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AUDITS FOR THE MINIMIZATION OF ECO-ANXIETY IN THE WORLD ECONOMY

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Abstract

The global pandemic of 2019–2020 is changing not only the lives of citizens, but also approaches to business management. The activities of audit companies have not escaped. Problematic and debatable issues need to be addressed to formulate a comprehensive approach to audits in a transformative economic environment and minimize the global economy's eco-anxiety. The purpose of the article is to determine the role of the audit in minimizing the eco-anxiety of the world economy. The study's materials were indicators of the spread of the COVID-19 pandemic in the world, public writings of scientists, official reports of international organizations, regulations, and among other things. COVID-19 has had a negative impact on the economy. Simultaneously, uncertainty in the economies of countries around the world remains, which has implications for reporting organizations and companies providing audit services in Ukraine and around the world. Given the increasing impact of the coronavirus on the global economy and the resulting high uncertainty, conducting a high-quality audit is critical to ensuring that financial statements are properly informed. In many cases, auditors will need to consider the development of alternative auditing procedures to gather sufficient and appropriate evidence. COVID-19 has been a real shock to the global economy. Audits have become an effective tool to minimize the eco-anxiety of the world economy.

Keywords: Audit; Eco-anxiety; Coronavirus; COVID-19; World economy.

1. Introduction

World economic science and practice have created a universal source of information about companies' financial conditions, i.e., accounting statements, which are based on accounting data. The financial statements are an important means of interaction between an enterprise and the market environment. The contraposition of the financial statements in the interests of the users has led to the audit's occurrence and development. Today, the audit is one of the main elements of market infrastructure in countries with advanced market economies. The degree of user confidence in financial information increases when a competent, independent

auditor confirms the reporting data's reliability. In these circumstances, the audit becomes an effective tool to minimize the eco-anxiety of the world economy.

Many foreign and domestic scientists study the theoretical and practical aspects of eco-anxiety in society. In particular, the work of Panu (2020) explored the essence of eco-anxiety and modern variations in understanding this concept from the standpoint of a wide range of disciplines. The author of the article presented the statistics of various anxiety theories, which is used to substantiate the nature and forms of eco-anxiety. Uncertainty, unpredictability, and uncontrollability, which lead to the formation of various consequences of human impact, are important factors of environmental anxiety, which are revealed in the article. Usher et al. (2019) study eco-anxiety as an adverse factor that primarily affects a person's mental health. According to these authors, climate change, environmental degradation affects not only the environment and physical health, but also its psycho-emotional state, causing stress, depression, poor sleep, the development of suicidal thoughts and more. Scientists consider eco-anxiety to be a specific form of anxiety that is related to the stress caused by changes in the environment and human knowledge about it.

Some aspects of theoretical, organizational, and methodological support of audits in different periods of development of science and practice were investigated by Almond (2018), Arnold (2017), Burova et al. (2018), Demidenko (2019), Izza (2019), Luchko and Zinkevych (2019), Makarenko and Kuchkina (2020), Melikhova and Grebenyuk (2020), Melnyk and Maricheva (2019), Mnykh et al. (2015), Nazarova et al. (2020), Selishchev (2020), Shulga (2019), Telfer (2018), Ursillo (2018), and others. The research of scientists such as Grosu et al. (2019) reveals management accounting issues as an important component of the enterprise accounting system. Achieving the goals of minimizing production costs, rationalizing the use of available resources, and maintaining product quality are, according to the authors of this article, possible through the use of the management accounting tools such as Kaizen, 5Whys, Six Sigma, and others. The result of the authors' scientific work are concepts and methods of evaluation and reporting aimed at supporting management decisions. The problematic issues of management accounting theory and practice in the context of risk management are revealed in the work of Bondar and Ershova (2019). It has resulted in scientists forming their classifications for strategic management accounting purposes. Suggestions for structuring the strategic risk management process should also be included in the scientific work of these authors.

Theoretical and praxeological foundations of business analysis and audit in the process of providing management support systems at micro and macro levels have also gained wide coverage in the scientific literature, in particular, in the works of [Hotsuliak et al. \(2018\)](#), [Komirna et al. \(2019\)](#), [Nazarova et al. \(2020\)](#), [Symonenko and Kostiuk \(2017\)](#), and other scientists of the Department of Financial Analysis and Audit of Kyiv National University of Trade and Economics. Significant developments in the audit working papers are presented in the research by [Bondar \(2018\)](#). The results of the work of such researchers as [Andreeva, Hotsuliak, and Gorbachenko \(2018\)](#) are the disclosures of the features of the analysis tools for assessing the current state, institutional risks, and prospects for the development of Ukraine. Aspects of the theory and practice of the assessment process analysis of the investment attractiveness of economic entities are disclosed by [Komirna and Katrych \(2017\)](#). As a result, a system of analysis indicators was proposed to assess investment risks and investing feasibility.

Recognizing the importance of the research above, it should be noted that the study of the features of management accounting, analysis, and audits to inform decision support at any level of economic management has not lost its relevance. The implementation of the functions of macroeconomic planning, strategic forecasting, transparency and reliability of financial information of economic entities, and ensuring the effectiveness of management decisions at the level of the national economy should all be based on scientifically grounded results of management accounting, analysis, and audit. Maximizing the beneficial effects of using accounting, analysis, and audit tools to ensure the national economy's sustainable growth is possible by developing and implementing the concept of their synergy. The problematic and debatable issues left behind by these scholars need to be addressed to formulate a comprehensive approach to auditing in an economically transformative environment and to minimize the eco-anxiety of the global economy.

The purpose of the article is to determine the role of audits in minimizing the world economy's eco-anxiety, study the results of audits in foreign countries, and identify promising areas of development for Ukraine.

2. Methods

The study's materials were indicators of the spread of the COVID-19 pandemic in the world, public articles by scientists, official reports of international organizations, regulations, etc. In the study, the theoretical and methodological basis consisted of general scientific and special

methods of cognition, based on a dialectical approach to the consideration of economic processes. The following tools were employed:

- a. Methods of analysis and synthesis—to study the economic essence of the audit of COVID-19;
- b. Systems approach—to determine the methodological foundations of the enterprise management system; and
- c. Methods of general analysis, *inter alia*.

The study used general and specific methods for understanding the objective nature of economic phenomena and processes to analyze the impact of the COVID-19 pandemic on business:

- a. Methods of causation—to study the impact of digitalization on the audit process;
- b. Methods of grouping and compilation; and
- c. Sample observation—for statistical data processing.

Based on the methods of systems analysis and scientific abstraction, general conclusions were formulated. In addition, a set of complementary methods of scientific research of economic processes and phenomena using statistical and analytical materials, as well as the results of their own research were used.

3. Results and Discussion

The impact of globalization on the development of national socioeconomic macrosystems is characterized by the value of a set of indicators, the most common of which is the Global Economic Forum (GEF) competitiveness growth index, which is calculated annually for 125–134 countries. In 2018, Switzerland was the leader in terms of growth (index was 5.86), followed by the United States (5.85), Singapore (5.71), the Netherlands (5.66), and Germany (5.65). The countries with the lowest rates were Yemen (2.78), Mozambique (2.89), Chad (2.99), Liberia (3.08), Mauritania (3.09), and Malawi (3.11). Ukraine's competitiveness level was 4.11 (81st place) and was close to countries such as Bhutan (4.10), Trinidad and Tobago (4.09), and Guatemala (4.08). As is evident, globalization with positive consequences does not always contribute to the socioeconomic development of most developing countries, according to the IMF's statistical reports, which publish only certain economic indicators and

not contributions of systematic analysis of preconditions for development in the global economy.

To evaluate the level of environmental protection, the environmental performance index of manufacturing activity is primarily used. The methodology for calculating it is based on an “Experimental Environmental Indicator,” developed in 2002 by UN experts to implement environmental standards in line with the Millennium Development Goals. Leaders in this indicator are Switzerland (95.5 out of 100 points); Sweden (93.1 points); Norway (93.1 points); Finland (91.4 points). Ukraine ranked 166th among 239 countries with a value of 74.1 points (2001–110th place out of 123 countries), which is like the level of underdeveloped countries; Honduras (164th position, 75.4 points respectively); Macedonia (166th position, 74.1 points); Vietnam (167th place, 73.9 points); Nicaragua (239th place, 39.1 points); Angola (238th place, 39.5 points); and Sierra Leone (237th place; 40 points). An important indicator of international comparisons in the context of the impact of globalization processes on economic growth is the human development index, which is estimated annually by the experts of the United Nations Development Program.

For most countries it is 70. As of 2018, the rating was headed by Iceland, Norway, Canada, Australia (with an index value of 0.97 out of 1.0), Ireland, Netherlands, Sweden, Japan, and Luxembourg (0.96 each). Ukraine ranked 82 out of 179 countries, with an index value of 0.79, at the level of Peru, Colombia, and Thailand. During 1980–2018, the top positions were occupied by Canada (11 times), Norway (6 times), Japan (2 times), and Switzerland (1 time). The list of leading countries in 2018 included Iceland, Norway, Canada, Australia (0.97 each), Ireland, Netherlands, Sweden, Japan, and Luxembourg (0.96 each). The countries with the lowest rates were Sierra Leone (0.33), Central African Republic (0.35), and the Democratic Republic of the Congo, Liberia, and Mozambique (0.36 each). It should be noted that this index does not fully consider all aspects of human development. A more systematic indicator of comparing human performance in terms of resource use is the life quality index. In the developed countries, this index was led by France (85 out of 100 points possible), Switzerland (84), USA (83), Luxembourg (82), and Germany (80), which ranked 1–5 among 194 countries, respectively. The least developed countries and their rankings were Iraq (29), Somalia (30), Afghanistan, Yemen (31), and Sudan (31) (Vlasyuk et al., 2017).

In the process of transition to a market economy, Ukraine's policy is, above all, confronted with the ambitious tasks of reforming public institutions and creating new structures for

organizing and regulating socioeconomic activity. Unfortunately, today, more than a quarter of a century since the start of the market transition, this task has not been effectively solved in Ukraine. There remains a mass of institutional distortions and deformations, with not only a slowing of important institutional changes, but a strengthening of institutional obsolescence.

Ukraine today really needs an upheaval in its attitude toward economic development. That would be an upheaval, first, in the mentality of its market players, for whom innovation is the prerequisite for survival, and then in the mentality of civil servants involved in the regulation of economic activity. For these reasons, the main criteria in the assessment of economic policy should be genuine structural shifts in the direction of priority development of modern technologies and activities that are their carriers.

All countries of the world can be divided into two groups by the nature of their development behavior and the corresponding structural changes in the economy. The first are those who play a passive role in these matters. Such countries are predominantly the recipients of global development trends. They either adapt to them and become involved in the process of global economic development, or they pay no attention to global signals, or are unable, for whatever reason, to adapt to them. Subsequently, they inevitably marginalize and become backward peripheries of the world economy, or even arenas of fierce political strife, after which they may disappear from the world political map or lose their political independence altogether. The second group includes the leading countries that play an active role and set directions for development.

They are generators of global trends and significantly affect the nature, scale, and pace of structural shifts in the economy. Of course, they are rewarded with the opportunity to earn a relatively large portion of their total global income for this activity. This active role in shaping the processes of economic development, which sets the directions for the structural evolution of the world economy, is based on three “whales”—science, education, and innovation (in the field of business and society in general). The innovation factor in economic development has always played a key role and led to drastic changes in the structure of economic activity. However, the key role of science and education in these issues began to grow rapidly in recent decades, when the talk of a “knowledge-based economy” (or “knowledge economy”), intellectual capital, and human capital began. These factors began to substantially modify the very basic concepts of macroeconomics, which for a long time were based on the dichotomy of “capital–labor (or, in the Marxist paradigm–workforce).” Scientists working in the field of modeling economic development began to adjust their

economic models by incorporating factors of scientific knowledge and educational level, which led to the emergence of the so-called models of endogenous development (growth).

The entry of the world economy into the era of the fourth industrial revolution means a period of extremely deep and comprehensive system changes, not only in the technologies of production and exchange of material and immaterial goods, but of the whole system of human relations connected with economic activity. The term “industrial revolution” itself can cause some misunderstanding, if it is to be understood in the traditional sense of a sector of material production for the extraction of raw materials and fuel, electricity, tools for labor and processing of raw materials, and production of consumer goods and services. In fact, it is a broader interpretation of this concept and, accordingly, of the process that reflects it—the systematic restructuring of the economy under the influence of technological change—which gives rise to a new technological role in the economy, and even beyond the economy. It is a cardinal social shift caused by changes in ways of perceiving the world, systems of life meanings, values, identities and forms of communication and human interaction, and therefore in culture in its broadest sense.

It should be noted that, in recent years, the World Economic Forum has conducted a number of in-depth studies of certain aspects of the Fourth Industrial Revolution (Figure 1). These changes will obviously have a dramatic impact on all structures of the world economy. They will significantly change the way business is organized and the priorities and methods of macroeconomic regulation and economic growth and development. This is a fundamental challenge for national economies. It is essentially an existential challenge for all, without exception. The inevitability of the advent of a new technological alliance challenges all the countries of the world with a vital dilemma: either master the new technologies and join the leading trends of economic development or be cast to the sidelines of the world economy and world civilization. The answer to this challenge can only be found in the context of a strategically oriented national economic policy.

The main criteria for the existence of such a policy in the country is not the presence of official documents, the names of which contain the term “strategy,” and the absence of long-term objectives for 10–15 years or more, but the ability to ensure real subordination of current economic policy strategies. Here not even the volumes of allocated resources for long-term development are of the greatest importance. What are important are the changes of business models and state regulation, the change of the philosophy underlying economic behavior, and the formation of a peculiar “culture of the long-term” (Sidenko, 2017).

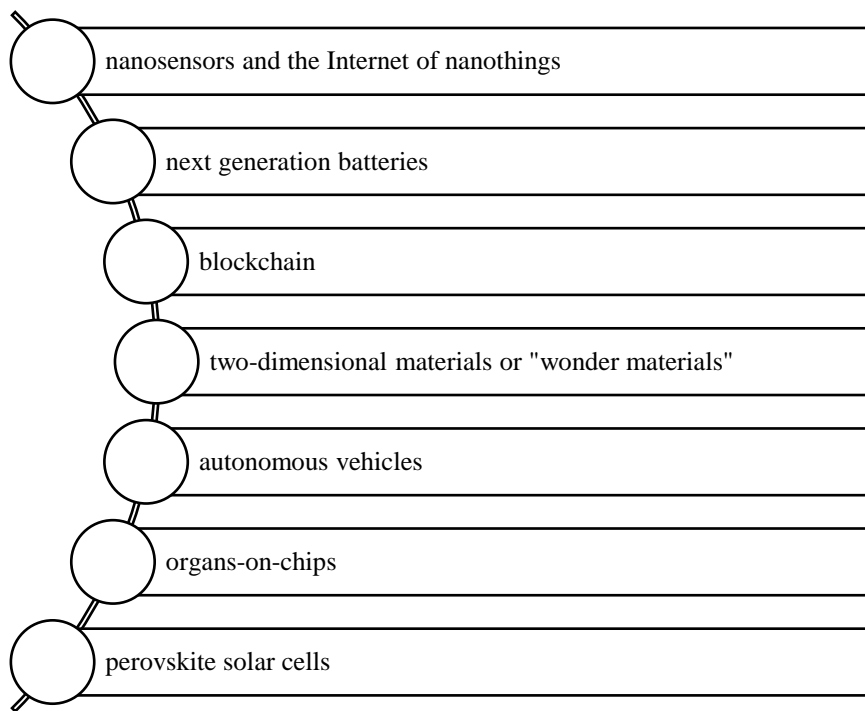


Figure 1. Most important emerging technologies

Thus, the 10 most important emerging technologies have been identified. They include nano sensors and the Internet of nano things that lead to miniaturization of network connectivity. Analysts estimate that by 2021, up to 30 billion devices will be connected to the global network through the Internet of Things, but in the future, a real breakthrough will be made—the transition of medicine, energy efficiency mechanisms and many other sectors to a whole new level in quality. Next, generation batteries will deliver large-scale energy storage, bringing solar and wind energy to a new level of cost-effectiveness and ensure a stable energy supply. Batteries made with sodium, aluminum, and zinc, excluding environmentally harmful heavy metals and caustic chemicals, will support the operations of entire businesses, cities, and mini networks connecting isolated rural areas.

Blockchain technologies, like the revolutionary decentralized systems based on trust, will ensure that a decentralized public transaction register is not monitored individually by any entity (person or company). Rather, all users will have the ability to access the registry with a secure and auditable record of all transactions by cryptographic methods. This technology will eliminate intermediaries in commercial transactions, which will significantly reduce transaction costs while providing a higher level of confidentiality and security of transactions. Two-dimensional materials, or “wonder materials,” will contain just one layer of atoms

(including graphene, borophen, and germanium, among others) that give the materials unique features of strength, weight, flexibility, electrical conductivity, optical properties, permeability to other substances, low toxicity, and more.

The dramatic reduction in the cost of their production already makes some of them commercially viable. The special targeted production of materials with predetermined properties will become possible, as will autonomous, driverless vehicles. Equipped with onboard radar, cameras, ultrasonic distance-measuring devices, electronic navigation systems, and memory-stored route maps, they will receive huge amounts of environmental information from sensors installed to ensure safe movement. Relevant experiments to prepare the production of such vehicles are already underway—for example, Tesla Motors—although those still only partially implement autonomy. Organs-on-chips—technologies for providing medical testing of organ function encoded on miniature electronic media—can be monitored to study the reactions of an organism to certain drugs, which will allow the elimination of the unethical practice of animal testing for medical and pharmacological experiments. It will take the processes of studying the biological mechanisms of specific people and the features of their physiological processes to an unprecedented level. So, it will open the way to a new medicine of the future, built on a personal approach to each patient.

Perovskite solar cells should permit the widespread expansion of solar power plants by eliminating constraints associated with the use of current silicon cells. Open AI ecosystems will allow the transition from artificial to “contextual” intelligence, which will in turn allow the emergence of perfect personal assistants to perform routine tasks within the Internet of Things. It will significantly improve the quality and cost of health care services, increase the capacity to aid older people, and provide better protection during financial transactions. There will be optogenetics, the use of light to detect genetically modified neurons. Those will allow for qualitatively new treatment methods for nervous and mental disorders. Systems metabolic engineering will build on the actions of chemicals derived from microorganisms, which should lead to replacing traditional sources of raw materials for chemical production (coal, oil, gas), replacing them with the work of microorganisms in bioreactors. This will not only expand the range of available chemicals and pharmacological substances but also significantly reduce their production in the case of the extraction of relevant substances from rare plants or animals. Such sources of chemical production, unlike raw fossil materials, will be renewable and will significantly reduce carbon emissions into the atmosphere.

The coronavirus pandemic has become a challenge for the global economy, including the US and China's strongest economies. Based on January-February statistics, China's economy is on track to lose up to 10% of GDP in the first quarter of 2020, compared to the usual 5–6% growth trajectory. New forecasts for the US economy are already emerging from a significant drop in GDP in the second quarter (-5% per Goldman Sachs).

It can be safely assumed that the economic downturn of Ukraine will be no less than in China and the US, and this effect will at best be extended by five to six months. Even if coronavirus containment measures prove to be over-effective, and even if quarantines in Ukraine will be ended by May, demand, supply chains, and logistics will not be restored by mid-summer (Figure 2).

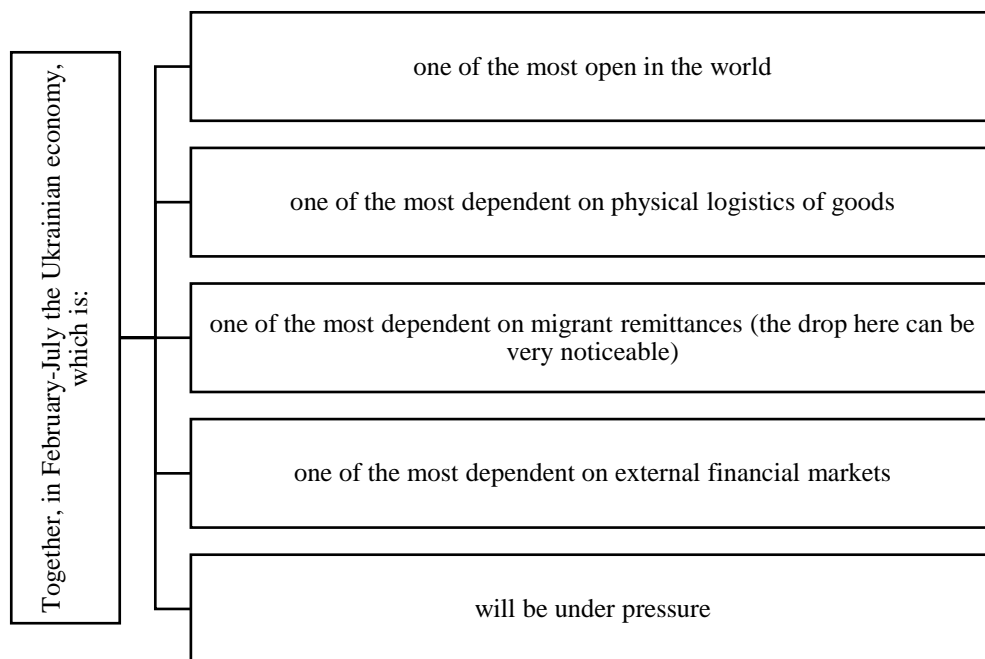


Figure 2. Features of the Ukrainian economy

The fall in these months is unlikely to be smaller than in China or the US. In fact, it is more likely to be substantially larger. Nor is it likely for Ukraine to finish the year without a downturn. The question is whether it will be -5% to -10%. The dispersion of forecasts will be enormous, as no one has enough data for the forecast of economic decline.

There is good news, however. Measures to curb the spread of the virus are temporary, and though they may take longer than we think, it will be a temporary shock. This is very important for governments and regulators—temporary shocks can be “poured in with money.” While Lehman and BS's problems in 2008 seemed systemic and marketable, unable to be

saved, now all governments and regulators of the world will blame all the problems on the temporary impact of force majeure, not on objective market forces. They may even try to save what probably would have died without the coronavirus (Nesteruk, 2020).

Admittedly, the chances that markets will soon be free from fear and the stock indexes will be quickly and fully restored are small. The global spread of the virus has dramatically increased the degree of uncertainty, i.e., the unknown time it will take to curb the epidemic and the unknown price it will cost to the global economy. Markets may require at least a few more months for investors to avoid risks. In addition, the decline in market quotations will occur after a long period of growth, which has left many assets overvalued. Many hope that central banks will overwhelm market fears with new liquidity. However, monetary policy is driving global demand, forcing businesses and consumers to borrow and investors to take risks. As some representatives of the central banks themselves recognize, they can do little with the shock of the proposal that is now gaining momentum. The coronavirus was eventually able to do what the trade wars of last year could not: get the financial markets once again talking about the growing risks of a recession. The global GDP consensus forecast by Bloomberg at the end of 2019 was lowered by analysts at leading investment banks to 2.8% from 3.1%.

Coronavirus is hitting the global markets by breaking down production and marketing chains. Despite the significant recovery of the Ukrainian economy over the past couple of years, western investors and analysts still consider it one of the most vulnerable among emerging economies to deterioration of sentiments in the financial markets. Government external debt service increased by more than a quarter in 2020 to \$6.2 billion. Although, by the end of January, foreign exchange reserves had risen to a record \$26 billion in the last nine years, they remain insufficient in relation to gross external debt, covering it by only 20%. Gross external debt payments and current account deficits, in general, can account for more than 60% of this year's foreign exchange reserves. In addition, many investors believe that last year's 19% gain made the hryvnia overvalued, suggesting a high probability of a downward correction.

The permanent postponement of the agreement between Ukraine and the IMF is also worsening the situation. Initially expected in September, the program can be signed, in the most favorable scenario, no earlier than in the late spring. Including Ukraine in the highest risk group means that it will be one of the first countries to experience a deterioration in the conditions for attracting external financing in a time of market turbulence. For one, Ukraine's

chances of successfully placing Eurobonds again in the near future are slim. In addition, the inflow of foreign investment in UAH securities may sharply decline, a factor that not only helped to generate additional budgetary revenues last year, but also significantly strengthened the hryvnia. Another consequence is a change in sentiment in the foreign exchange market. Whether this pressure in the next few months will be able to withstand seasonal demand for hryvnia by agricultural exporters is now a big question. Against this background, resuming cooperation with the IMF becomes critical. First, as a signal to investors that the country is heading in the right economic course, and second, as a guarantee of additional foreign exchange earnings if access to financial markets is severely restricted (Martynenko, 2020).

COVID-19 is not only dangerous for public health. The pandemic is already having a serious impact on the global economy and is causing the business to suffer losses. Capital Economics experts predict that the global economy will lose more than USD \$280 billion in the first quarter of this year. It remains to be seen how coronavirus affects business and what people can do to protect themselves from damage.

Coronavirus negatively affects the economy. The director of the International Monetary Fund's strategy, policy, and analysis department, Martin Muleizen, named a sharp outflow of capital from emerging economies as one of the major consequences. The expert believes that this factor will have the most negative impact on the world market, meaning the problem will take a long time to resolve. There are, however, certain businesses that will suffer more than others, such as tourism and airlines, restaurants, and cafes, retailing non-food items, import logistics, and offline entertainment (concert organizers, theaters, circuses, and amusement parks).

One of the most effective methods of controlling the spread of the virus is self-isolation and quarantine. For this reason, in many countries, people are encouraged to go out less and not visit crowded places. Many companies are forced to outsource to protect their employees.

For some business fields, COVID-19 was a real disaster. But someone can make a good living in a pandemic. First and foremost are pharmaceutical companies and pharmacies, delivery services and online entertainment. Pharmacies selling masks make a big profit. According to DSM Group analysts, their sales have already increased three times. In food delivery services, the number of orders increased by 20%. Online movie theaters are now actively pursuing various promotions and opening free movie viewing for those who are quarantined. The demand for online games is increasing. Demand for mobile applications and

games has grown by USD \$150 billion in the global market and online computer games have grown by 40% in China (Audit-it, 2020; Audit and Coronavirus, 2020).

Businesses need to monitor regulatory notices, and to control both the current and potential impact of coronavirus on their financial statements. There are several areas in need of analysis, five of which are priorities: business continuity and liquidity, depreciation assessment, change of contract terms, fair value, as well as government assistance and income tax (Figure 3).

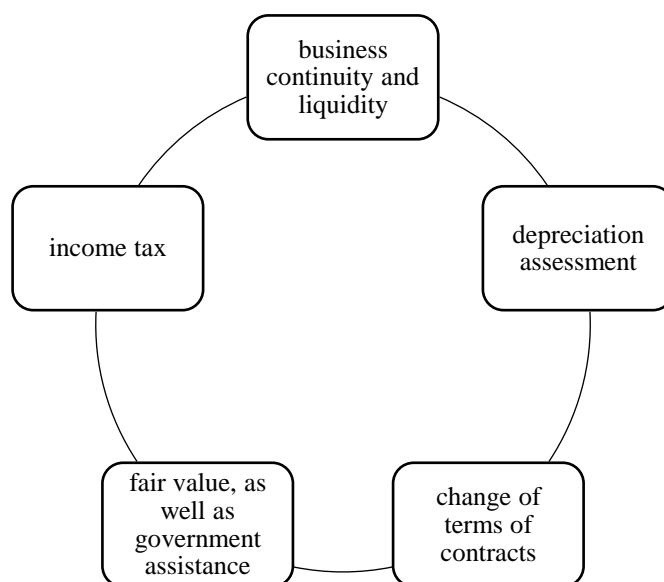


Figure 3. Assessment of the impact of coronavirus on the financial statements of the enterprise

Let us look at them in more detail. Business continuity and liquidity—It is obvious that the management of companies affected by the crisis is primarily concerned with the question of their survival. The key role here is played by cash flows—does the company have enough money to survive these 6–12 months? In preparing financial statements, management should evaluate their company's ability to continue their business, as well as the reasonableness of the assumption of business continuity. In the current circumstances, such an assessment requires management to consider both the apparent and unforeseeable impacts of the coronavirus epidemic on the company's operations. Due to the unpredictability of such an impact, significant uncertainties arise that call into question a company's ability to continue their business. If, in preparing the financial statements, the company still applies the assumption of business continuity, it is required to disclose all factors of uncertainty. The extent to which the judgments are used, the conclusions drawn, and the amount of disclosure required in each case will depend on the circumstances, as the nature and level of influence

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on the companies vary greatly. As the situation is constantly changing, significant judgments and regular reviews may be needed.

Depreciation assessment—At the end of each reporting period, companies should assess whether there is a depreciation of non-financial assets. An asset becomes impaired if the company is unable to recover the carrying amount of the asset through its use or sale. The negative impact of measures aimed at curbing the spread of infection, such as temporary closures of manufacturing plants, travel restrictions as well as imports and exports, can be considered as signs of depreciation. In the process of asset evaluation, companies must determine their expected returns. To do this, they need to estimate the amount of expected future cash flows, as well as the expectations for possible changes of the same. The projected cash flows from assets should reflect the most accurate management estimations of the economic conditions that will occur during the useful life of the asset. In the current situation, it is difficult to determine whether the company will continue to be able to meet its estimated cash flow budget. The greater the degree of uncertainty, the more important it is for the company to provide detailed disclosure of its assumptions, the facts on which they are based, and the impact of changes on key assumptions.

Changing the terms of the contracts—Companies whose businesses are affected by a coronavirus outbreak may have cash flow problems due to disruptions in operations, higher operating costs, and loss of revenue. They may need to raise additional financing, change the terms of the loan agreements, or if they can no longer comply with the restrictive terms of the loan (covenants), receive letters of denial of liability from the creditors. In such cases, they need to determine whether the modification of the current contract is a substantial modification or potentially signifies the cancellation of the contract. There are also consequences for creditors. Financial institutions, including banks and insurance companies, are requested to assist borrowers by exempting them from cash flow obligations. This will be considered a modification of the contract and will require them to review their credit portfolios and expected credit losses. Real estate companies will also need to assess the impact of renting to tenants.

Fair value measurement—Some assets and liabilities must be measured at fair value. It is an estimation of the closing price for a particular date, based on assumptions that market participants would use under current conditions. In formulating estimates and assumptions for fair value measurements, the conditions and related assumptions that were or may be known to market participants should be considered. The impact on the fair value measurement will

depend on whether the severity of the epidemic at the reporting date would affect market participants' assumptions in their valuation at that time. Businesses also need to consider disclosing relevant information that may reasonably be expected to influence the decisions of general-purpose financial statement users that they will make based on these statements. Disclosure of such information is necessary to enable users to understand whether the epidemic's impact on fair value is being properly considered. Users should understand what the underlying assumptions are, along with the sensitivity of the relevant parameters.

Government assistance and income tax—In response to the coronavirus epidemic, governments in some countries are introducing broader economic stimulus packages and support measures for individual sectors. These include direct subsidies, tax exemptions, tax cuts, and tax credits, an increase in the period of unused tax losses, reduced government fees, reduced or deferred rent payments, and reduced interest rate loans. All of this will affect company financial statements. Such measures fall within the scope of different standards—on income taxes, state aid, leasing, or financial instruments—and the manner of accounting for these measures may vary from case to case. An important factor to be considered when reflecting the effects of income tax is the actual adoption by the government of relevant legislation. Businesses must determine whether the tax rates and tax laws have changed substantially as of the reporting date. Based on the characteristics of each tax benefit or discount, it is necessary to determine the proper order of their accounting—as a reduction in income tax expense or as receiving state aid.

The timely and meaningful disclosure of the potential impact of these events on the financial position, results of operations, and viability of a company, as well as the risk management measures it adopts, are critical to restoring confidence. During this difficult crisis, financial reporting can play a key role in the interaction between the company and its stakeholders (EY, 2020).

In these circumstances, the audit becomes an effective tool to minimize the eco-anxiety of the world economy. Due to the spread of the coronavirus, many companies cannot clearly organize their further activities, which negatively affects those who are expected to file financial statements in the very near future. Auditors will need to consider the impact of COVID-19 on:

- a. How they collect sufficient relevant audit evidence, recognizing that the chosen audit approach may need to be modified and alternative procedures will need to be developed;

- b. How the audit of individual units will be conducted within the larger audit of a group of companies;
- c. The auditor's assessment of business continuity and the future of the audited company;
- d. The reliability of information about the impact of the spread of coronavirus on the company, which is published by management; and
- e. The need for the auditor to rethink key aspects of the audit as a result of the rapidly changing situation, whereby the auditor may require management to promptly provide additional evidence.

Auditors will need to work with audited firms to ensure that the level of disclosure is consistent with what they expect to see in annual reports, so they can disclose the impact and risk of COVID-19 on business.

Companies should also understand that it is vital that auditors have sufficient time and support to perform their work at a high level, including reviewing to take new circumstances into account. In some cases, companies will have to review the reporting deadlines.

Considering the increasing impact of the coronavirus on the global economy and high uncertainty, conducting a high-quality audit is critical to ensure that financial statement users are properly informed. In many cases, auditors will need to consider developing alternative audit procedures to gather sufficient and appropriate audit evidence (2020).

4. Conclusion

The current downturn in Ukraine requires a timely and adequate response through the development of a science-based system. A necessary requisition for assessing economic performance as an imperative for the sustainable development of the national economy is the use of management accounting, analysis, and audit tools. One of the concepts contributing to the modern audit paradigm was internal and external audit synergies. The practical implementation of the interaction of management accounting, business analysis, and audit tools at the micro level will also be facilitated by a developed entity management scheme based on the interaction of management accounting, business analysis, and audit, which are presented as elements of the management subsystem of the entity that affects the managed subsystem—economic activity. Information technology enables the auditor to carry out his work quickly and efficiently, which will be based on accurate enterprise data. Both employees of the enterprise and the auditors must comply with the terms of confidentiality of

the data. This enables the auditor to gain the trust and respect of his clients and competitors. Audit software must be securely secured, which is one of the conditions for guaranteeing quality work.

Thus, in the current special circumstances, auditors may need additional time and assistance to perform their work according to all audit standards. COVID-19 has been a real shock to the global economy, but it is still a temporary shock. At the same time, uncertainty in the case of the economies of some countries remains, which has implications for reporting organizations and companies providing audit services in Ukraine and around the world. In these circumstances, it is the audit that becomes an effective tool for minimizing the eco-anxiety of the world economy. Potential future research will study the features of accounting, analysis, and audits in the provision of minimized eco-anxiety of the world economy and the use of information technology in this process.

Author Contribution

Karina Nazarova, Volodymyr Hordopolov and Mariia Nezhyva conceived of the presented idea. Mariia Nezhyva and Tetiana Kopotienko developed the theory and performed the computations. Mariia Nezhyva and Viktoriia Mysiuk verified the analytical methods. Karina Nazarova encouraged Mariia Nezhyva to investigate a specific aspect of audit for the minimization of eco-anxiety in the world economy. Mariia Nezhyva supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

References

- Almond, S. (2018). [Audit quality indicators](https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/audit-quality-indicators). *IFAC*. <https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/audit-quality-indicators>
- Andreeva, N., Hotsuliak, V., & Gorbachenko, S. (2018). [Analysis of institutional risks of sustainable sea development in Ukraine](https://doi.org/10.30525/2256-0742/2018-4-2-15-23). *Baltic Journal of Economic Studies*, 4, 15-23. <https://doi.org/10.30525/2256-0742/2018-4-2-15-23>
- Arnold, C. (2017). [Auditor reporting standards implementation: key audit matters](https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/auditor-reporting-standards-implementation-key). <https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/auditor-reporting-standards-implementation-key>

Audit and Coronavirus. (2020) [the FRC recommends to develop alternative audit procedures to collect evidence.](#)

<https://yur-gazeta.com/golovna/audit-i-koronavirus-frc-rekomendue-rozrobiti-alternativni-auditorski-proceduri-dlya-zboru-dokaziv.html>

Audit-it. (2020). [How does coronavirus affect business?.](#)

<https://www.audit-it.ru/articles/finance/a106/1010078.html>

Bondar, M., & Ershova, N. (2019). [Strategic management accounting for risks: theoretical and practical aspects.](#) *Finance of Ukraine*, 2, 69-81.

https://www.researchgate.net/publication/333434586_Strategic_managerial_risk_accounting_Theoretical_and_practical_aspects

Bondar, V. (2018). [Working papers of the auditor and quality control of the audit of financial statements, prepared at the request of a foreign investor.](#) *Statistics of Ukraine*, 1, 68-76.

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjWx5mH_YnuAhUIdCsKHZqIDFoQFjABegQIAxAC&url=https%3A%2F%2Fsu-

journal.com.ua%2Findex.php%2Fjournal%2Farticle%2Fview%2F175&usg=AOvVaw2uM6Yp9acH9ACS7EorO2Hw

Burova, T., Gnatenko, Y., & Terletska, I. (2018). [International experience of formation of accounting, audit and taxation in joint stock companies.](#) *Financial and Credit Activity: Problems of Theory and Practice*, 2, 82-87. Retrieved from <http://fkd.org.ua/article/view/136350/136535>

Demidenko, O. (2019). [The role of ecological audit in increasing the ecological efficiency of the enterprise.](#) *Standardization Certification Quality*, 5, 25-33.

EY. (2020). [Five areas that require special attention when preparing financial statements in the context of the COVID-19 coronavirus situation.](#)

https://www.ey.com/ru_ru/assurance/five-financial-reporting-issues-to-consider-as-a-consequence-of-covid-19

Grosu, V., Anisie, L., Hrubliak, O., & Ratsa, A. (2019). [Managerial accounting solutions: lean Six Sigma application in the woodworking industry. A Practical aspect.](#) *Economic Annals-XXI*, 176, 118-130. <https://doi.org/10.21003/ea.V176-12>

Izza, M. (2019). [What More, Can the accountancy profession do to address the audit expectation gap?](#) Retrieved from <https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/what-more-can-accountancy-profession-do-address>

- Komirna, O., & Katrych, O. (2017). [Control-analytical support of estimation of the investment attractiveness of enterprises](#). *Business Inform*, 1, 67-72.
<https://cyberleninka.ru/article/n/kontrolno-analitichne-zabezpechennya-otsinki-investitsiynoyi-privablivosti-pidpriemstv>
- Komirna, O., Miniailo, V., & Nezhyva, M. (2019). [Procedural approach to investment real estate audit](#). *Market Infrastructure*, 29, 563-568.
http://www.market-infr.od.ua/journals/2019/29_2019_ukr/88.pdf
- Luchko, M., & Zinkevych, A. (2019). [Auditor's motives of risk minimization in taxation of enterprises](#). *State and Regions. Series: Economics and Entrepreneurship*, 5, 232-237.
https://www.researchgate.net/publication/337807976_THE_AUDITOR%27S_MOTIVE_S_FOR_MINIMIZING_RISKS_IN_TAXATION_OF_ENTERPRISES
- Makarenko, A., & Kuchkina, D. (2020). [Improvement of audit of calculations with buyers and customers at the enterprise](#). *Investments: Practice and Experience*, 2, 29-35.
https://www.researchgate.net/publication/339053876_IMPROVEMENT_OF_THE_AUDIT_OF_CALCULATIONS_WITH_BUYERS_AND_CUSTOMERS_AT_THE_ENTERPRISE
- Martynenko, O. (2020). [Escape from stability: how coronavirus will affect the economy of the world, Europe and Ukraine](#).
<https://www.eurointegration.com.ua/experts/2020/03/3/7107022/>
- Melikhova, T., & Grebenyuk, O. (2020). Methodological improvements approaches to the audit of the receipt of fixed assets to increase the level of economic security of the enterprise. *Economy and State*, 1, 27-32.
- Melnyk, O., & Maricheva, O. (2019). [Auditor's activity and audit according to the new legislation and directions of their improvement](#). *Irpın Legal Journal. Series: Right*, 1, 115-122.
- Mnykh, Y., Bardash, S., Nazarova, K., Sherstyuk, O., Belyakova, V., & Miniailo, V. (2015). *Financial audit: information and analytical support*. Kyiv: Kyiv National University of Trade and Economics.
- Nazarova, K., Hotsuliak, V., Miniailo, V., Nezhyva, M., & Mysiuk, V. (2020). [Accounting, analysis and environmental audit as an imperative of the development of green economy in the state's economic security system](#). *E3S Web of Conferences*, 166. https://www.e3s-conferences.org/articles/e3sconf/abs/2020/26/e3sconf_icsf2020_13003/e3sconf_icsf2020_13003.html

- Nesteruk, A. (2020). [Coronavirus and the economy: we will live poorly, but not for long](https://biz.liga.net/ekonomika/all/opinion/koronavirus-i-ekonomika-budem-jit-ploho-no-nedolgo). <https://biz.liga.net/ekonomika/all/opinion/koronavirus-i-ekonomika-budem-jit-ploho-no-nedolgo>
- Panu, P. (2020). [Anxiety and the Ecological Crisis: An Analysis of Eco-Anxiety and Climate Anxiety](https://doi.org/10.3390/su12197836). *Sustainability*, 12, 1-20. <https://doi.org/10.3390/su12197836>
- Ryakhovsky, V. (2020). [The changing role of internal audit during the pandemic](https://www.eg-online.ru/article/417806/). *Economy and life*, 14. <https://www.eg-online.ru/article/417806/>
- Selishchev, S. (2020). [Estimation of risk of control at audit of continuity on the basis of definition of efficiency of functioning of internal audit of the enterprise](http://agrosvit.ck.ua/). *Agrosvit*, 1, 37-41. <http://agrosvit.ck.ua/>
- Shulga, S. (2019). [Estimation of a condition and tendencies of development of the market of auditor services: development of methodology](http://agrosvit.ck.ua/). *Agrosvit*, 15, 32-38. <http://agrosvit.ck.ua/>
- Sidenko, V. (2017). Structural transformations in the world economy: challenges for Ukraine. *Analytical Report. Kyiv: Zapovit*.
- Symonenko, V., & Kostiuk, B. (2017). [Modernization of the tax audit in Ukraine](#). *Foreign Trade: Economics, Finance, Law*, 4, 108-115.
- Telfer, A. (2018). [Best practice principles for audit tendering](https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/best-practice-principles-audit-tendering). *IFAC*. <https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/best-practice-principles-audit-tendering>
- Ursillo, S. (2018). [Technology will transform audit](https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/technology-will-transform-audit). *IFAC*. <https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/technology-will-transform-audit>
- Usher, K., Durkin, J., & Bhullar, N. (2019). [Eco-anxiety: How thinking about climate change-related environmental decline is affecting our mental health](https://pubmed.ncbi.nlm.nih.gov/31724833/). *International Journal of Mental Health Nursing*, 28, 1233-1234. <https://pubmed.ncbi.nlm.nih.gov/31724833/>
- Vlasyuk, O., Mokiy, A., Ilyash, O., Voloshin, V., Fleychuk, M., & Vlasyuk, T. (2017). Security and competitiveness of the Ukrainian economy in the context of globalization, 384.