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AUDIT OF THE FINANCIAL STATEMENTS AND SOLVENCY OF A PUBLIC COMPANY IN ENSURING THE STABILITY OF THE NATIONAL SECURITY

Abstract. *The audit of financial reports and solvency are extremely important to ensure the stability of the national system. The bankruptcy of one company can have a negative impact on the other public companies as well as the whole national stability. Therefore the audit reports are crucial to the users of financial statements. Based on the International Standards of Audit the auditor's conclusions can predict disruption of business continuity or confirm the truthfulness of financial information and solvency data.*

Keywords: *audit, analysis, financial statement audit, financial stability, solvency, national security, national security system, instability, turbulence, uncertainty, going concern.*

АУДИТ ФІНАНСОВОЇ ЗВІТНОСТІ ТА ПЛАТОСПРОМОЖНОСТІ ПУБЛІЧНОЇ КОМПАНІЇ В ЗАБЕЗПЕЧЕНІ СТАБІЛЬНОСТІ НАЦІОНАЛЬНОЇ БЕЗПЕКИ

Анотація. *Аудит фінансової звітності та платоспроможності має надзвичайно важливе значення для забезпечення стабільності національної системи. Банкрутство одної публічної компанії в перспективі негативно впливає як на інші публічні компанії так і на стабільність національної економіки в цілому. З цієї причини аудиторські висновки є надважливими для користувачів фінансової звітності. На основі міжнародних стандартів аудиту (МСА), аудиторські висновки здатні передбачити можливе порушення безперервності господарської діяльності чи підтвердити достовірність фінансової інформації та даних про платоспроможність. Загалом безперервності діяльності треба приділяти більше уваги. В часи війни важко будувати будь-які прогнози, тож аудитори мають розширити їхні процедури щодо оцінки здатності підприємства продовжувати діяльність, застосовуючи глибокий аналіз ризиків та стрес-тестування різних економічних сценаріїв. Це передбачає не тільки аналіз історичних показників, а й нефінансові загрози, які можуть зашкодити майбутньому компанії. Крім того, аудит є надійним захистом від внутрішніх загроз, таких як корупція та фінансові зловживання. Виявляючи випадки шахрайства та корупції у сфері державних закупівель та забезпечуючи прозорість у таких стратегічних секторах, як енергетика та оборона, аудитори безпосередньо сприяють збереженню державних ресурсів. Ще одним важливим аспектом аудиту є перевірка нефінансової звітності (ESG), яка стала "показником довіри" для міжнародних партнерів та інвесторів. Для управління, перевірені звіти про сталий розвиток є свідченням стійкості підприємств та етичного управління, що відкриває доступ до коштів на післявоєнне відновлення та сприяє прагненню до європейської інтеграції. В умовах, що швидко змінюються традиційні методи аудиту необхідно порівнювати з цифровими технологіями та аналізом великого обсягу даних, щоб отримувати оперативну інформацію про стан справ у компанії. Такі зміни гарантують, що аудиторські висновки стануть не просто формальними документами, а дієвими інструментами,* *які уряд зможе використовувати для захисту національної економічної безпеки. Зрештою надійна система аудиту слугує основою для довіри громадськості, запобігаючи «ефекту доміно» фінансових зривів та сприяючи довгостроковій стабільності в умовах щоденних викликів.*

Ключові слова: *аудит, аналіз, аудит фінансової звітності, фінансова стійкість, платоспроможність, національна безпека, система національної безпеки, нестабільність, турбулентність, невизначеність, безперервність.*

Formulation of the problem. Nowadays, in times of economic and political instability, the audit of public companies' financial statements and solvency has become a crucial point for financial statement users not only to understand the companies' state of affairs but also to ensure the resilience of the national security system as whole. In 2025 Ukrainian government made a decision to conduct an audit of all the largest state-owned companies especially those working in the energy and defence sector [1]. Public companies are entities that trade their stocks on the public exchange market. Investors can become shareholders in a public company by purchasing shares of the company's stock. A company is considered public since any interested investor can purchase shares of the company in the public exchange to become equity owners [2]. Since such enterprises operate with funds from a wide range of investors, their financial stability ceases to be a purely private matter and becomes a matter of national economic security. Any period of instability can seriously undermine the security of a country's national system so these companies are obliged to undergo an annual financial statements audit. However, in the realities of 2026, a formal approach to financial statement verification is not enough. There is a necessity to provide a mechanism that ensures that the audit results directly influence the state's decisions regarding economic security of the country. The insolvency and financial instability of one public company can cause panic among investors and harm the whole national financial system. There is also a need of consideration of a fact that audit reports are based on the previous period information. Due to the rapidly changing events a lot of attention should be paid to the part of auditor's report that reveals conclusions and concerns about the ability of business to continue its activity. Despite the existence of ISA (International Standards on Auditing), going concern assessment methodologies often remain formal and do not take into account specific macroeconomic shocks characteristic of the national system. That means that the auditors should improve their methodologies regarding this matter and consider involving the opinions of external experts to predict all the possible outcomes for the companies' business continuation.

Analysis of recent research and publications. The topic of audit and going concern was studied by: Romanchukevych V.V., Kyrychenko V.R. [3], Moskal N.V. [6], Ostapiuk N.A., Klymovych D.A. [7], Khryniuk O.S., Bova V.A. [8], Tymoshenko K.A. [13], Riabchuk O.H., Mosiichuk Ye.O [14] and others. Their works cover a wide range of topics such as ESG, financial audit, going concern, etc. These topics are extremely important nowadays in times of war and other difficulties.

The purpose of the article is to analyse the influence of the audit and solvency analysis of public companies as a tool for strengthening national economic security.

The main material presentation. Auditors and audit firms are subject to the provisions of the Audit Act (as amended in 2018) and are supervised by the Public Oversight Authority for Audit Activities. For corporate governance, this means that the quality of audits is ensured by control from the state and a professional regulator, which conducts quality checks of audit services, certification of auditors, etc. Thus, regulatory practice in Ukraine is gradually approaching international principles: transparency of audit findings, auditor independence, regular rotation of audit firms to prevent "habituation," etc. [3; p.5]. There are establishments of the most famous international audit companies in Ukraine. The top 10 of them as of the year 2025 are presented in the figure below:

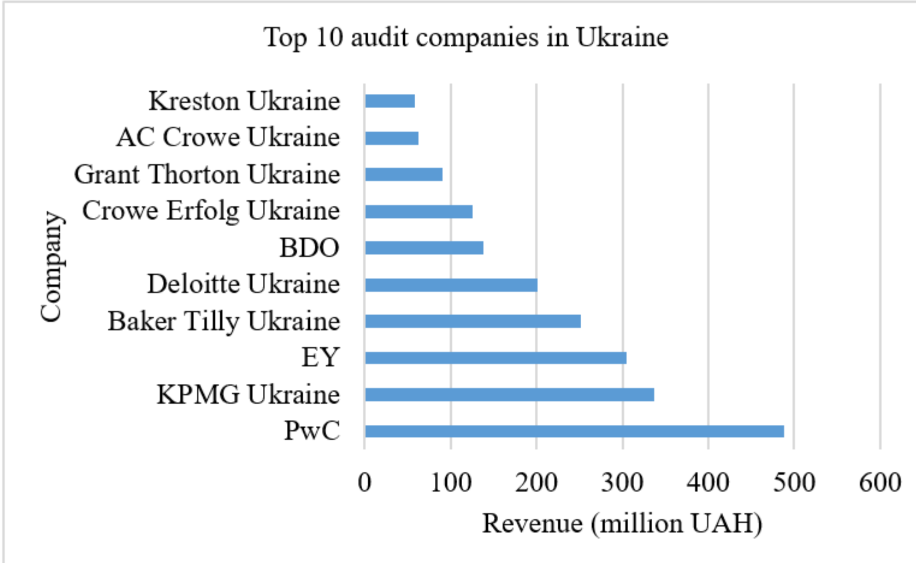

Fig. 1.Top 10 audit companies in Ukraine, million. UAH
Source: compiled by the author based on data from [4]

Among these companies are the members of BIG 4 (EY, KPMG, Deloitte and PwC, as well as other respected international companies. Therefore, before making decisions about giving Ukrainian companies or government any help, international institutions conduct an analysis of financial statements and audit reports to ensure that Ukrainian economy has the ability to return this money in accordance with the terms of the financial assistance. Audit reports also provide the information of business viability. IFRS states that management's assessment of the use of a going concern basis of preparation needs to reflect the effect of events occurring after the end of the reporting period up to the date that the financial statements are authorised for issue. This might require management to update assessments of the operational viability basis of preparation and decisions about which disclosures are necessary [5; p.2]. Thus in times of war and overall economic turbulence the business' operational persistence analysis is crucial.

Assessing compliance with the continuity principle is a multi-level process. Taking into account the regulatory requirements of IAS and ISA, the assessment is carried out at the following levels:

1. Management reporting level. This level includes: assessment of key financial indicators of the enterprise, such as liquidity, solvency, profitability and cash flows; creation of detailed financial forecasts and business plans that take into account possible changes in economic conditions, market conditions and internal resources of the enterprise.

2. The level of internal control includes: procedures for monitoring and assessing risks that may affect the continuity of operations; risk management.

3. The level of external control includes: independent audit assessment of the going concern assumption; professional assessment by other external controllers.

4. External environment level. Assessment at this level is carried out by various entities that provide independent and objective information on economic, political, social and other factors affecting the activities of enterprises, in particular: regulatory authorities; international organisations (IMF, World Bank); think tanks; research institutes; rating agencies; investment banks; professional organisations and associations (IFAC, ACCA); economic publications and analytical portals; large international consulting firms [6; p.3].

During the war in the notes to the financial statements, management should disclose the extent to which military risks affect the entity's operations. In particular, it is necessary to formally confirm that a business continuity assessment has been performed and to state the decision made regarding the use of this assumption in conditions of significant uncertainty, given the unpredictability of future events [7; p 182].

To examine whether there is a link between auditing and business continuity, we decided to analyse two Ukrainian public interest companies using Tereshchenko's model. This model comprises six indicators that characterise various aspects of a company's financial position. The discriminant model developed by O. Tereshchenko offers significant advantages over traditional domestic methodologies. The main ones are as follows: ease of application; modern international practice is taken into account when using domestic statistical data; resolution of the problem of critical indicator values through the use of various modifications of the base model for enterprises engaged in different types of activity; consideration of the enterprise's sector-specific characteristics. Tereshchenko's model is presented as follows:

$$Z = 1{,}5x1 + 0{,}08x2 + 10x3 + 5x4 + 0{,}3x5 + 0{,}1x6$$

where, x1 is the ratio of cash inflows to liabilities;
x2 is the ratio of balance sheet assets to liabilities;
x3 the ratio of net profit to the average annual total assets;
x4 is profit-to-revenue ratio;
x5 is the ratio of inventory to revenue;
x6 is revenue-to-fixed-capital ratio.

To determine the probability of bankruptcy, the calculated index is compared to its critical value. [8.p.3]

The companies for research are LLC GSC Naftogas of Ukraine and JSC Ukrainian Railways The table below sets out audit confirmed data as at 31.12.2024 from the financial statements used to calculate the "X" ratios.

Table 1

The audit confirmed data as at 31.12.2024 from the financial statements, thousand UAH

	LLC GSC Naftogas of Ukraine	JSC Ukrainian Railways
Inventories (line 1100)	807 114	12 321 974
Total for Section 3 "Current liabilities and provisions" (item 1695)	53 514 273	18 429 726
Balance (p. 1900)	25 148 843	279 038 815
Net revenue from sales (2000)	55 392 821	102 870 908
Net financial result (profit/loss) (line 2350)	446 509	(2 710 810)

Source: compiled by the author based on data from [9;10]

The table below sets out the formula for calculating the indicators and the values of "X" for Tereshchenko's model.

Table 2

The formula for calculating the indicators and the values of "X" for Tereshchenko's model

Formula	LLC GSC Naftogas of Ukraine	JSC Ukrainian Railways
x1 = line item 2000 (net revenue)/ line item 1695	x1=1,04	x1=5,58
x2 = line item 1900/ line item 1695	x2=0,47	x2=15,14
x3 = line item 2350 / line item 1900	x3=0,02	x3= (0,0097)
x4 = line item 2350 / line item 2000	x4=0,01	x4=(0,026)
x5 = line item 1100 / line item 2000	x5=0,015	x5=0,12
x6 = line item 2000 / line item 1900	x6=2,2	x6=0,36
Z-score	2,451	9,4272

Source: compiled by the author based on data from [8, p.4;9;10]

According to our calculations for LLC GSC Naftogas of Ukraine Z — score is equal to 2,451; for JSC Ukrainian Railways Z - score is equal to 9,4272. The table below shows a scale for assessing the condition of an enterprise based on O. Tereshchenko's model.

Table 3

The scale for assessing the condition of an enterprise based on O. Tereshchenko's model

The limit value of the coefficient	The state of the company
$0 < Z < 1$	There is a risk of bankruptcy
$1 < Z < 2$	Financial stability has been compromised
$Z > 2$	There is no risk of bankruptcy

Source: [8, p.5]

Based on our calculations, it has been established that both companies fall into the category of financially stable firms ($Z > 2$). The extremely high Z-score of JSC Ukrainian Railways ($Z = 9{,}427$) demonstrates the strategic stability of its assets, whilst the result for LLC GSC Naftogas of Ukraine ($Z = 2.451$) confirms solvency but signals a lower margin of financial autonomy.

According to the financial reports of these companies there is a high risk to the principle of business continuity because of the war in Ukraine. Moreover, there were not any auditor's modifications for the financial reports of LLC GSC Naftogas of Ukraine and only one auditor's modification for JSC Ukrainian Railways because of PPE and inventories, which are located in the occupied territory. Our calculations based on O. Tereshchenko's model confirm the auditors' conclusions regarding the going concern status of these companies.

We also believe that auditors can estimate the likelihood of damage resulting from military action using statistical methods. Information about the targets of the air strikes and their locations is available online. Auditors can calculate the probability of damage caused by an air strike by using historical data on how often the area has been subjected to air strikes. For example city "A" had 100 air attacks since the beginning of the year, city "B" had 20. That means, if a company's production facilities are located in city "A", the likelihood of it being damaged by an air strike is greater than if those facilities were located in city "B". The same approach can be applied within the city by analysing the frequency of attacks across its different districts. When calculating this probability, the nature of the company's business should also be taken into account. If a company manufactures weapons, the likelihood of damage resulting from an attack is greater than if the company manufactures, for example, clothing accessories. For practical application, the auditor is advised to set the value of "S" (market sector) based on expert assessments or national priorities, for example: "S" = 1,5 — for enterprises in the defence industry, energy sector and strategic logistics; "S" = 1,0 — for the engineering sector and large industrial facilities; "S" = 0,5 — for enterprises in the food, light manufacturing and service sectors.

To illustrate this more clearly, let's create a formula. Supposing that auditors are inspecting two factories, one of which manufactures weapons in City A (100 attacks) and the other manufactures clothing in City B (20 attacks); the calculation would look like this:

$$Ri = Na \times S$$

Where, Ri is probability of an attack;

Na is a number of attacks;

S is the sector in which the company operates.

Based on this formula, for a weapons manufacturer located in the city "A", the risk index of an attack will be:

$$Ri = 100 \times 1,5$$

Risk index of an attack is 150 and for clothing manufacturer located in the city "B", the probability of an attack will be:

$$Ri = 20 \times 0,5$$

Risk index of an attack is 10. This formula is not perfect, but it can serve as a basis for improving the analysis of business continuity in wartime conditions. In addition to the two factors proposed, it can be expanded to include other criteria such as: the facility's security rating and the availability of insurance against military risks.

Public company — a legal entity established in the form of a public joint-stock company that meets the requirements set forth in the regulatory acts of the Regulator (National Bank of Ukraine or National Securities and Stock Market Commission) [11]. Public companies play a significant role in the stability of the national economy security. For public companies, the users of financial statements include not only government institutions, but also thousands of private investors, international financial institutions, and ordinary citizens. In times of war and overall economic turbulence international organizations like International Bank for Reconstruction and Development, International Monetary Fund and others pay considerable attention to the solvency of Ukrainian companies and annual audit results. In Ukraine public companies are obliged to undergo annual audit. As mentioned earlier the bankruptcy of such companies causes significant problems for the country such as:

1) reduction in tax revenues;

2) decrease of GDP (Usually public companies occupy a significant share of the market so the bankruptcy of such company has a negative impact on the economy of the entire country);

3) depreciation of assets (a fall in the shares of one company leads to a fall in the shares of others);

4) the overall panic and period of turbulence on the stock market;
5) downgrading of countries' credit ratings;
6) damage to the banking sector (since large public companies have loans for significant amounts of money, their non-repayment can significantly damage the banking system).

Other than that audit can not only make the financial statements reliable and trustworthy or predict bankruptcy and financial problems. Audit procedures are also designed for detection of fraud and corruption. In 2025 National Anti-Corruption Bureau of Ukraine revealed corruption in the energy sector linked to the joint-stock company "Energoatom". This corruption scandal damaged Ukraine's reputation in the eyes of international partners, undermined investor confidence and outraged society. As a result the government has ordered a comprehensive audit of all major state-owned enterprises, particularly in the energy and defence industries [1]. The auditors discovered a lot of internal problems such as: procurement issues, the use of intermediary schemes, which led to artificial inflation of prices for goods and so on. The thorough audit of "Energoatom" before could have prevented such adverse effects.

Occupational fraud: 2024 The Report to the nations provides that 17% of occupational fraud is revealed by audit both external and internal. The table below shows all sources of fraud detection.

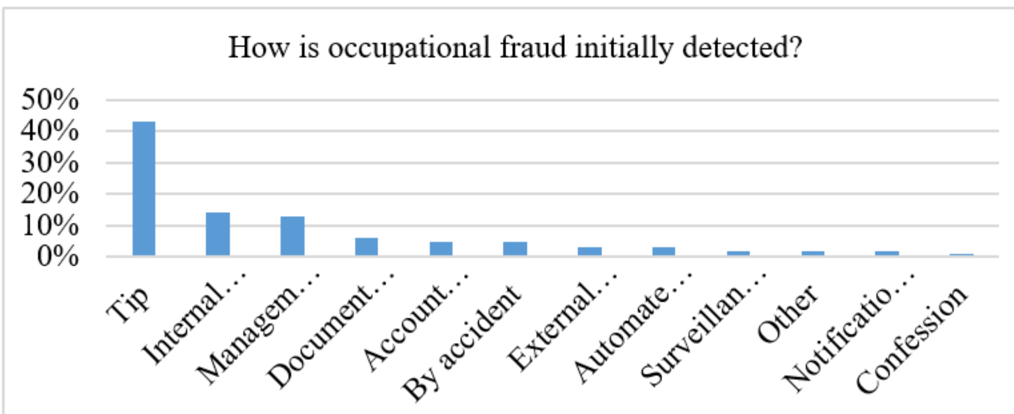

Fig. 2. How is occupational fraud initially detected?
Source: compiled by the author based on data from [12 p.23]

It is also important to consider non-financial reporting audits. Non-financial reporting discloses three aspects:
1) environmental, requiring a description of risks and opportunities related to the environment, and their management;
2) social aspects, which include information about the organization's values and relationships with staff, suppliers, customers, and partners, and cover topics such as employee health and safety, product quality and safety, human capital, etc.;
3) management aspects, which include information about the system of rules, practices, and processes by which the organization is managed and controlled, and touch on topics such as the structure of the board of directors, executive compensation, management effectiveness, response to critical events, organizational resilience, as well as policy and practice, fraud, and corruption [13; p.49-50]

Considering all of this, non-financial reporting audit is important for public companies as well as for the government. Non-financial audit is the possibility for the company to show that the company operates in accordance with global ethical and environmental standards, which is really important especially for Ukraine because it aspires to enter the European Union.

Despite all of the positive aspects that auditing brings, in modern times it needs to improve its methodologies to be able to anticipate new risks and counteract them. The introduction of new approaches to auditing will help improve the objectivity of assessing the financial stability of enterprises and facilitate their adaptation to crisis conditions, namely: —
1) strengthening the analytical approach through the use of modern methods of forecasting, stress testing and scenario analysis to assess the financial stability of enterprises in conditions of instability;
2) automating audit processes by introducing digital technologies that allow for faster analysis of large data sets and increase the accuracy of financial assessments;
3) improvement of the regulatory framework, in particular, the development of special approaches to assessing military risks;

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4) strengthening cooperation with state authorities through the creation of effective mechanisms for controlling the use of state support and credit programs for business;
5) improving the qualifications of auditors by conducting specialized training and educational programs aimed at mastering methods of analysing financial stability in crisis conditions [14; p.5].

However, despite all its flaws, the audit still helps to maintain stability and provides users of financial statements with trustworthy information. Furthermore, independent assurance serves as an important safeguard against financial misstatements, ensuring that all users of financial statements can make informed decisions even in volatile market conditions. Early risk detection through auditing strengthens both corporate governance and economic stability.

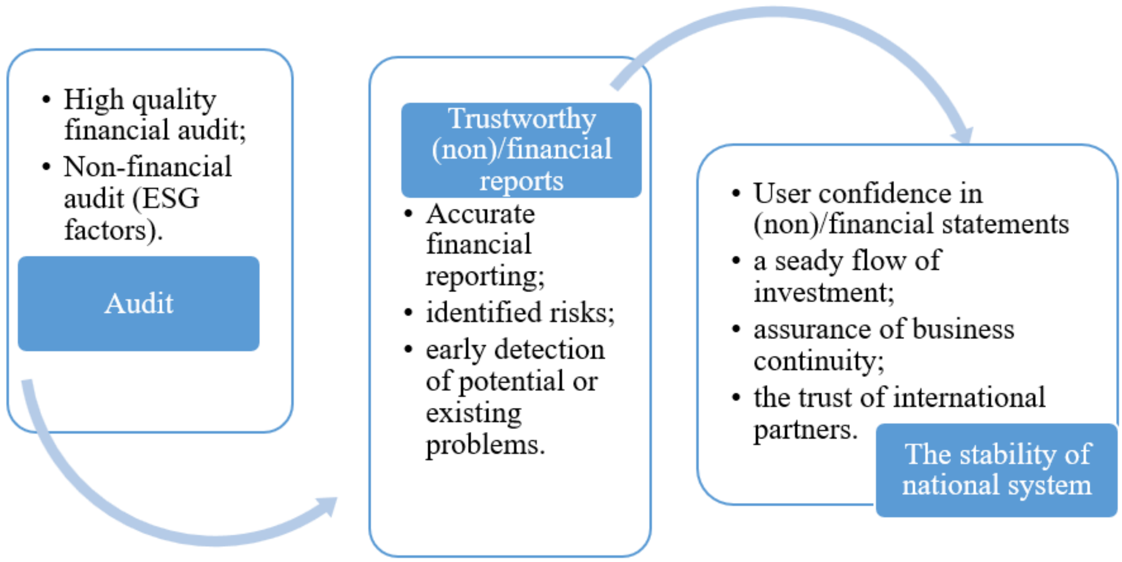

Fig. 3. Audit leads to stability model
Source: compiled by the author

Conclusions. The financial and non-financial statements audit of public companies is crucial to ensure the stability of national system security. Since public companies operate with capital from a wide range of investors, their financial stability is no longer a private matter, as the bankruptcy of such entities can trigger a chain reaction: from a decline in GDP and a reduction in tax revenues to a systemic crisis in the banking sector and a loss of confidence in the stock market. The case of JSC "Energoatom" in 2025 clearly demonstrates that a high-quality audit is critical not only for confirming figures, but also for identifying underlying problems in procurement and preventing corruption schemes that damage the state's reputation on the international stage. During the times of war, verification of the going concern assumption is important. Given the dynamic nature of events, a formal approach to assessing past periods is insufficient, necessitating the introduction of new analytical approaches such as stress testing and military risk forecasting scenarios. Specifically, we propose the use of a Military Risk Index ($Ri = Na * S$) to quantify the exposure of assets to potential damage. Our analysis shows that integrating such statistical indicators—which account for both geographical attack frequency «Na» and the strategic importance of the business sector «S» — allows auditors to move beyond subjective judgment toward a data-driven assessment of viability.

Practical application of this approach, alongside traditional models like O. Tereshchenko's Z-score, confirms that even strategic giants like LLC GSC Naftogas of Ukraine (Z = 2,451) and JSC Ukrainian Railways (Z = 9,427) require constant monitoring of localized military risks to justify the going concern assumption.

It is important that company management disclose not only actual figures in the notes to the financial statements, but also their own judgments regarding the viability of the business in conditions of uncertainty. At the same time, the growing importance of non-financial reporting (ESG) audits allows Ukraine to adapt to European standards, exhibiting to international partners transparency in management, social responsibility, and ethical business practices, which are key to attracting investment in reconstruction and gaining our partner's trust.

In conclusion, based on the study's findings, this paper presents improved scientific and practical approaches to auditing the financial condition of a business entity; unlike previously published studies, these approaches examine the impact of the verified information obtained by the auditor on user's confidence in the financial statements of public companies.

References

1. Uriadovyi portal: Uriad doruchyv provesty kompleksnu perevirku naibilshykh derzhavnykh pidpryiemstv, zokrema u sferi enerhetyky ta oboronnoi promyslovosti, — Yuliia Svyrydenko. URL: https://www.kmu.gov.ua/news/uriad-doruchyv-provesty-kompleksnu-perevirku-naibilshykh-derzhavnykh-pidpryiemstv-zokrema-u-sferi-enerhetyky-ta-oboronnoi-promyslovosti-iuliia-svyrydenko (Accessed: January 12, 2026)
2. CFI. Public Companies. URL: https://corporatefinanceinstitute.com/resources/accounting/public-companies/ (Accessed: January 12, 2026)
3. Romanchukevych V.V., Kyrychenko V.R. Finansovyi monitorynh ta audyt v korporatyvnomu upravlinni. Ekonomika ta suspilstvo *[Financial monitoring and audit in corporate governance]* 2025. №79 p. 1-9. DOI: https://doi.org/10.32782/2524-0072/2025-79-58
4. TOP-20 audytorskykh kompanii v Ukraini zarobyly 3,3 mlrd: khto lider *[Top 20 audit companies in Ukraine earned 3.3 billion: who is the leader?]* URL: https://dengi.ua/ua/business/9754999-top-20-auditorskikh-kompanij-v-ukrayini-zarobili-33-mlrd-khto-lider (Accessed: January 12, 2026)
5. IFRS Accounting. Going concern and disclosure. P. 1-4. [Effective from May 2025].
6. Moskal N.V. Kompleksnyi pidkhid do otsinky beshchperervnosti diialnosti pidpryiemstva: oblikovo-analitychni aspekty *[A comprehensive approach to assessing the continuity of business operations: accounting and analytical aspects].* Ekonomika ta suspilstvo 2024. №65 p.1-7.
7. Ostapiuk N.A., Klymovych D.A. Zastosuvannia pryntsypu bezperervnosti v umovakh viiskovoho stanu *[Application of the principle of continuity under martial law]*: materialy International Conference "Economic Security in the Global Environment" — Online esgeconference 2022 — Kyiv — Ukraine 29–30 June 2022. P. 176-183.
8. Khryniuk O.S., Bova V.A. Modeli rozrakhunku tmovirnosti bankrutstva yak metod otsinky finansovoho potensialu pidpryiemstva *[Models of estimation of bankruptcy probability as a method of evaluation financial potential of the enterprise]*. Efektyvna ekonomika 2018. №2 p. 1-6.
9. LLC GSC Naftogas of Ukraine: Financial statements together with the independent auditor's report. P. 1 -50.
10. JSC Ukrainian Railways: Financial statements together with the independent auditor's report. P. 1 -61.
11. Termin Publichna kompaniia *[the term public company].* URL: https://zakon.rada.gov.ua/laws/term/35994 (Accessed: January 12, 2026)
12. Occupational fraud 2024: A report to the nations. P.1-105.
13. Tymoshenko K.A. Audyt nefinansovoi zvitnosti [Audit of non-financial reporting]. Ekonomika. Finansy. Pravo. 2023. №2. P. 49-52. DOI: https://doi.org/10.37634/efp.2023.2.10
14. Riabchuk O.H., Mosiichuk Ye.O. Audyt finansovoi stiikosti pidpryiemstv v umovakh voiennoho stanu *[Audit of the financial stability of enterprises under martial law]*. Ekonomika ta suspilstvo 2025. №3. P.1-6.DOI: htts://doi.org/10.32782/2524-0072/2025-73-11

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