
THE CROSS-COUNTRY ANALYSIS OF THE CORRUPTION RISKS WITHIN THE FRAMEWORK OF NATIONAL STRATEGY FOR ENSURING ECONOMIC SECURITY

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ABSTRACT

The research aims to develop and apply the methodological approaches for the investigation of corruption-related decision-making processes to build a system of institutional arrangements at the macroeconomic level that eliminates preconditions for corruption emergence and ensures economic security.

The vital importance of this investigation is caused by the substantial interconnection between institutions quality, corruption, and firms' ability to achieve sustained economic performance. The manifestations of corruption have a negative impact on economic growth, investment, and market's integrity. Moreover, it weakens the fair competition and disrupts the balance within the resource allocation system.

This research results are allow defining interconnection between transparent corporate activity and the country's economic security.

Key words: Corruption, Institutions quality, Economic security

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1. INTRODUCTION

Within a framework of the national strategy for ensuring economic security, an important aspect is to consider potential risks and assess their impact on the country's economic growth and competitiveness. Corruption risks threaten the investment climate of the country and reduce the motivation of business entities to innovation activity.

The phenomenon of corruption in the existing literature is considered as a multifaceted and multidimensional object of investigation and is regarded as an economic, political, social and cultural problem in the majority of the countries. The 2019 Eurobarometer survey [1] indicated that 63% of companies through EU think that corruption is widespread in their own country, and 37% of them consider corruption as a problem encountered when doing business. Furthermore, sector analysis shows significant differences between sectors, the highest level of corruption in the healthcare and pharmaceuticals sector (71%), construction and building (63%). Worthy of mentioning, both citizens and businesses in 2019 consider corruption less widespread than in 2017 and 2013.

Many practical and theoretical scientific groups at the universities and economic institutions have been conducting investigations in these areas leading to a vastly increasing number of publications in high impact international journals. For example, Fig. 1 shows the number of publications with keywords "corruption" per year in the World by the Scopus database of peer-reviewed literature.

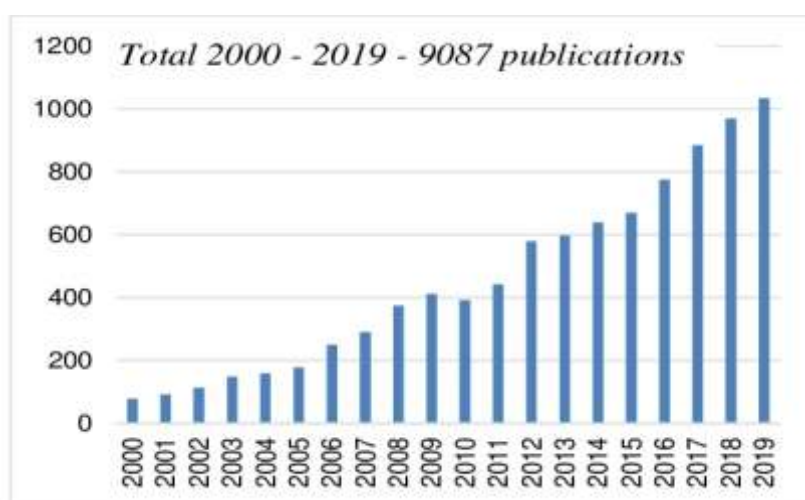


Figure 1 Number of publications on "corruption" keywords per year in the World in accordance to Scopus database of peer-reviewed literature (from 2000 to 2019)

Despite the implemented wide range of international anti-corruption initiatives such as Council of Europe Group of States against Corruption, Anti-corruption experience-sharing program, The United Nations Convention against Corruption, Partnering Against Corruption Initiative, etc. corruption still touches both developed and developing countries, but with different intensity. The 2030 Agenda for Sustainable Development [2] recognizes the corrosive effects of corruption on socio-economic development as well as on the implementation of 17 The Sustainable Development Goals.

Corruption exists in all countries but with different intensity and damaging consequences, and more common in developing economies and emerging markets. We have determined variance between GDP per capita and Corruption Perceptions Index (CPI) Score 2018 with using a grouping of countries by their level of income. Results of the analysis are presented in Fig. 2. Spearman rank shows a high correlation (R) between GDP per capita, PPP and CPI Score in the sample for all countries as well as statistically significance of CPI at any conventional significance level. Multiple R vary among income groups countries: the stronger correlation is observed for high and lower-middle-income countries and less intense for low and upper-middle-income. CPI is statistically significant for high and lower-middle-income countries.

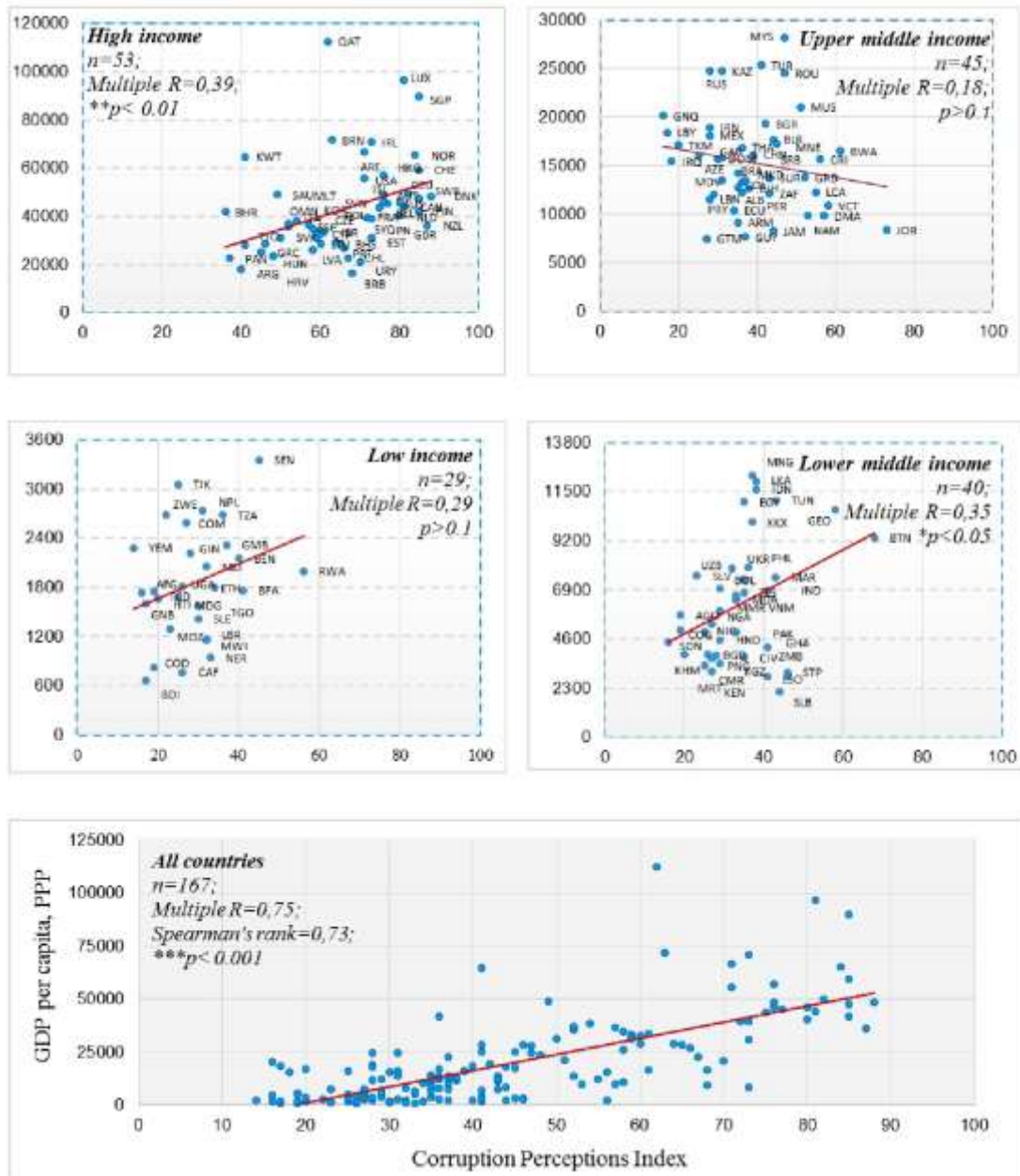


Figure 2 GDP per capita, (const. 2011 international \$) and Corruption Perceptions Index Score, 2018

Although the problem of corruption has occurred since 4th century BC [3], only a few countries reduced this manifestation to a minimum level. As results, the last decades have witnessed a tremendous increase in research activity on the corruption-related behavior among scientist from different fields as well as policy-makers' reform initiatives.

There are many theoretical approaches developed to study the peculiarities of corruption. However, estimation of the complex interconnection between institutions quality, corruption and firm' ability to achieve the sustained economic performance faces a lack of theoretical and methodological knowledge and approaches. This is mainly because of the significant complexity of the problem. It is crucial to consider the peculiarities of corruption-related decision-making in the microeconomic model and to identify the factors which prevent individuals from having a negative effect on the company's performance. Estimation of the determinants of corruption can help to develop a system of institutional arrangements at the macroeconomic level to neutralize the negative manifestations of corruption.

2. THEORETICAL BACKGROUND

2.1. Micro Evidence

The impact of corruption on the company's business activity is not unambiguous and requires more detailed analysis. Existing scientific literature does not give an unequivocal answer to the negative or positive impact of corruption manifestations on business efficiency. Some scientists advocate for unequivocally negative or "sand the wheels" effect of corruption (increasing transaction and operating expenses, reduction in investment and innovation), others that corruption has "grease the wheels" effect and helps overcome bureaucratic constraints, inefficiencies in providing government services and accelerates management decisions. Authors generalized analysis of literature on the impact of corruption on companies' business activities.

The negative impact:

- reduction of companies' profitability as a result of increase operating expenses, the uncertainty of the internal and external environment, misallocation of production factors [4-7];
- distortion the efficient allocation of capital [8];
- increasing transaction costs for companies that operate in the international business environment and/or need to attract international investment [9,10];
- restraining incentives to the growth of the companies to remain small and less visible to the state control bodies, in particular for tax collection process [11];
- delays in the provision of public services, increasing bureaucratic delays in project implementation as well as creates negative externalities [6];
- reallocation of talent individuals from production sector to rent-seeking [12,13];
- reduces sales growth, productivity and competitiveness of companies [14,15,16];
- increasing negative effect on the company' productivity in states with a weak institutional system;
- possible support for inefficient enterprises, the withdrawal of human capital, technology and financial capital in an unproductive area [12,17];
- bringing some enterprises to bankruptcy in order to increase the profitability of others, which, in their turn, require higher bribes [18].

The incentive impact:

- help to overcome bureaucratic constraints and inefficiencies in the provision of public services (especially in countries with a weak institutional system) [19-24];
- acceleration decision-making process, overcome administrative barriers [4];
- corruption can be useful to bypass the regulatory and administrative constraints;
- Asian paradox (positive correlation between corruption and economic growth in Asian countries), including issues of the critical intermediate effect of institutes [25];
- enterprises are more likely to increase growth if they work in local conditions of bribery, where corruption provides more significant opportunities for growth [26];
- corruption is a stimulus for FDI [27].

Thus, a company can behave as a subject and object of corruption behavior, or in other words as a subject and object of an institutional trap [28]. Initially, the corruption-related decision-making of the firm (firm – "subject" of corruption) can help reduce its transaction

costs in contractual relations and accelerate the adoption of positive decisions, but ultimately, stimulates the spread and stability of the corruption system, and thus the deterioration of the institutional balance in the country (firm – “object” of corruption).

Thus, this situation can be considered in terms of short and long-run perspective. Corruption may help overcome cumbersome regulation and administrative restrictions in the short period, but makes incentives to generate more regulation in the long period and stimulates inefficient government interventions. This situation leads to an increasing number of corrupt government officials, causing the deficiency of governance and spreading overall “tolerance of corruption”.

2.2. Macro Evidence

The assessment of the impact of corruption on long-term economic development in the scientific community in the majority is unambiguous and negative. The phenomenon of corruption weakens democracy, distorts market mechanisms, threatens to national security and impacts on the lives of people in economics, politics, social and cultural aspects [29].

The negative impact of corruption can be considered through the following channels:

1. distortion of market signals and inappropriate allocation of resources;
2. the presence of high rent, which negatively affects business innovation [4,5]; the presence of corrupt authorities that restrict investment in education, social security and infrastructure [5,30];
3. reducing the competitiveness of the economy.

The negative phenomena and consequences of corruption in terms of institutional quality of the country should be noted separately. Corruption weakens the credibility of key public institutions, such as courts and control authorities [9], in particular, through the erosion of confidence [31]. Most scholars conclude that in states with a weak institutional and legal system, corruption is considered to be a significant disincentive to social and economic development. Several authors concluded that corruption is a significant challenge for developing countries. Treisman D. in 2007 analyzed the results of research by scholars over the past 10 years and found empirical evidence that developed, long-established liberal democracies with freedom of speech and a significant share of women in government are less corrupt. Moreover, countries that depend on fuel exports and obsessive business rules, inflation unpredictability are considered to be more corrupt. However, the size and manifestation of corruption depend on the peculiarities of the country's historical development, its culture and the perception of uncertainty [32].

At present, only a few publications partly cover the subject of interconnection between institutions quality, corruption-related decision-making and firm's ability to achieve sustained economic performance. The critical issues here are to estimate interconnection between those three elements and in turn to develop the framework for the actions to neutralize the negative manifestations of corruption and prevent corruption at both the macro and micro levels.

2.3. Measurement of Corruption

Authors in [29] defined that quantifying corruption as a shadow element of economy is complicated and controversial for measurement. The most popular of indices are CPI index – corruption perception index (Transparency International); ICRG index – the corruption index (the International Country Risk Guide); The control of corruption index (WB index) from Worldwide Governance Indicators Dataset.

Separately, should be mentioned surveys about corruption made by Transparency international from a different perspective and time dimensions: Global corruption barometer,

the bribe payers index (BPI), The Report on oil and gas companies, Transparency in corporate reporting, Defense companies anti-corruption index (CI), Government defense anti-corruption index (GI).

2.4. Measurement of Institutional Quality

The role and measurement of institutional quality is a complicated issue to measure due to the wide range of socio-economic, political and cultural dimensions. The measurement can vary on several factors such as the method of data collection, data coverage over time, transparency and replicability of measures, the incentive for accuracy and level of aggregating included indicators. In literature for measurement of institutional quality often use The Freedom House indexes of political freedoms and civil liberties, International Country Risk Guide (ICRG) indicators, Business Environmental Risk Intelligence (BERI), or construction of aggregate indexes from numerous indicators. However, the most common approach to construct institutional quality is the usage of six World Bank Governance Indicators available from the World Bank website. Institutional quality from WBGI consists of the following key dimensions: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law and control of corruption [33].

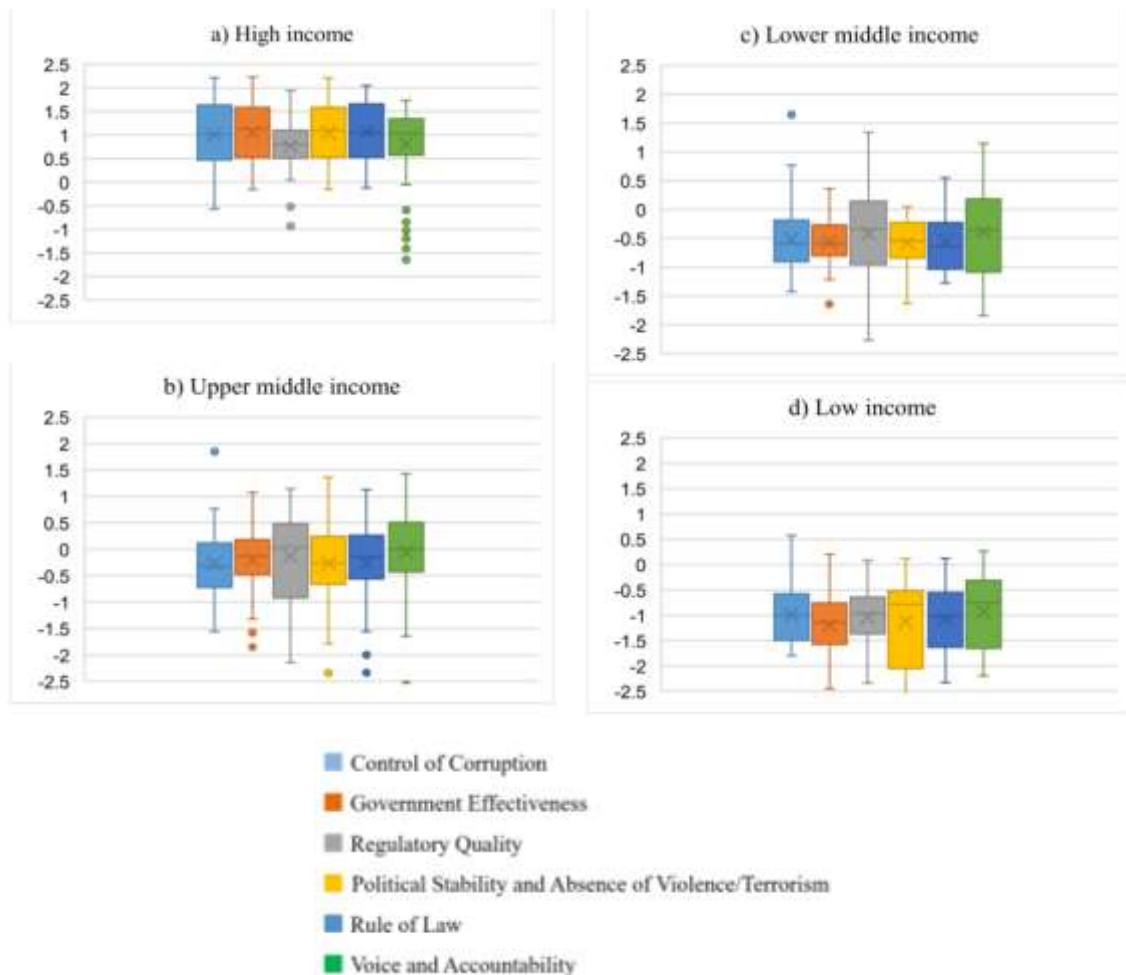


Figure 3 Indices of institutional quality, 2018*

*Database: The Worldwide Governance Indicator.

The number of observations: high income – 65; low income – 31; lower middle income – 47; upper middle income – 60.

It is worth mentioning that the ease of doing business index (World Bank Group) is acceptable for measuring institutional quality [34]. This Index measures the quality of the processes and administrative work.

In our research, we aggregate institutional index as six specific institutional indices from WBI (the average of ‘voice and accountability’, ‘political stability’, ‘government effectiveness’, ‘regulatory quality’, ‘rule of law’, and ‘control of corruption’).

We calculated the distribution of institutional indices for different countries depends on income level in Fig. 3. The boxplots show some visible differences across three groups of countries. For instance, high-income countries all institutional indices are above 0, that represent the strong institutional quality of countries. ‘Control for corruption’ is the institutional dimension where most countries have low score distribution. Low-income countries have weak all institutional indices: ‘political stability’ are lowest.

3. RESEARCH RESULTS

For the purpose of research, we put forward the following hypotheses:

$H_0: \beta_j = 0$ (corruption does not affect firm activity);

$H_1: \beta_j \neq 0$ (corruption affects firm activity).

The following indicators were used to prove the hypotheses put forward:

- ‘Control of corruption’ (composite index indicator World Management (WGI) according to the World Bank). Index ‘Control of corruption’ in the present idea of business and society to which state institutions are using power for personal gain, including various manifestations of corruption, political corruption (grand corruption) and the capture of the state by elites / private interests (state capture). Grade: 2.5 (weak second) to 2.5 (strong second) control of corruption.
- ‘Ease of doing business – Global assessment’ (DB17-19). The assessment is used to compare the ease of doing business between countries and is calculated by the World Bank. The overall assessment is based on taking into account the following indicators (ease of establishment/registration of a business and its closure, obtaining a building permit, connection to energy supply systems, registration of property, obtaining a loan, protecting the rights of minority investors, paying taxes, international trade, enforcing contracts, solving insolvency problems). The estimate 1 – most attractive business environment. This indicator is translated into logarithmic dimension.

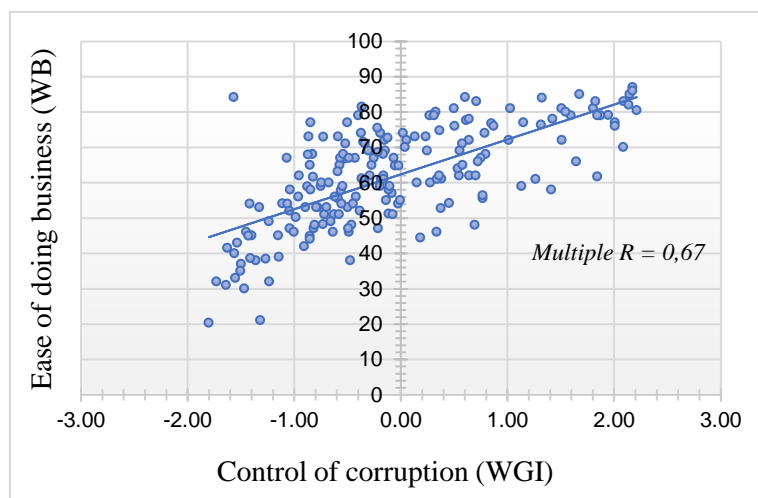


Figure 4 ‘Control of corruption’ and ‘Ease of doing business – global assessment’; 190 countries, 2018

To compare these indicators, 2018 and 190 countries of the world were selected. Graphically, ‘Control of corruption’ and ‘Ease of doing business – global assessment’ is presented in Fig. 4.

Analysis of Fig. 4 makes it possible to conclude that there is a positive link between the effectiveness of ‘Control of corruption’ and ‘Ease of doing business’ (see Table 1).

Table 1 “Control of corruption” and “Ease of doing business” by OLS (Model log-level)

	Coefficient	Std Error	t Stat	p-values
β	1.782	0.006	292.147	0.000
Control of corruption	0.075	0.006	12.298	0.000

Note: R – squared: 0.45; Adj. R-squared: 0.44; F-statistic: 151.26; ***p< 0.001; Number of observations: 190.

The model is estimated using the least-squares method. Assessment is unbiased and statistically significant for all levels of significance. In this way, we reject the hypothesis H_0 and statistically prove the hypothesis H_1 of the existence of the influence of corruption on entrepreneurial activity. With other things being equal, increasing the ‘control of corruption’ conventional unit 0.1 (score and used WGI) ease of doing business increased by 0.7%.

We can define the essence of ‘national security’ as the ability of a country to detect, prevent and neutralize real and potential threats to national interests in a timely manner. Economic security can be considered as an integral part of national safety. Dangers to the economic security of the country from corruption might be reflected in the following: loss of the public image of the state; international isolation from the world market; deterioration of political, economic, social and legal positions on the world stage; unwillingness to accept country into prestigious world organizations; criminalization and shadowing of the economy; devaluation of moral values [35].

Worth noting, the importance of Information and Communication Technology (ICT) and digitalization as customer-oriented administrative service that could increase transparency, accountability and facilitate advocacy at all level of the economy [36]. At the state level, it is extremely significant to take into account measures to combat and control corruption in the implementation of the national economic security strategy, which should include the irrevocability of punishment and criminal responsibility for committing corruption offences, instilling in society a perception that corruption is an unacceptable lifestyle.

4. CONCLUSION

The national security strategy should contain a set of legislative and organizational measures aimed at permanent protection of interests of the society and the nation, which ensure sustainable development, prevention and neutralization of real and potential threats to the national interests and in the national interests and vital activities [37]. Such measures should be aimed at the fight against corruption, providing an enabling environment for health care, education and science, innovation policy, property rights protection, support of stock market and securities circulation, fiscal and customs policy, trade and business, banking services, investment policy, audit, monetary and monetary policy, information protection, licensing, industry and agriculture, transport and communications, language, information technology, energy sector, the functioning of natural monopolies, etc. in case of a negative tendency to create potential or real threats to national interests.

Historically, the effective way of combating corruption is the effective government legislation of the country and the world's collective, multilateral anti-corruption initiatives. In

order to improve the institutional environment in Ukraine, it is necessary to take into account the Transparency International Ukraine recommendations for 2019: restart the National Agency for the Prevention of Corruption with a new personal composition; to implement the proper automatic check of electronic declarations and monitoring the standard of living of civil servants; to improve the work of the ProZorro electronic public procurement system; introduce electronic public reporting of political parties and mechanisms for verifying their finances; to reduce the influence of political players on judicial institutions; to strengthen the powers of the National Anti-Corruption Bureau of Ukraine. New national economic security strategy has to contain all recommendation mentioned above.

At the level of the individual enterprise, the initiatives considered should be combined with the Internal Code of Corporate Social Responsibility (CSR). In order to level the scheme "enterprise as a subject of corruption", first of all, it is necessary: to implement the mechanism of open verification of information about beneficiary owners of business entities; extend the practice of introducing open budgets and set up supervisory boards at state and municipal enterprises. To level out the scheme "enterprise as an object of corruption" it is necessary to intensify the processes of privatization and corporatization of enterprises; launch an effective sale of property of insolvent enterprises through transparent electronic auctions; to stimulate the involvement of business in the implementation of the principles of CSR.

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