterizes the trust/distrust balance at the macro-level, represents 41.5% of trust/distrust in the financial sector. The second factor, which shows trust / distrust at the micro-level, describes 19.1% of the total variance, and the third factor, which is interpreted as the trust/distrust balance at the meso-level, is 28.3%. Thus, the integrated indicator of the public trust/distrust balance in the financial sector is calculated as the algebraic sum of the products of the variances of the studied phenomenon on the indicators of the trust / distrust balance at each level (4)

$$TB_{it} = 0.415 \cdot TB_{it}^{macro} + 0.191 \cdot TB_{it}^{micro} + 0.283 \cdot TB_{it}^{mezo}. \quad (4)$$

The dynamics of the integrated indicator of distrust in the financial sector at all levels of the financial system are presented in *Fig. 6*. It was found that from 2010 to 2020, the integrated indicator of distrust in the financial sector ranged from -20.69 to -49.8%. In the post-crisis period, during 2010—2012, there was a deepening of public distrust in the financial sector of Ukraine. In 2013, there was a slight decrease in the negative effects associated with the crisis of public trust. Since 2014, when the trust / distrust balance was -49.8%, there has been a systematic decline of trust and growing public distrust in the financial sector. From 2015 to 2018, the trust crisis in the financial sector deepened; the share of citizens who distrust ranged from -40.76% to -44.46%. The reasons for the erosion of trust in 2014—2018 are: a sharp decline in trust in commercial banks and the NBU due to the unstable economic and political situation resulting from exchange rate fluctuations, increased cash outside deposit-taking corporations, and high dollarization of the banking sector. Starting in 2018, trust in the financial sector is growing due to an increase in nominal salary growth, an increase in the share of national currency deposits in deposit-taking corporations' deposit portfolios, and an improvement in consumer sentiment. In 2019, the level of distrust was the lowest, amounting to -20.69%, which is 29.11% more than in the crisis year of 2014.

**Conclusions.** This paper offers a new approach to the element and integrated assessment of public trust levels in the financial sector. The novelty of the method is based on determining the trust/distrust balance in the financial sector at all levels, taking into account quantitative and qualitative indicators. It was found that the trend of public distrust in the financial sector, recorded in previous empirical studies and surveys, persists. The variables included in the factor model belong to three levels of public trust in the financial sector, particularly the macro-, meso-, and

micro-levels. At the same time, the lowest level of trust is in financial institutions, and the highest — is in financial services. It should be noted that the most significant impact on the level of public trust in the financial sector, in the constructed factor model, has been the actions of the central bank and monetary policy.

The calculated indicators are evidence that 2014 turned out to be extremely difficult for the financial system of Ukraine. The economic and political crisis of 2014—2017 deepened and entrenched trust crises in the financial sector. It is due to the central bank's management at the macro-level. In 2014—2016, the lowest trust rates in financial institutions were recorded. A high level of distrust at the meso-level was caused due to the introduction of a temporary administration and revocation of banking licenses.

The study found that the increase in nominal salary and an increase in the share of deposits and loans in the national currency in the loan and deposit portfolio of deposit-taking corporations have a positive effect on the level of trust in the financial sector. The deepening crisis of trust, in turn, is due to the dollarization of the banking sector, increasing the growth of cash outside deposit-taking corporations. Thus, the developed methodological guidelines for assessing trust in the financial sector can help identify ways to correct and overcome public distrust.

**Information on research funding and appreciation.** *This work would not have been possible without the financial support of the Ministry of Education and Science of Ukraine. The paper was prepared as part of the Young Scientist Research (registration № 0121U100469).*

#### References

1. Luncheon, A., & Kasztelnik, K. (2021). A Qualitative Exploratory Observational Study: An Entrepreneurship Managers' Emotional Intelligence and Impact on the Financial Organization's Success in the United States. *Financial Markets, Institutions and Risks*, 5 (2), 14—33. [https://doi.org/10.21272/fmir.5\(2\).14-33.2021](https://doi.org/10.21272/fmir.5(2).14-33.2021).
2. Artyukhov, A., Krmela, J., Krmelova, V., & Volk, I. (2021). Quality of Scientific Activity, Technology Transfer and Research Integrity: Case of Ukrainian University. *Business Ethics and Leadership*, 5 (4), 101—109. [https://doi.org/10.21272/bel.5\(4\).101-109.2021](https://doi.org/10.21272/bel.5(4).101-109.2021).
3. Antonyuk, N., Plikus, I., & Jammal, M. (2021). Human Capital Quality Assurance under the Conditions of Digital Business Transformation and COVID-19 Impact. *Health Economics and Management Review*, 2 (3), 39—47. <https://doi.org/10.21272/hem.2021.3-04>.
4. Dzwigol, H. (2020). Innovation in Marketing Research: Quantitative and Qualitative Analysis. *Marketing and Management of Innovations*, 1, 128—135. <https://doi.org/10.21272/mmi.2020.1-10>.
5. Moskovicz, A. (2019). Financial Qualitative Research: A Comprehensive Guide for Case Study usage. *Financial Markets, Institutions and Risks*, 3 (4), 1060—116. [http://doi.org/10.21272/fmir.3\(4\).106-116.2019](http://doi.org/10.21272/fmir.3(4).106-116.2019).
6. Novikov, V. (2021). Bibliometric Analysis of Economic, Social and Information Security Research. *SocioEconomic Challenges*, 5 (2), 120—128. [https://doi.org/10.21272/sec.5\(2\).120-128.2021](https://doi.org/10.21272/sec.5(2).120-128.2021).
7. Kago, A. M., & Muhammad, A. K. (2021). The Effect of Trust and Trade on Stock Markets Comovement. *Financial Markets, Institutions and Risks*, 5 (4), 66—86. [https://doi.org/10.21272/fmir.5\(4\).66-86.2021](https://doi.org/10.21272/fmir.5(4).66-86.2021).
8. Kuzmenko, O., & Kolomiets, S. (2021). Trust in Vaccination as a Factor in Public Health During a Pandemic. *Business Ethics and Leadership*, 5 (4), 90—100. [https://doi.org/10.21272/bel.5\(4\).90-100.2021](https://doi.org/10.21272/bel.5(4).90-100.2021).
9. Vysochyna, A., Semenov, V., & Kyrychenko, K. (2021). Marketing and management of innovations in public governance as core determinants of trust. *Marketing and Management of Innovations*, 2, 204—212. <https://doi.org/10.21272/mmi.2021.2-17>.
10. Bappayo, A., & Kirfi, Y. H. (2019). Newspaper Coverage of Women in Politics: A Content Analysis Of Daily Trust and Punch Newspapers. *SocioEconomic Challenges*, 3 (2), 70—77. [http://doi.org/10.21272/sec.3\(2\).70-77.2019](http://doi.org/10.21272/sec.3(2).70-77.2019).
11. Lewicka, D., Glinska-Newes, A., Morrow, D. L., & Gorka, J. (2018). The effect of job characteristics on employee loyalty: the mediation role of vertical trust and perceived supervisory support. *Marketing and Management of Innovations*, 2, 168—185. <https://doi.org/10.21272/mmi.2018.2-14>.
12. Marsh, S. (1994). Formalising Trust as Computational Concept: Ph. D. thesis. Department of Mathematics and Computer Science. Stirling: University of Stirling. 170 p.
13. Ennew, C. (2007). Measuring trust in financial services: the Trust Index. *Consumer policy review*, 17 (2), 62—68.
14. Al Halbusi, H., Tehseen, S., Hamid, F. A. H., & Afthanorhan, A. (2018). A Study of Organizational Justice on the Trust in Organization under the Mediating Role of Ethical Leadership. *Business Ethics and Leadership*, 2 (4), 89—98. [http://doi.org/10.21272/bel.2\(4\).89-98.2018](http://doi.org/10.21272/bel.2(4).89-98.2018).
15. Hansen, T. (2012). Understanding Trust in Financial Services: The Influence of Financial Healthiness, Knowledge, and Satisfaction. *Journal of Service Research (JSR)*, 15 (3), 280—295.
16. Poliakh, S. (2018). The consumer protection as a driver of innovative development: case study for consumers of financial services. *Marketing and Management of Innovations*, 2, 378—387. <https://doi.org/10.21272/mmi.2018.2-29>.
17. Ennew, C., Kharouf, H., & Sekhon, H. (2011). Trust in UK financial services: A longitudinal analysis. *Journal of Financial Services Marketing*, 16, 65—75.
18. Zhghenti, T., & Chkareuli, V. (2021). Enhancing online business sector: digital trust formation process. *Marketing and Management of Innovations*, 2, 87—93. <https://doi.org/10.21272/mmi.2021.2-07>.
19. Xiaoyan, Xu. (2020). Trust and financial inclusion: A cross-country study. *Finance Research Letters*, Vol. 35.

20. Moin, S., Devlin, J., & McKechnie, S. (2015). Trust in financial services: Impact of institutional trust and dispositional trust on trusting belief. *Journal of Financial Services Marketing*, Vol. 20, 91—106.
21. Nur-Al-Ahad, Md., & Nusrat, S. (2019). New Trends in Behavioral Economics: A Content Analysis of Social Communications of Youth. *Business Ethics and Leadership*, 3 (3), 107—115. [http://doi.org/10.21272/bel.3\(3\).107-115.2019](http://doi.org/10.21272/bel.3(3).107-115.2019).
22. Skvarciany, V., & Jureviciene, D. (2017). Factors affecting personal customers' trust in traditional banking: Case of the Baltics. *Journal of Business Economics and Management*, 18 (4), 636—649. <https://doi.org/10.3846/16111699.2017.1345784>.
23. Alikariev, O. F. U., & Poliakh, S. (2018). Index of protection of the interests of consumers of the financial services market. *Business Ethics and Leadership*, 2 (1), 78—95. [https://doi.org/10.21272/bel.2\(1\).78-95.2018](https://doi.org/10.21272/bel.2(1).78-95.2018).
24. Ennew, C. (2008). Measuring Trust in Retail Banking in China. Nottingham University Business School. On Behalf of the Financial Services Research Forum.
25. Belas, J., Koras, M., & Gabcova, L. (2015). Electronic banking, its use and safety. Are there differences in the access of bank customers by gender, education and age? *International Journal of Entrepreneurial Knowledge*, 3 (2), 16—28. <https://doi.org/10.1515/ijek-2015-0013>.
26. Ahmed, R. R., Vveinhardt, J., Streimikiene, D., Ashraf, M., & Channar, Z. A. (2017). Modified SERVQUAL model and effects of customer attitude and technology on customer satisfaction in banking industry: Mediation, moderation and conditional process analysis. *Journal of Business Economics and Management*, 18 (5), 974—1004. <https://doi.org/10.3846/16111699.2017.1368034>.
27. Kaya, H. D. (2021). The Impact of the 2008 Global Crisis on the Banking System. *Financial Markets, Institutions and Risks*, 5 (3), 5—13. [https://doi.org/10.21272/fmir.5\(3\).5-13.2021](https://doi.org/10.21272/fmir.5(3).5-13.2021).
28. *Tsentr imeni Razumkova [Razumkov Center]*. (n. d.). Retrieved from <https://razumkov.org.ua> [in Ukrainian].
29. *Fond «Demokratychni initsiatyvy» imeni Ilka Kucheriva [Foundation for Democratic Initiatives named I. Kucheriv]*. (n. d.). Retrieved from <https://dif.org.ua/>
30. *Natsionalnyi bank Ukrainy [National Bank of Ukraine]*. (n. d.). Retrieved from <https://bank.gov.ua/>
31. *Derzhavna sluzhba statystyky Ukrainy [State Statistics Service of Ukraine]*. (n. d.). Retrieved from <http://www.ukrstat.gov.ua> [in Ukrainian].
32. Verkhovna Rada Ukrainy. (n. d.). *Ofitsiyniy vebportal [Official webportal]*. Retrieved from <https://zakon.rada.gov.ua> [in Ukrainian].

The article is recommended for printing 22.02.2022

© Onyshchenko S., Brychko M., Litovtseva V., Yevsieieva A.