



The Influence of the Shadow Economy on the Financial Security of Ukraine in the Conditions of Informatization of Society

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Abstract

The article presents the results of the analysis of the indicators of the level of the shadow economy in Ukraine in the period from 2010 to 2020. The level of shadow economy calculated on the basis of such methods as: unprofitable enterprises, monetary, population expenditures - retail trade - services and electricity was used for the analysis. The causes and consequences of shadow economic activity in Ukraine are given. The study found that the downward trend in the shadow economy persists despite the spread of the negative effects of the COVID - 19 pandemic and declining real GDP. In particular, three of the four methods used to assess the level of the shadow economy recorded a decrease in the level of the shadow economy (the method of "population expenditure - retail trade and services"; the electric method; the monetary method). At the same time, the method of enterprise losses showed an increase in the shadow economy, which is largely due to a significant deterioration in the financial situation of enterprises under the restrictions imposed to prevent the rapid spread of the coronavirus pandemic in the world and Ukraine, as well as logistical problems. The practical value of the results is determined by the fact that the conclusions and proposals can be used to more accurately and objectively calculate the level of the shadow economy, which in turn can be the basis for effective decisions to de-shadow and legalize Ukraine's economy.

Keywords: Shadow Economy; Financial Security of the State; De-Criminalization of the Economy; Legalization of the Shadow Economy; Income Amnesty; Informatization of Society.

Journal of Information Technology Management, 2023, Vol. 15, Issue 4, pp. 1-17

Published by University of Tehran, Faculty of Management

doi: <https://doi.org/10.22059/jitm.2023.94704>

Article Type: Research Paper

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Received: June 03, 2023

Received in revised form: July 23, 2023

Accepted: September 05, 2023

Published online: November 15, 2023



Introduction

The shadow economy concept is quite ambiguous and multifaceted. The shadow sector includes both various illegal and legal activities, but informal or not formally recorded (Bondarenko et al., 2019; Kaganovska et al., 2022). The existence of shadow economic activity becomes a real problem for government regulation, especially in conditions of significant shocks, as it reduces the fiscal potential, distorts development indicators and complicates any analytical conclusions about the state of the economic system. Adverse political, social and economic conditions in Ukraine during 2014-2020, as well as significant internal migration of citizens from the temporarily occupied territories, contributed to the accelerated growth of the shadow economy.

The urgency of the chosen topic is due to the need to ensure sustainable, sustainable economic growth and improve living standards by minimizing internal and external threats to Ukraine's financial security, which can be defined as the state's ability to counter and counter threats to various sectors of the economy.

The issue of the impact of the shadow economy on various aspects of state development is complex and requires detailed analysis. However, perhaps the most fundamental is to maintain the security of the country as a whole, including its financial component.

Scientists have not yet reached a consensus on whether the shadow economy as such is a negative or positive phenomenon. It is possible to note such aspects as growth of inequality in incomes, impoverishment of the state and development of socially - dangerous directions of activity which are inherent in the countries with high shadowing (Shumska, S., et al., 2013). The growing share of the shadow economy creates significant obstacles to effective public policy in the economic and social spheres (Babenko et al., 2021), the competitiveness of goods and products of domestic enterprises and integration into the international economic space (Vasylyeva et al., 2014; Pylypenko et al., 2019). In addition, there is a line of thought that justifies the positive of the shadow sector for economies facing significant shocks, as opportunities to obtain a decent level of income for citizens (Gutmann, P., 1985).

The shadow sector is inherent in every economic system and cannot be completely eradicated, but measures to counter and reduce its scale are immediate to prevent dangerous consequences for Ukrainian society, especially during the escalation of the military conflict with the Russian Federation, which has caused economic instability.

The aim of the article is to study the impact and growth of the share of the shadow economy on the financial security of the state.

To achieve this goal the task was defined:

- 1) To analyze various definitions of the category of "shadow economy" taking into account the existing threats to the financial security of the country.
- 2) Analyze the main factors that shape the shadow economy;
- 3) Identify the main ways to de-shadow the country's economy, taking into account the current state of financial security of Ukraine.

Information sources: scientific articles are available in international journals.

To achieve this goal, the paper presents approaches to assessing the level of the shadow economy and identifies the optimal method of assessment.

Literature Review

The phenomenon of the shadow economy is important and relevant for the development of the state's economy, and therefore a significant number of domestic and foreign scientists have contributed to its research. A number of economists and publicists, as well as a number of other specialists, were engaged in the study of the shadow economy, including Z. S. Varnaliy (Varnalij, Z., 2006), O. M. Korkots (Korkots, O., 2015), Shumska S. S. (Shumska, S., et al., 2013), Belev B. (Belev, B., 2003), Gutman P. M. (Gutmann, P., 1985), Shneider F. (Schneider, F., 2015) and others. Varnaliy Z. S. devoted his research to the consideration of conceptual issues of the concept of the shadow economy (Varnalij, Z., 2006; Derbentsev et al., 2021). Instead, Gutman P.M., Shumska S.S. paid more attention to possible methods of its measurement (Shumska, S., et al., 2013). F. Schneider (Schneider, F., 2015) approached the determination of the level of the shadow economy in the countries of the world in particular detail (Blahun, I.S. and Blahun, I.I., 2020; Guryanova et al., 2020; Kuzmenko et al., 2020; Savytska et al., 2021, 2022). Domestic scientists did not ignore the question of the relationship between the shadow economy and financial security (Methodology for calculating the level of economic security of Ukraine, 2009).

Methodology

In its historical development, the shadow economy in Ukraine has undergone a rather complex process. It ran from the implementation of certain criminal actions in the field of economic relations to the system of complex socio-economic processes of the period of transition to market relations (Trends in the shadow economy in Ukraine in the first quarter, 2016).

Currently, there are a large number of interpretations of the concept of "shadow economy", but the most common is the definition of the shadow economy as a certain economic activity that is carried out outside the state register and without proper control (Bandurka, 2004; Gutorova et al., 2019, 2021).

The main features of the definition of "shadow economy" are:

- illegal nature of activity;
- availability of stable transport - logistics and other connections;
- availability of economic, natural, social and intellectual potential and the basis of its use.

Thus, it can be noted that the shadow economy is a set of relationships regarding the organization of the process of production and distribution of products, services, one or more stages of which violate current legislation and which have the properties of the economic system (Gryshchenko et al., 2022).

The main reasons for the existence and growth of the shadow economy in Ukraine are (Davydenko N., et al., 2020):

- protracted socio - economic crisis in the country;
- existence of organized economic crime, corruption in public authorities and local self-government;
- availability of non-bank money circulation;
- complexity and chaos of tax legislation;
- imperfection of current legislation in the field of national security;
- activity of criminogenic banking system;
- shadow psychology and shadow morality of society.

According to the basic principles of systematicity, it can be argued that the shadow economy is a certain system, and therefore in its study it is advisable to use a systematic approach. According to the scientific approaches of scientists, it is necessary to outline such properties of the shadow economy as a system (Davydenko N., et al., 2015):

- Interaction with the external environment, which is manifested through the relationship with the official economy through legal economic structures, as well as with the institutions of the state and society;

- Structure, which consists in the presence of stable connections and relations of the subjects of the shadow economy, which ensure its integrity, ie the ability to preserve its basic properties in various internal and external changes;
- Hierarchy (as a kind of structure) - a clear subordination of the elements of the lower level to the higher;
- The ability of the shadow economy to self-organize and develop, to participate in world economic relations (through the operation of offshore companies).

The shadow economy today acts as an adaptive system. It is able to quickly adapt to external influences (actions of law enforcement, control, fiscal, supervisory and other bodies), is constantly evolving in accordance with general economic principles (Davydenko N., et al., 2020).

There are four main stages in the evolution of the shadow economy:

- birth;
- development;
- maturity;
- decline;
- disappearance.

It is not possible to completely eliminate shadow economic relations. At the same time, it is possible to significantly reduce their scale, to limit the most dangerous forms for society (Davydenko N., et al., 2020).

In Ukraine, calculations of the level of the shadow economy are carried out by the Research Institute of Statistics of the State Statistics Committee together with the Ministry of Economy, they have developed a system of monitoring and economic analysis (Davydenko N., et al., 2019). The methodology covers five methods for estimating the shadow sector, namely:

- Monetary;
- electric;
- method "population expenditure - retail trade»;
- financial method;
- method of unprofitable enterprises.

The above methods give an approximate estimate within the coverage of institutional sectors by the system of national accounts. To improve the assessment, the final result for each method is reduced to a single integrated coefficient of the shadow economy (Davydenko N., et al., 2018).

Results

According to preliminary calculations, the level of the shadow economy in January-March 2020 amounted to 31% of official GDP, which is 1 percentage point less than in January-March 2019.

As can be seen from Fig. 1 in the period from 2010 to 2020 there is a tendency to reduce the level of the shadow economy, despite the spread of the negative effects of the COVID-19 pandemic and a decrease in real GDP by 1.3% in the first quarter of 2020 to the corresponding quarter of 2019. At the same time, analyzing the experience of previous crises, it was expected to increase the level of the shadow economy, because in conditions of significant uncertainty, businesses seek to reduce the risks of resource loss. Thus, there was an expected decrease in business and investment activity (both within the country and abroad). Losses in the economy have increased significantly. However, it was the unusual nature of the crisis caused by the spread of the pandemic and the introduction of quarantine measures that determined the atypical nature of the dynamics of the shadow economy with the so-called sectoral characteristics.

In particular, three of the four methods used to assess the level of the shadow economy recorded a decrease in the level compared to the corresponding period of 2019: the method of "population expenditures - retail trade and services" - by 4 percentage points (up to 29% of official GDP); electric method - 3 v.p. (up to 27% of official GDP); monetary method - by 2 percentage points (up to 29% of official GDP). At the same time, the method of unprofitable enterprises showed an increase in the level of the shadow economy - by 15 percentage points (up to 38% of official GDP), which is largely due to a significant deterioration in the financial situation of enterprises under the restrictions imposed to prevent the rapid spread of the coronavirus pandemic in the world and Ukraine, as well as logistical problems created during quarantine.

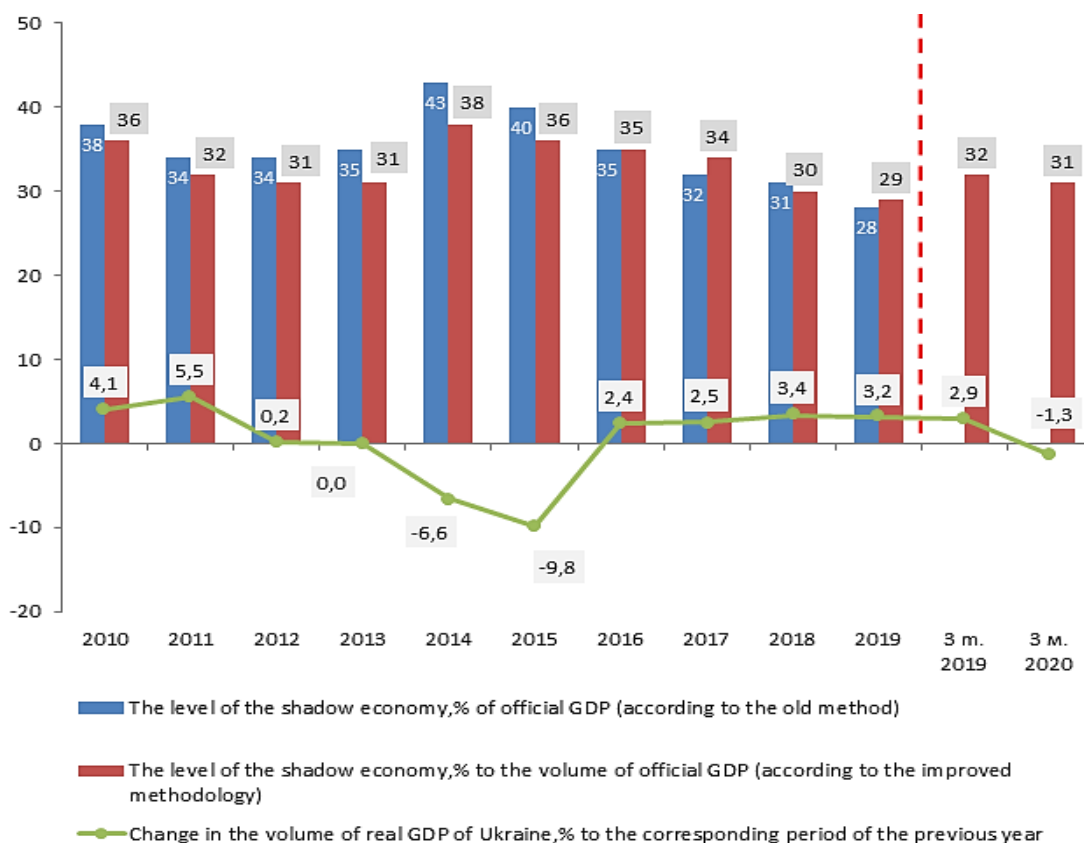


Figure 1. Integral indicator of the level of the shadow economy in Ukraine (in% of the volume of official GDP) and growth rates / decrease of the level of real GDP (in% to the corresponding period of the previous year)

Source: State Statistics Committee, calculations of the Ministry of Economy

The growth of the shadow economy by the method of unprofitable enterprises (in January-March 2020 amounted to 38% of official GDP) is expected. After all, according to the calculation methodology, the increase in the level of the shadow economy is mainly due to a significant increase in losses of economic entities. And the operation of economic entities in the conditions of quarantine restrictions introduced to curb the spread of COVID-19, and the resulting unforeseen logistical problems have formed objective reasons for the growth of losses of economic entities.

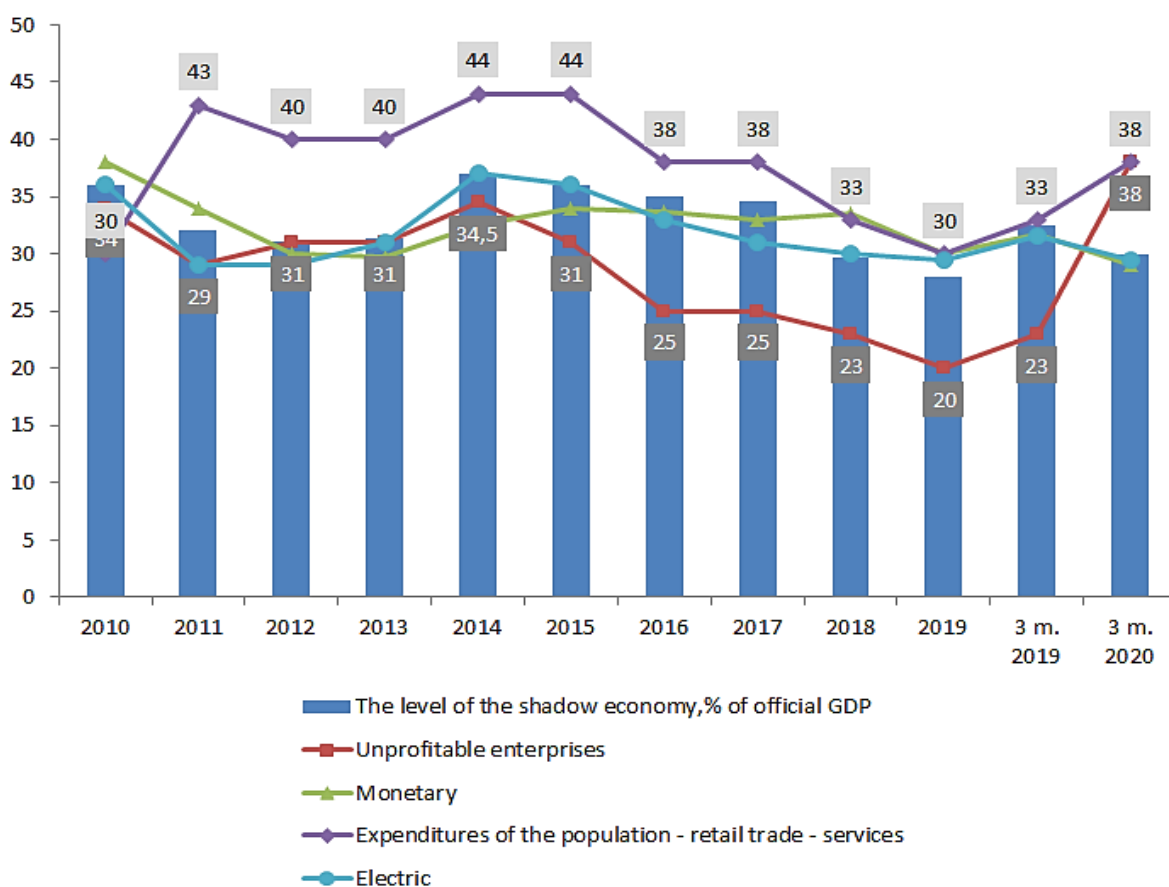


Figure 2. Dynamics of the level of the shadow economy by individual methods, % of official GDP

Source: calculations of the Ministry of Economy

Only the integrated indicator of the level of the shadow economy is a comprehensive indicator that fully characterizes such a phenomenon as the shadow economy.

Thus, all without exception, foreign trade showed a tendency to increase the level of the shadow economy against the background of increasing losses of enterprises of these foreign economic activity in January - March 2020 compared to the corresponding period of 2019. The share of the shadow sector increased the most in the extractive industry and quarrying (by 21 percentage points), in the foreign trade sector "Transport, warehousing, postal and courier activities" (by 18 percentage points), in the processing industry, in wholesale and retail trade - by 16 percentage points in each of these FEA.

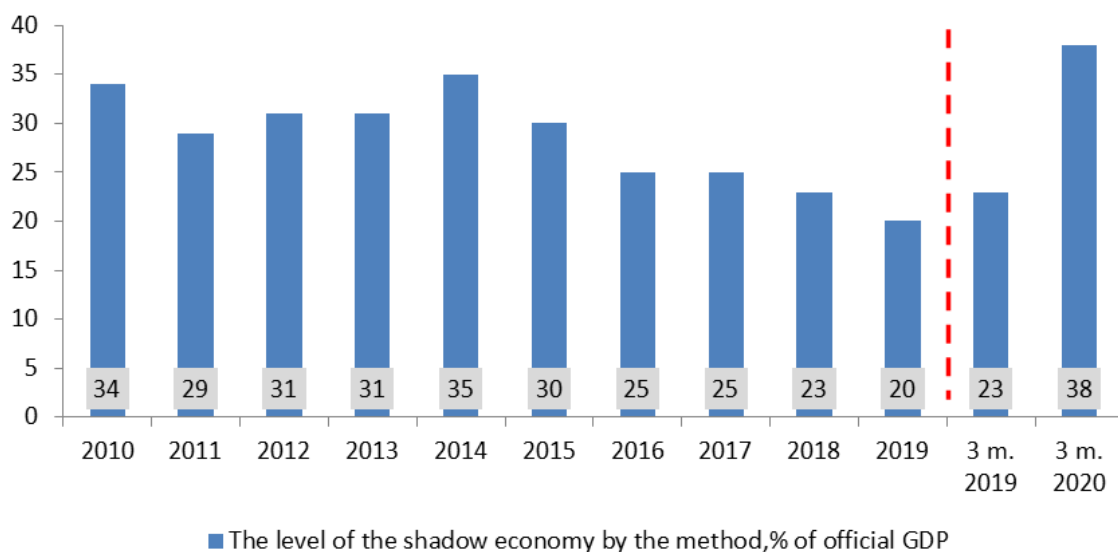


Figure 3. Dynamics of the level of the shadow economy by the method of unprofitable enterprises, % of official GDP

Source: State Statistics Committee, calculations of the Ministry of Economy

Thus, to a large extent, the increase in losses is a reflection of objective processes, rather than the dynamics of shadowing. Therefore, the change in the level of the shadow economy in the industries, estimated by the loss method, should currently be considered only as a guide in changing trends in the shadow economy.

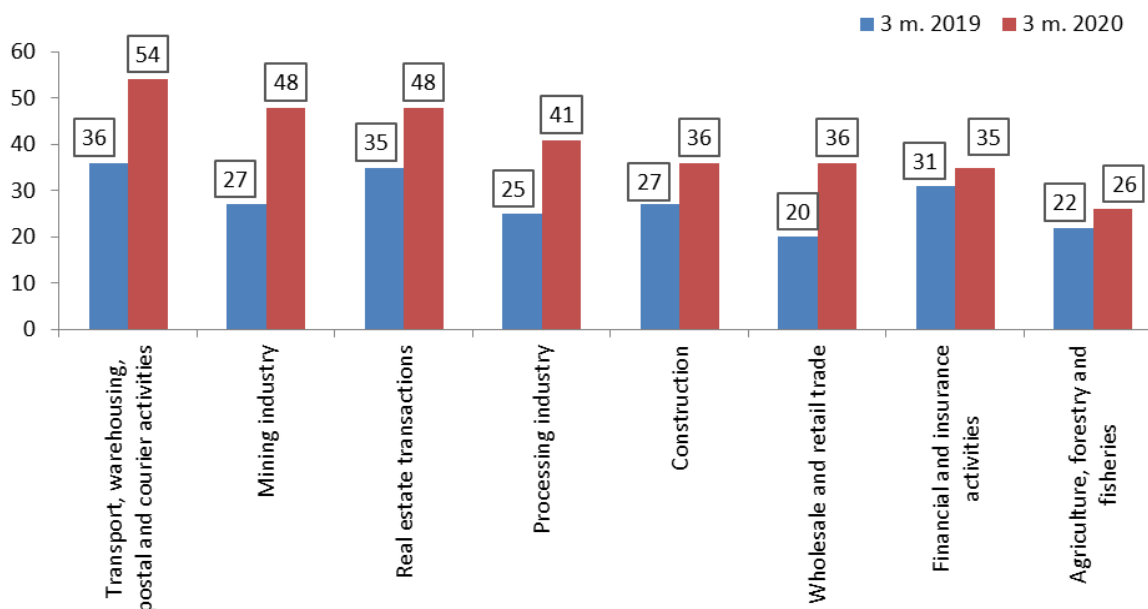


Figure 4. The level of the shadow economy by type of economic activity, % of the official GVA of the relevant foreign economic activity

Source: calculations of the Ministry of Economy

At the same time, the list of the most shadowed foreign economic activity was headed by the Foreign Economic Activity “Transport, Warehousing, Postal and Courier Activities” (54% of the volume of Airborne Forces in Foreign Economic Activity).

The level of the shadow sector in the field of transport, warehousing, postal and courier activities compared to the first quarter of 2019 increased by 18 percentage points. up to 54% of the level of GVA in the industry. According to the calculation methodology, this was due to an objective increase in losses of the industry in 6.1 times (up to UAH 40.6 billion in the first quarter of 2020), received in terms of suspended passenger and limited freight traffic, the decision to which were adopted as part of quarantine measures aimed at curbing the spread of COVID-19 in the world. The level of the shadow sector in the mining and quarrying industry increased by 21 percentage points in January-March 2020 compared to the corresponding period of 2019. Up to 48% due to a reduction in the number of profitable enterprises (up to 51.9% compared to 71.6% of enterprises in January - March 2019). This happened in the context of a significant drop in prices on world commodity markets (including oil and gas). At the same time, it is worth noting the economic contradiction, when with high profitability of operating activities of enterprises in the extractive industry (33.2% in the first quarter of 2020) a significant number of enterprises (41.8% of total enterprises) reported unprofitable results. Most likely, this is a consequence of the high level of shadowing of foreign trade.

Following the results of January - March 2020, a significant increase in the level of the shadow economy in the processing industry was recorded (by 16 percentage points to 41% of the official volume of GVA), which was due to the combined effect of such factors:

- The negative impact of the effects of the pandemic on the activities of subspecies of the processing industry;
- The results of which directly depend on world demand (this is primarily metallurgy and mechanical engineering);
- Uncertain forecasts of future prices on world ferrous metals markets;
- Reduction of domestic demand from mechanical engineering and construction.

The field of wholesale and retail trade in the first quarter of 2020, the share of the shadow sector increased by 16 percentage points. up to 36%. This, according to the calculation methodology, is due to an increase in losses of enterprises in the industry by 6.3 times (up to UAH 28.2 billion in January - March 2020), received in the context of a continuing decline in wholesale trade (due to low demand for industry services due to reduction economic activity

in the world) and slow growth of the retail market segment (due to the introduction of preventive quarantine measures).

The assessment of the level of the shadow economy by the method of "population expenditures - retail trade in services" showed that compared to the corresponding period of 2019, it decreased by 4 percentage points. And amounted to 29% of official GDP. Given the introduction of quarantine measures and the closure of all types of unorganized trade, this result is objective. At the same time, in the first quarter of 2020, households maintained a fairly high consumer sentiment, which was formed in the conditions of: stable dynamics of income growth (average wages in nominal and real terms increased by 14.3% and 11.3% respectively to the corresponding period of 2019 moderate dynamics of inflation in the reporting period, changes in the structure of household demand since the introduction of quarantine restrictions in the country (from mid-March this year), resulting in:

- households refocused on the Internet - the purchase of goods in conditions when the work of catering establishments was temporarily suspended (except for the provision of address delivery services), shopping and entertainment centers, other establishments of trade and consumer services (except for food and household goods) and economic purposes);

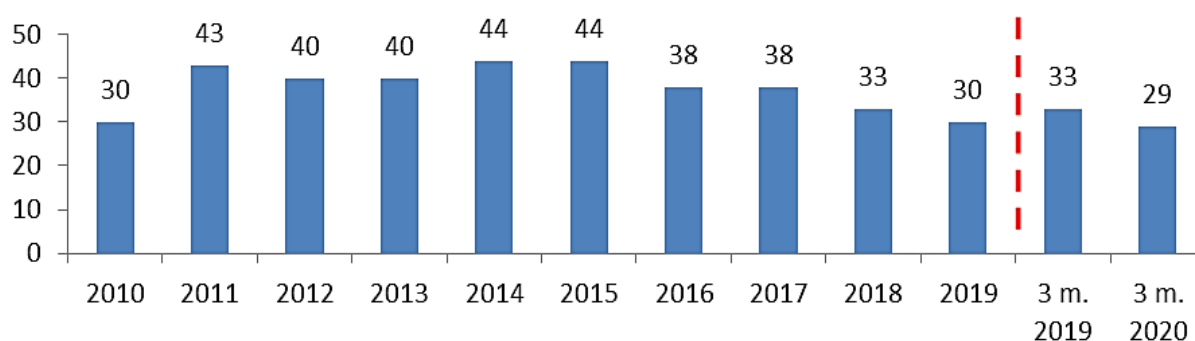
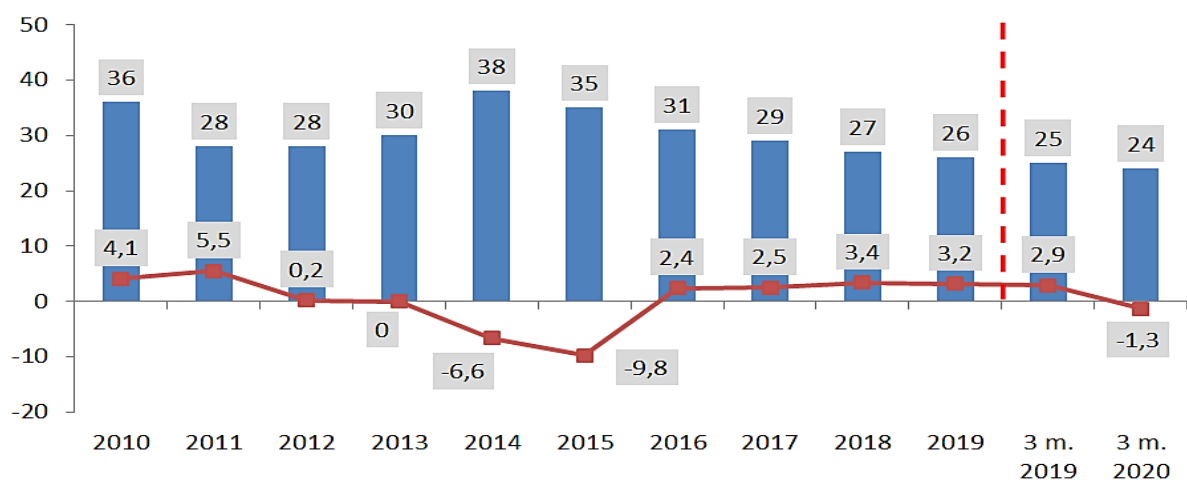


Figure 5. Dynamics of the level of the shadow economy by the method of "population expenditures - retail trade and services", % of official GDP

Source: calculations of the Ministry of Economy

- Demand from the population for international transportation and tourist services decreased;
- workers released as a result of quarantine measures introduced in the world began to return from abroad, the objective consequence of which was the expansion of consumer demand in households in Ukraine.
- The level of the shadow economy, calculated using the electric method, compared to the corresponding period of 2019 decreased by 3 percentage points. And amounted to 27% of official GDP. According to the calculation methodology, the tendency to decrease the level of

the shadow economy by this method is evidenced by: either an increase in real GDP at a faster rate than the volume of domestic electricity consumption less consumption for utilities; or, as it happened in the first 3 months of 2020, the decline in real GDP at a slower pace (by 1.3% compared to the corresponding period of 2019) than the volume of domestic electricity consumption less consumption for utilities (by 1.6 % respectively). At the same time, along with the reduction of the shadow component, it is advisable to note the effect of other factors that led to a reduction in electricity consumption in the reporting period. This is, first of all, the reduction of business activity by business entities (in particular, metallurgical enterprises - the main consumers of electricity) in response to the challenges facing them in the context of quarantine restrictions, as well as abnormally warm weather conditions in January-March this year.



■ The level of the shadow economy by the electric method,% of official GDP
 — Change in the volume of real GDP,% to the corresponding period of the previous year

Figure 6. The level of the shadow economy by the electric method, % of official GDP

Source: State Statistics Committee, calculations of the Ministry of Economy

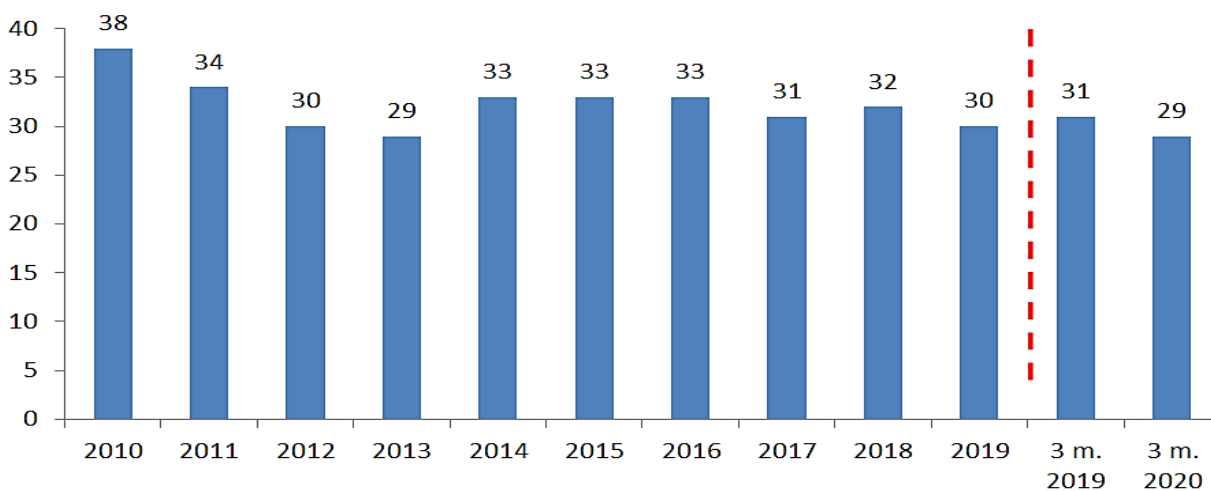


Figure 7. The level of the shadow economy using the monetary method, % of official GDP

Source: calculations of the Ministry of Economy

The level of the shadow economy, calculated using the improved monetary method, decreased compared to January - March 2019 by 2 percentage points. And amounted to 29% of official GDP. This was facilitated, inter alia, by the introduction by banks of the practice of providing "credit holidays" during the quarantine period for individuals and businesses, which significantly mitigated the effects of the natural tendency of economic agents to shadow income in conditions of increasing uncertainty.

Different methods and different areas of activity have shown different trajectories of shadow change, which fully corresponds to the special nature of the crisis.

Priority areas for de-shadowing the economy are:

- strengthening the fight against corruption and cleansing the government;
- creating conditions for legalization of employment;
- improving control over foreign economic activity;
- creating a favorable business environment;
- Counteraction to legalization (laundering) of shadow incomes, etc.

One of the state tools to solve the general complex problem of de-shadowing the domestic economy is the legalization or so-called amnesty of shadow incomes, which can potentially increase legal investment, become financial support for further qualitative changes in the economic structure of society.

International experience shows that there is a pattern - legalization / amnesty of income and capital is often initiated by the government that has just come to power. The financial circles that currently support the new government receive additional personal guarantees and therefore act accordingly. In other cases, it is a rather complex process, which usually has little effect on the budget (this is considered one of the basic indicators of the success of such programs). The usual indicator in world practice is a return to the budget of up to 1% of its volume.

Principles of income legalization / amnesty:

- Clear definition of those types of income and capital that are not subject to legalization / amnesty;
- One-time procedure during the legally defined period (usually during the year);
- Non-confiscation nature of the procedure;
- Sufficient guarantees of release from liability for declared objects;

- Guarantees of confidentiality of information;
- A combination of amnesty with stricter conditions of liability in case of concealment of income;
- Extensive explanatory work.

The effectiveness of financial amnesties depends primarily on trust in the authorities and on security guarantees from the state (protection against disclosure of information and harassment) to persons who legalize income. Systemic measures to legalize the economy and combat corruption make it possible to minimize the use of factors of economic growth, which leads to increased levels of financial security.

Conclusion

Thus, the economy of Ukraine is characterized by the presence of a fairly large shadow sector, which "undermines" the effectiveness of state mechanisms to stimulate the economy, distorting the conditions of economic activity.

Inadequate functioning of market mechanisms, inefficient tax administration, unbalanced state regulatory and budgetary policies, problems in the employment market, shortcomings in the activities of courts and law enforcement agencies, pervasive corruption are the main factors shading the economy in Ukraine. The shadow economy is the cause of deepening existing imbalances in the economy, remaining one of the biggest challenges to financial security.

Minimizing the volume of shadow economic activity is further complicated by the fact that they have mainly financial sources of origin and require the formation of a motivational regulatory environment that provides highly efficient and profitable operation of the legal economy.

Conflict of interest

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and, or falsification, double publication and, or submission, and redundancy have been completely witnessed by the authors.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Bibliographic information of this paper for citing:

Voitsekhivska, Svitlana; Podyk, Sofiia & Butkevych, Taras (2023). The Influence of the Shadow Economy on the Financial Security of Ukraine in the Conditions of Informatization of Society. *Journal of Information Technology Management*, 15 (4), 1-17. <https://doi.org/10.22059/jitm.2023.94704>
