

# MEASUREMENT OF THE LEVEL OF ECONOMIC SECURITY OF ENTERPRISES BY THE INDICATOR OF THE ATTRACTIVENESS FOR HOSTILE TAKEOVERS

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**Abstract.** The article deals with the assessment of economic security by a number of factors that reflect the probability of proxy battle. In recent decades, the number of such acquisitions in Ukraine has increased significantly, which seriously reduces the level of economic security of economic entities both at the microeconomic level, and at the level of sectors of the economy, as well as the entire economic system of the country. The purpose of the study was to determine the possible impact on the economic security of the enterprise (which is proposed to be determined by a multifactor indicator of the attractiveness of enterprises for raiders) factors of financial stability, reputation, business model efficiency and attractiveness to potential buyers. The methods used in the study are as follows: generalization, grouping, systematization, and content analysis (to identify factors that could potentially signal the threat of a hostile acquisition); correlation and regression analysis (to determine from the totality of factors that have the greatest impact on economic security), the method of theoretical generalization (to identify the approaches of various scholars and scientific schools to issues of economic security and raiding); comparative (to determine the state of economic security of the enterprises under study in different years). As a result, the authors propose an integral indicator of the economic security of the enterprise, which makes it possible to identify the potential attractiveness of the enterprise for raiders. It consists of the following components: profitability (determines the effectiveness of the business model), autonomy ratio (determines the financial stability), ownership of real estate in the city center (resale), reputation (delays in fulfilling contractual obligations). Content analysis of economic security factors of enterprises was conducted according to the data on the raiding seizures of Ukrainian enterprises of all industries and activities, and the Economic Security Indicator was created on the basis of materials of Ukrainian construction companies. However, the methodological approach proposed in the article can be used to identify threats to the loss of economic security by enterprises of any sector of the economy, subject to the adaptation of the model to industry specifics. The use of the created indicator cannot replace the full-fledged system of monitoring the economic security of the enterprise and identifying threats to further activities, but it can be used as an indicator of express-diagnostics of economic security of the enterprise and making decisions on in-depth study of economic security to identify adverse factors delight.

**Key words:** economic security, enterprise, raiding, economic security assessment model, anti-crisis management, economic security factors, anti-crisis potential, business model, financial independence, business reputation.

**JEL Classification:** B41, G30, K22, M21

## 1. Introduction

Raiding is one of the most discussed economic problems of the new century. Politicians talk about the need to fight raiding, while government agencies and public organizations fight it. Almost every month the

Ukrainian press reports about an attempt to seize one of the enterprises.

Raiding is not a purely Ukrainian problem. All countries suffer from this extremely destructive phenomenon. Countries with developed market

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economies and strong market and state institutions have also gone through destabilizing raiding, but have already developed a system to counter raiding. However, raiding especially flourishes in countries characterized by imperfect, constantly changing legislation and constantly shifting priorities in the political, economic and social spheres.

In the United States, Japan, and European countries, hostile behavior toward companies usually constitutes a takeover of an enterprise against the will of management, while in post-Soviet countries raiding is common as an extreme form of hostile behavior. Acquisitions and seizures flourished in the United States in the 1980s (Tingting, Liu & Mulherin, J. Harold, 2018). Thus, Mitchell, Mark. L., & J. Harold Mulherin (1996) state that 57% of the 1,000 largest U.S. corporations have attempted takeovers and/or engaged in significant asset restructuring. But in the 1990s, the legal framework changed so much that companies were able to successfully resist unwanted takeovers (Comment, Robert, & Schwert, G. William, 1995; Ryngaert, Michael, & Ralph Sholten, 2010). In Japan, the surge in hostile market behavior that increased dramatically in the 1990s has been attributed to investors' adoption of American traditions (Hamao, Yasushi & Matos, Pedro, 2018), but companies successfully resisted takeover attempts in the 2000s.

Today in Ukraine, the targets of raider seizures are not small and medium-sized enterprises, but often powerful large companies. All of them resist raider seizures rather poorly. This poses a real danger to the entire economy. That is why the fight against raiding should be conducted at all levels of the economic system: at the state, sectoral and microeconomic levels.

The critical situation with the seizure of enterprises was the reason for the adoption in 2019 of the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine on Combating Raiding", on which there are high hopes to change the situation for the better. But enterprises, strengthening their competitive adversarial position, may become a target for raider attacks, despite the stable growth of indicators and sustainable development. Therefore, it is now extremely important to complement the tools of crisis management and the system of preventive monitoring of the economic security of the enterprise with methods for assessing the risk of raider seizure and determining the attractiveness of enterprises for hostile takeover or raider seizure, which are widely used in world practice.

## 2. Literature review

Analysis of scientific research on this issue shows that the problem of hostile takeovers and seizures of enterprises, which first became a subject of research in the 80's, is still relevant at the present time and requires a solution.

In his classic work (Palepu, 1986) highlighted the following theories explaining the reasons for acquisitions, mergers and acquisitions of businesses, including hostile ones. These reasons include substitution of inefficient management, undervaluation of the firm, free cash flow, firm size, availability of real estate, and imbalance of growth resources. Most authors who study the causes of corporate takeovers rely on this classification, refuting some theories or supplementing them.

Developing these hypotheses, (Powell, 2004) highlights certain factors that may indicate how likely a company is to become the target of a hostile takeover. For example, the inefficiency of a company's management in the article is measured by the return on capital employed (ROCE), which is calculated and averaged over a period of two years to a year of observation. The undervalued nature of a company is measured by the marketability ratio, free cash flow is measured by the ratio of operating cash flow to total assets, and the amount of total assets is used as a measure of the size of the firm. The availability of real estate, a factor that in (Eddey, 1991) is referred to as the key factor in raiding, in (Powell, 2004) is measured as the ratio of tangible fixed assets to total assets, which is calculated and averaged over a period of two years to the year of observation. Growth and resources imbalance is measured as average sales growth over the two years preceding observation. Liquidity is measured as the ratio of cash and marketable securities to total assets and leverage and is measured as the ratio of debt to total equity and reserves.

Tunyi, Abongeh (2019) investigates the size of the optimal target for firm acquisition as a function of market conditions – capital liquidity and market performance. Meghouar, Hicham & Ibrahim, Mohammed (2020) examined the financial characteristics of large French companies to be acquired between 2001 and 2007 and identified the following features: greater imbalance in terms of growth resources, less liquidity than competitors, untapped debt capacity, greater growth opportunities than control group firms, low level of value creation.

(N.K. Chidambarana Dipali Krishnakumar, Madhvi Sethic, 2018) examine such factors in the growth of acquisition and takeover agreements as firm size, time of market activity, availability of available funds, availability of debt, level of founders' participation, affiliation with business groups, level of competition, etc.

(Donald M. De Pamphilis, 2018) draws attention to the "wave-like" nature of changes in the number of mergers and acquisitions, which are cyclical, and tries to identify the reasons for this (Tunyi, Abongeh & Ntim, Collins, 2017) argue that factors such as market size, human capital, efficiency opportunities, management quality, and stock market development

influence M&A growth, while high resource availability and firm size in African realities do not affect deal volume as much as global trends. The level of resources did not show a significant impact on the volume of mergers and acquisitions in the sample, while the acquisition targets were mostly large companies. Mitchell, Mark L., J. Harold Mulherin (1996) identified sectoral characteristics of corporate takeovers in 51 sectors of the economy that are directly affected by macroeconomic factors and shocks in individual sectors, which explains the ripple nature of the process.

Cornaggia, Jess & Li, Jay Yin (2019) investigate the impact of access to bank financing on the attractiveness of companies for mergers and acquisitions.

A significant contribution to the study of the causes of raider seizures of Ukrainian enterprises made by Gorovyi D. A., Nesterenko V. Iu. (2009). They developed a methodology for assessing the risk of corporate raiding. Based on this methodology, this study identified the main factors that increase the risk of raider seizure of construction companies and assessed several development companies using a model adapted for construction companies.

Kabaciński Bartosz (2019) identifies additional factors that may affect the likelihood of hostile takeovers, including lower profitability, smaller size, and financial resources that are not adjusted for income growth. In many cases, companies are characterized by lower financial liquidity.

Fidrmuc, Jana P. & Xia, Chunling (2019), looking at the role of enterprise management in mergers and acquisitions using a case study of 1,098 U.S. listed companies from 2005 to 2011, concluded that about 44% of acquisitions were initiated by the target company itself for acquisition. In this case, the management of companies does not oppose the enthusiasm, but tries to participate in the process. The reason for this may be the threat of financial crisis or bankruptcy of the company. Here, the company's management chooses a resistance strategy or even initiates a takeover in an attempt to keep the company afloat and avoid the costs of liquidation. Otherwise, there is active resistance to the takeover.

In Ukrainian reality, since securities markets have a rather low level of development, researchers pay more attention to the raider seizure as a form of hostile behavior in the market.

Pohorielov Yu.S., Leshchenko Yu.V. (2012) characterize raiding as an illegal seizure of an enterprise with the aim of seizing its assets and using illegal methods and means (criminal raiding) or a hostile takeover of an enterprise using legal means for the same purpose, Andrushkiv V.M., Vovk Yu.Ia., Dudkin P.D. (2008) define it as the unlawful seizure of property and using it for one's own benefit, Varnalii Z.S., Mazur I.I. (2007) give the definition

of raiding as a hostile, beyond civil law, directed against the owner's will seizure of another's property in favor of another person, the establishment of complete control over the property of the new owner in legal and physical terms with the use of corruption of officials and (or) the use of force.

Recently there have been frequent raider attacks aimed not at individual construction or development companies, but at attractive construction sites or real estate located in the city center. This problem became so acute that on September 2, 2016, the holding company "Kyivmiskbud" organized a press conference demanding that the authorities pay attention to raiding in Ukraine (Yastremskaia, 2016).

To ensure the safety of the construction industry, now more than ever, it is important to study the concept of "raiding", to analyze the prerequisites of raider attacks and identify threats of attacks on construction companies. Therefore, the object of the study are construction companies operating in Ukraine.

The tasks of development companies and construction contractors is to find effective mechanisms to counteract raiding in the construction industry, to form recommendations for participants of the construction market, to study effective methods of enterprise management under the threat of raiding, to introduce anti-raiding protection in the system of strategic competitiveness of the participants of the investment and construction process.

Currently, there is a gap in the literature on the issue of raiding seizures of construction companies, as well as the lack of comprehensive studies needed to improve the state system of anti-raiding in Ukraine, the role in the formation of anti-raiding protection of self-regulatory organizations (industry associations, trade unions and associations). There is little data on the factors and reasons why raiders choose a construction company, as well as on measures to counteract raiding by small and medium-sized construction companies, which for financial reasons cannot afford to create a strong economic security service.

### 3. Methodology

The use of risk assessment methodology proposed by Gorovyi D.A., Nesterenko V.Iu. (2009) as the first stage of preventive management strategy against raider seizure as a component of sustainable development of construction enterprises allows to identify the main threats and determine further actions in the overall competitiveness strategy. Using the approach proposed by the authors, companies with a high risk of a raider takeover should accumulate and use funds to reduce the risk of a raider seizure, while companies with a low risk may not spend unnecessary resources.

To achieve the goal of the study, the following methods were used: generalization, grouping,

systematization and content analysis (to identify factors that could potentially signal the threat of a raider takeover), correlation and regression analysis (to determine from the totality of factors those that have the greatest impact on economic security), method of theoretical generalization (to identify the approaches of various scientific and scientific schools to the issues of economic security, raiding), comparative (to determine the state of economic security of the enterprises under study in different years).

The factors used in the model were selected as follows. Initially, by the method of content analysis of open sources for 2005–2019, the factors that could be indicative of the effectiveness of the business model of the enterprise, its financial independence, ownership and reputation were selected. The next step was to use in the subsequent calculations one of the factors that were most frequently mentioned in the content analysis. If the selected factor could not be quantified, or was absent among the sample enterprises, the factor next in the list was selected (the highest frequency of mention among factors other than the first). If the second factor could not be used, the next one was selected, and so on. As a result, four factors were selected and used to create the model. The set of data used for the analysis covers a totality of 38 Ukrainian enterprises of the type of economic activity F "construction", working at the construction market for the period from 2013 to 2019. Data on some enterprises are used for a shorter period of time. The sample covers all forms of economic activity, except for individual entrepreneurs, and includes 146 observations.

#### **4. Analysis of the methods and causes of raiding seizures of Ukrainian enterprises**

The most common ways to seize companies are takeovers through stock capital, through accounts payable, company management, fraud, and hostile takeovers. Another method of raiding, common in all post-Soviet countries, is to challenge the results of privatization or registration of legally acquired property.

Analyzing the directions in which the violent seizure of an enterprise takes place, it can be seen that it can take place both legally and illegally. As a result of such actions there is a negative impact on the business climate, destabilization of domestic enterprises, destruction of labor collectives, business relations and social conflicts, formation of an unfavorable investment climate and the international image of the country as a whole.

Hostile acquisition damage not only business owners, but also the entire construction industry, which is now in crisis. Constant raider attacks on businesses form a negative image of Ukraine on the international market. Given the macroeconomic and political processes in

the world, the negative investment image not only prevents the inflow of investments into the country, but is also a serious obstacle to Ukraine's accession to the European Economic Area. Hostile acquisitions not only damage the real owners, but also undermine the investment image of the state. Loss of image is a very serious threat to the country's development, since it restrains the inflow of investment into the economy, especially foreign investment.

Legislation is not enough to solve or at least reduce the scale of raider attacks on businesses in Ukraine. This requires the combined efforts of the state, the corporate sector, public organizations and citizens. Nevertheless, the adoption of the law has contributed to the fact that in 2020 Ukraine ranked 64th out of 190 countries in the Doing Business in the "Protection of Investors" category, rising by seven positions compared to last year (Doing Business 2020).

Raiding, depending on the degree of compliance with the law, is divided into (Vasylenko, 2007):

"White" raiding is the use of exclusively legal mechanisms to take over the assets of the seized object and is actually a process of legitimate competition, which, according to some experts, is a positive phenomenon that stimulates economic development;

"Gray" raiding is carried out by methods that formally bear signs of legality, but with the active use of forged documents, shareholders' meetings are held or judicial decisions are made in violation of established legal norms, etc;

"Black" raiding is the most criminalized and in addition to the methods of "gray" raiding uses forceful methods to enforce favorable illegal court decisions, forced change of management of the seized enterprise.

Analyzing the directions in which enterprises are raided in Ukraine, it can be seen that it may occur using both legal methods (the so-called "white" raiding – very rarely) and illegal ("black" and "gray" raiding – most often).

Given the changes in legislation, it can be predicted that the share of "black" and "gray" raiding in Ukraine will gradually decrease and "white" raiding will increase. But all of them will have a negative impact on the business climate, damaging domestic enterprises, destroying business ties, creating social conflicts, as well as an unfavorable investment climate and the international image of the country as a whole.

Highlighting raiding as one of the main threats to companies in the construction sector (especially real estate developers), it is possible to identify ways to assess the threat of a raider seizure for developers:

- determination of directions and ways of acquisition of enterprises;
- determination of the reasons for the acquisition of Ukrainian construction companies (based on open sources);

- analysis of the factors that influenced the takeovers of construction companies in 2005–2019;
- determining the importance of each of the factors;
- inspection of the control group of construction companies on the criterion of the risk of raider seizure;
- development of recommendations to reduce the risk of proxy battle.

Domestic scientists have dealt with this range of issues and identified the main factors inherent in the Ukrainian reality. These factors are presented in Table 1 (Cherevko, 2013; Zaitseva, 2009).

According to numerous sources, the factors influencing the probability of the risk of hostile acquisition are almost the same for all countries (Table 2).

### 5. Indicators and risk factors for businesses to be raided

Babina N. O. (2016) notes: "The main sign that signals the attractiveness of a company to raiders is the collection of economic, legal and social information about the company. Raiders are interested in: (1) documents (founding, privatization, internal

regulations), documents about the company's assets, its debts, etc.); (2) information (on the market position of the company; on its social policy; on the proximity of management to administrative resources; on lawsuits and judgments against employees of the company previously fired); (3) rumors (about conflicts in the company, especially between owners, management and subordinates; about the personal lives of top managers and other key people in the company)".

D.A. Gorovyi and V.Iu. Nesterenko (2009) made a significant contribution to the study of the causes of hostile acquisitions of Ukrainian enterprises. According to these scientists, the main risk factors of hostile takeover of the enterprise are the following:

- potential financial attractiveness;
- the insignificant popularity of the enterprise for the average citizen;
- the company is a monopolist or occupies a certain market segment;
- the number of shareholders of the company (the more of them, the higher the risk of hostile takeover);
- the possibility of reselling the company;
- the capability of stable operation of the enterprise.

Table 1

#### External and internal factors of a joint-stock company, taken into account by the raider

External factors	Internal factors
<ul style="list-style-type: none"> <li>– Gaps in the legal framework that allow violations of generally accepted rules of doing business without administrative or criminal prosecution</li> <li>– The presence or absence of administrative support that would expedite the procedures for issuing formal decisions and such documents</li> <li>– Prompt handling of cases in courts</li> </ul>	<ul style="list-style-type: none"> <li>– High share of enterprises in the industry</li> <li>– Attractive geographical location</li> <li>– Availability of expensive land plots</li> <li>– Ownership of unique technologies, expensive machinery, equipment, etc. tangible and intangible assets</li> <li>– Prospects for business development, its investment attractiveness, availability of subsidiaries and affiliates, branches and representative offices</li> <li>– Reputation, level of corporate culture</li> <li>Share capital structure</li> <li>– Presence or absence of corporate conflict between shareholders, investors or managers of the company</li> <li>– The level of professionalism, the business reputation of the governing bodies of the company</li> <li>– Availability of information about the company, the possibility of obtaining it through the registrar of the company, shareholders or managers of the company</li> </ul>

Source: (Cherevko, 2013)

Table 2

#### Common raiding schemes in Ukraine

Raiding scheme	Actions taken while realizing the scheme
Raiding by unfair realization by shareholders of their rights	Change of company management in violation of corporate governance procedures; Blocking of the company's operations; Blocking of a controlling block of shares; Questioning the results of the privatization of the company.
Raiding by taking over a company's shares	Embezzlement of shares by collusion with a professional participant; Forcing legitimate shareholders to sell shares; Exercising voting rights on preferred shares; Securing a decision to invalidate the issue of additional shares; Acquisition of shares that did not pass state registration; Change of company management in violation of corporate governance.
Acquisitions by withdrawal of company assets	The organization of the deliberate bankruptcy of a company; Takeover as a result of exaggerated corporate conflicts.

Source: (Cherevko, 2013)

Construction companies need to adapt this methodology to the conditions of activity, which have their own specifics, and to identify the main factors that increase the risk of hostile takeover; assessment of several construction companies according to an adapted methodology; development of measures to form effective mechanisms to combat hostile takeovers in Ukraine; study of effective enterprise management methods under the threat of hostile takeover.

Having analyzed the hostile acquisitions of construction companies that are mentioned in public sources, consider the factors that have the greatest impact on the possibility of a hostile takeover (raider seizure) of construction companies. These include:

- profitability of the enterprise (profitability indicators, sales revenue, cost-effectiveness);
- financial independence (a set of financial and economic indicators of financial independence, debts to the budget, bank and other creditors);
- the possibility of further resale of the enterprise (assessed by the value of assets, the presence of land, construction in progress, real estate owned by the company, the possibility of further resale of property);
- the possibility of stable operation of the enterprise in the future (assessed by the dynamics of the enterprise for several years).

The procedure for calculating these indicators is presented in Table 3.

According to the results of the analysis of raider seizures of construction companies (according to the press), the main factors that lead to the capture of construction companies are the possibility of further

resale of assets (real estate) or the entire property, the withdrawal of funds. Less important is the factor of the possibility of stable operation of the company, because domestic raiders are not interested in the company continuing to function. It is more profitable from their point of view to alienate and quickly sell the assets. Most raiders are interested in getting "quick" money from the resale of the company, real estate and all other available assets.

The contribution and significance of the factors listed in Table 4 to the integral indicator of assessing the possibility of a takeover of an enterprise are not the same.

To determine the importance of this or that factor for raiders, the method of content analysis of publications on the topic of "raiding" is used (Goroyi, Nesterenko, 2009). Based on the materials of the article-review on hostile takeovers of construction companies, the frequency of occurrence of this factor among other causes of seizure is identified. On this basis, the weight of this factor in the possibility of seizure of an enterprise is calculated.

Compared to 2011 and 2016, when a similar analysis of raiding opportunity factors was conducted (Bielenkova, Matsapura, 2012; Sorokina, Hoiko, 2017), in 2019 the weight of the "stable operation opportunity" factor decreased slightly and the weight of the "resale" factor increased. This indicates that modern raiding companies in Ukraine are not interested in the development of the business acquired by them, and are aimed at the liquidation of the company and the quick sale of assets.

Table 3

**Indicators of the risk of raider seizure of the enterprise**

<b>Profitability of the enterprise</b>	=	Profit (gross, from operating activities)	/	Assets
	=	Enterprise income during the reporting period		
	=	Net profit	/	Assets
<b>The financial independence of the enterprise</b>	=	Equity	/	Liabilities
	=	The amount of long-term liabilities, the share of long-term debt in liabilities		
	=	The amount of debt to the budget, the share of debt to the budget in the liabilities		
	=	Enterprise bankruptcy risk according to the test of Bielenkova, O.Yu. & Antropov, Yu.V. (2013) (for small businesses) and Izmailova, K.V., Molodid, O.O. and Lytvynenko, I.V. (2020) (for large and medium enterprises)		
	=	Equity	/	Liabilities
<b>The possibility of further resale of assets of the enterprise</b>	=	Market value of the company's property (including land, unfinished construction projects, real estate / Assets		
	=	Market value of enterprise assets		
	=	Ownership of real estate and its market value		
	=	Ownership and market value of land plots		
	=	Availability and market value of unfinished construction projects		
<b>The possibility of stable operation of the enterprise</b>	=	Net income from sales for the reporting period	/	Net income from the sale of products in the previous reporting period
	=	The amount of long-term contracts	/	Liabilities
	=	Market value of the enterprise		

Source: the list of factors offered by (Goroyi, Nesterenko, 2009) is supplemented by authors

Table 4

**The importance of certain risk factors for raiders**

Indicator	Keyword (phrase)	The number of occurrences of the word (xij)	Frequency of word occurrence ( $\eta_{ij}$ )	The total number of occurrence of the factor words (xi)	Frequency of occurrence of factor ( $\eta_i$ )	Weighting coefficient (ki is determined on the basis of correlation and regression analysis)
Business model efficiency (x <sub>1</sub> )	<b>Return</b>	9	0.02	33	0.0651	-0.016
	Income	8	0.02			
	Profitability	6	0.01			
	Stability of income	3	0.01			
	Long-term contracts	1	0.00			
	Business attractiveness	6	0.01			
Financial independence (x <sub>2</sub> )	<b>Coefficient of autonomy</b>	1	0.00	95	0.1874	0.344
	Long-term liabilities	22	0.04			
	Debt to the budget	10	0.02			
	Bankruptcy, reorganization	30	0.06			
	Debt to the bank	32	0.06			
The possibility of resale (x <sub>3</sub> )	<b>Property</b>	69	0.14	321	0.6331	0.548
	Enterprise assets	69	0.14			
	Building, office center	66	0.13			
	Land plot	69	0.14			
	Construction site	48	0.09			
Reputation of the developer (x <sub>4</sub> )	Reputation	12	0.02	58	0.1144	-0.09
	Illegal buildings	36	0.07			
	<b>Delays in commissioning</b>	8	0.02			
	Production quality	2	0.00			

Source: compiled by the authors based on (Gorovyi, Nesterenko, 2009)

The next step is to calculate the dynamics of the risk indicator of proxy battle, taking into account the obtained weighting factor.

## 6. Modeling the risk of raider takeover

To assess the threat of raider seizure of Ukrainian construction companies were selected six

different in size, speed of development, number of employees and property values of construction companies, and therefore different in attractiveness to raiders.

To assess the threat of hostile acquisition of Ukrainian construction companies, it was selected construction companies of different size, speed of

Table 5

**Results of correlation and regression analysis of the possibility of a raider takeover**

R	0.696203							
R-square	0.484698							
Normalized R-square	0.47008							
Standard error	0.292685							
observation	146							
R	0.696203							
Analysis of variance								
	df			SS		MS		F
Regression	4			11.36136		2.8403		33.156
Remainder	141			12.07871		0.0856		
Total	145			23.44007				
	Coeffi-cients	Standard error	t-statistics	P	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Y	0.07281	0.113647	0.6407	0.5227	-0.151	0.297	-0.1518	0.2974
X 1	0.548	0.0523	10.475	0.0000	0.4444	0.651	0.44448	0.651
X 2	-0.0085	0.0107	-0.790	0.4308	-0.029	0.0127	-0.0298	0.0127
X 3	-0.015	0.0126	-1.248	0.2140	-0.04	0.009	-0.0409	0.0092
X 4	0.3437	0.1478	2.325	0.0214	0.051	0.635	0.05151	0.6359

Source: calculated by the author

Table 6  
Assessing the risk of proxy battle, taking into account the weights of factors

Enterprise	Return			Financial independence			The possibility of further resale			The possibility of stable operation						
	2016	2017	2018	2019	2016	2017	2018	2019	2016	2017	2018	2019				
PrJSC "EKO -DIM"	0.0843	0.3099	0.3192	0.3101	0.3177	0.5720	0.5930	0.5537	0.5310	0.0031	0.0036	0.0036	0.0037	0.0865	0.3060	0.3151
PJSC HC Kyivmiskbud	0.0859	0.4354	0.5097	0.5129	0.4843	0.9143	0.8987	0.9128	0.8797	0.0433	0.0433	0.0433	0.0420	0.0879	0.4300	0.5033
PJSC "Ukrbud"	0.4489	0.5225	0.6116	0.6155	0.2560	0.8760	0.8871	0.9002	0.2481	0.0520	0.0520	0.0520	0.0345	0.1055	0.5160	0.6040
PJSC "Intergal-Bud"	0.1263	0.5829	0.5711	0.6272	0.5933	0.5617	0.5709	0.4995	0.4933	0.0026	0.0027	0.0027	0.0026	0.1292	0.5755	0.5640
PJSC "TMM"	0.1980	0.7252	0.7252	0.7911	0.6873	0.6849	0.6784	0.6487	0.6288	0.0109	0.0116	0.0116	0.0127	0.2026	0.7161	0.7161
PrJSC "Fundament"	0.1258	0.4198	0.4054	0.4087	0.4222	0.7100	0.6886	0.6479	0.6208	0.0085	0.0085	0.0085	0.0082	0.1287	0.4145	0.4003

Table 7  
Integral indicators for assessing the attractiveness of enterprises for raiding

Enterprise	2016	2017	2018	2019	Degree of risk
PrJSC "EKO-DIM"	0.0193	0.007	0.08218	0.00403	low
PJSC HC Kyivmiskbud	0.55309	0.57789	0.57916	0.6233	average
PJSC "Ukrbud"	0.5372	0.5465	0.6123	0.7211*	average
PJSC "Intergal-bud"	0.56967	0.61177	0.56859	0.5863*	average
PJSC "TMM"	-0.0295	-0.0239	-0.0024	0.00871	low
PrJSC "Fundament"	0.12683	0.13861	0.09636	0.06924	low

\* Forecast calculations

development, number of employees and value of property, and therefore different in attractiveness to raiders. These are enterprises of the construction industry operating in Kyiv (the place of company registration is indicated in brackets).

The calculation was performed for the following enterprises:

1. PrJSC "EKO-DIM"(Lviv).
2. PJSC Holding Company "Kyivmiskbud"(Kyiv).
3. PJSC "Intergal-Bud"(Lviv).
4. PJSC "TMM"(Kharkiv).
5. PrJSC "Fundament"(Kyiv).
6. PJSC "UkrBud"(Kyiv).

The integral indicator of the risk of raiding was calculated by correlation and regression analysis (Table 5).

This made it possible to obtain a result with a single unit of measurement and to compare indicators. Analysis period 2013–2019.

To assess the attractiveness of an enterprise for a hostile acquisition, the following model is derived:

$$K_r = -0,016 \cdot x_1 + 0,344 \cdot x_2 + 0,548 \cdot x_3 - 0,09 \cdot x_4 \quad (1)$$

where  $K_r$  is the coefficient of assessment of the attractiveness of the enterprise for a raider seizure;  $x_1$ – $x_4$  – factors in italics are shown in the Table 4.

The dynamics of the selected factors (assessment of the attractiveness of the acquisition of construction companies) is presented in Table 6.

Determine the cumulative rate for the selected factors (Table 7).

We can conclude that such companies as HC Kyivmiskbud, PJSC "Ukrbud", PJSC "Intergal-Bud" are subject to the greatest risk of hostile acquisition, due to the large number of assets attractive to raiders.

Three of the six construction companies studied may be of interest to raiders, but overall in the group the level of probability of raider seizure is close to

average, so they should pay attention to the system of economic security.

## 7. Discussion

The formation of an effective system of corporate protection at both the macro- and micro-level is an urgent economic problem, an important component of the successful development of the construction industry and the country as a whole.

One cannot disagree with Sorokina L.V., Hoiko A.F. (2016), who argue that "Given the priority of destabilizing effects of macro-level factors, the only way to strengthen the investment and economic security of construction companies is a favorable state economic policy...".

Bhargava, Rahul Faircloth, Sheri Zeng, Hongchao (2017), studying U.S. companies have determined that in states with high levels of regulatory protection against takeovers, the risk of future stock price declines is reduced, and in the case of strong competition and asymmetry of information about companies, this relationship is intensified. This proves the importance of forming and improving the regulatory framework in Ukraine to ensure the sustainable development of enterprises and reduce the risks of hostile takeovers and seizures.

A number of articles, along with government measures to combat raiding and hostile takeovers, emphasize the importance of building an effective corporate defense system, including the impact of measures such as "poison pills"(Hamao, Yasushi & Matos, Pedro, 2018), staggered boards (Tingting, Liu & Mulherinb, J. Harold, 2018), use of "golden parachutes"for managers who do not have a stake in corporate governance (Fidrmuc, Jana P. & Xia, Chunling, 2019), restructuring and separate accounting of the property complex, constant analysis

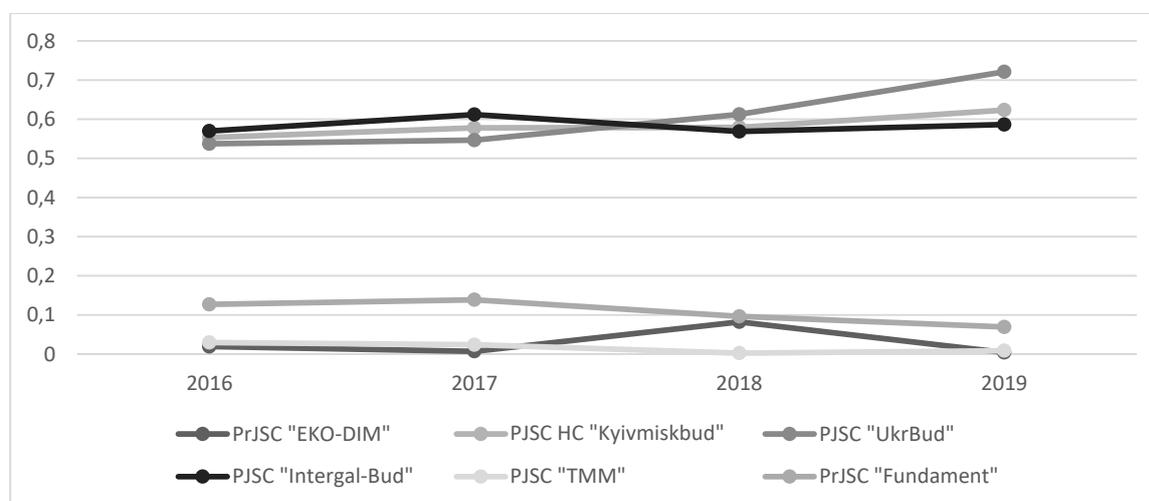


Figure 1. Integrated indicators for assessing the attractiveness of enterprises for hostile acquisition

of financial and economic activities, inclusion in the board of directors of authorities, risk protection financing Kuzmynchuk N., Kutsenko T., Strygul L., Terovanesoova O., Klepikova S. (2021).

Self-regulatory organizations (Berkuta, Osynska, Halinskyi, Vakhovych, 2010) (associations, unions, societies, etc.), should play an important role in the process of forming a system of anti-raider protection, which can be entrusted with such functions as monitoring the macroeconomic situation (for example, quarterly) and providing information on the current security situation of enterprises in the sector, legal and informational support for enterprises faced with raider attacks. For this purpose it is necessary to develop a system of preventive anti-raider protection, to create a set of relevant indicators that would assess the current state of economic security of enterprises, their attractiveness for hostile takeovers or seizures, taking into account the specifics (activities, size, ownership form, etc.).

## 8. Conclusion

Managing competitiveness, the management of enterprises should also analyze the impact of internal and external threats affecting the stability of the enterprise, track indicators that reflect the attractiveness of the enterprise for raiders.

In practice, there is a whole system of measures used to prevent the acquisition of companies.

At the state level, the system of counteraction to raiding is constantly being improved, which will sooner or later lead to a decrease in the number of hostile acquisitions. However, construction companies are extremely interested in creating their own system of combating raiding, the first stage of which should be the development of an effective methodological approach to identifying vulnerabilities to external and internal destructive influences, as well as improving the models of preventive crisis management and early

identification of vulnerabilities of enterprises, based on the specifics of their activities.

The way to solve the problem is to unite the systems of anti-raiding protection of individual construction companies into one, implemented at the level of self-regulatory organizations, associations, societies, which can be delegated functions of legal support, arbitration, economic and legal risk assessment, which is possible with a clear program of action and the wishes of participants.

The adoption by the Verkhovna Rada of the Law of Ukraine № 5067 "On the Implementation of European Norms for the Protection of Property Rights and Interests of Citizens and Investors" and the Law of Ukraine "On Amending Certain Legislative Acts of Ukraine on Improvement of State Registration of Rights to Immovable Property and Protection of Property Rights" and a number of by-laws create a basis for countering corporate raids on successful, investment attractive enterprises.

However, it is too early to talk about a complete victory over raiders. Year by year, the schemes and methods of raider seizures are constantly improving, modifying, becoming more elaborate, less noticeable, veiled and almost legal in their actions. Further research should focus on the analysis of new raiding schemes from the legal and economic points of view and the search for ways to counteract this process.

The attention of many scholars lies in the legal field of anti-raiding measures, but the enterprise security system should include a number of economic measures (aimed primarily at preventing attacks and monitoring the situation for threats), as an integral part of the process of protecting corporate property. Every enterprise should create a system of economic security, corresponding to the real socio-economic and political processes of the country, which will not only help to combat corporate raiding, but also help to function in an environment of increased risk and threats, economic growth and financial independence and security.

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