

DOI: [10.55643/fcaptop.1.54.2024.4267](https://doi.org/10.55643/fcaptop.1.54.2024.4267)

Olga Grytsay

Candidate of Economy Sciences,
Associate Professor of the Department
of Accounting and Analysis, Lviv
Polytechnic National University, Lviv,
Ukraine;
e-mail: olga.i.grytsay@lpnu.ua
ORCID: [0000-0001-6305-9219](https://orcid.org/0000-0001-6305-9219)
(Corresponding author)

Natalia Voskalo

Candidate of Economy Sciences,
Associate Professor of the Department
of Accounting and Analysis, Lviv
Polytechnic National University, Lviv,
Ukraine;
ORCID: [0000-0002-2732-5273](https://orcid.org/0000-0002-2732-5273)

Volodymyr Voskalo

Candidate of Economy Sciences,
Associate Professor of the Department
of Accounting and Analysis, Lviv
Polytechnic National University, Lviv,
Ukraine;
ORCID: [0000-0003-2303-5866](https://orcid.org/0000-0003-2303-5866)

Yuliia Demska

PhD in Economics, Head's Assistant,
LLC Consulting FS, Lviv, Ukraine;
ORCID: [0000-0001-6017-1555](https://orcid.org/0000-0001-6017-1555)

Ihor Defir

PhD Student, Lviv Polytechnic National
University, Lviv, Ukraine;
ORCID: [0009-0005-3463-4508](https://orcid.org/0009-0005-3463-4508)

Received: 28/11/2023

Accepted: 05/02/2024

Published: 29/02/2024

© Copyright
2024 by the author(s)



This is an Open Access article
distributed under the terms of the
[Creative Commons CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/)

ACCOUNTING OF CAPITAL RESERVES AS A RISK MANAGEMENT TOOL FOR PROTECTING THE CAPITAL OF THE ENTERPRISE

ABSTRACT

The activities of business entities are conducted in conditions of uncertainty, which leads to the emergence of various types of business risks. The accounting system plays an important role in the information provision of risk management.

Reliable accounting data can be a reliable source of information when making decisions on economic risk management both by the managers of the enterprise and by other parties interested in its activities.

The article is devoted to the study of the accounting provision of capital reserves as a risk management tool for the protection of the capital of the enterprise.

In the classification of capital reserves, an additional feature is distinguished by the identification of risks for the management of which the reserves are formed. It has been established that the risks of enterprises are the subject of the formation of reserves, and therefore it is advisable for the enterprise to create specific types of reserves that are necessary to cover the types of risks that are inherent in its activities.

Keywords: accounting support, capital reserves, risks, protection reserve, identification of risks

JEL Classification: M41, G32, G39, E22

INTRODUCTION

Empirical research shows that even in the conditions of the COVID-19 pandemic and a full-scale war in Ukraine, enterprises that formed certain capital reserves were able to preserve and increase business and demonstrated the ability to withstand extraordinary challenges.

The accounting system of capital reserves is of great importance for the effective management of risks, finding ways to reduce them and protect the capital of the enterprise.

LITERATURE REVIEW

The analysis of literary sources shows that domestic and foreign scientists pay attention to the study of the problems of assessment, analysis and display of risks in the accounting system. The essence and principles of the concept of risk management are considered in the work of P. Hopkin, 2012, as cited in K. Cormican, 2014 [1]. The study is based on the identification and classification of critical success factors for effective enterprise risk management. Such accounting support methods as improvement of risk management documentation and regulated risk reporting were considered. The importance of risk management as a necessary condition for the long-term viability of the enterprise is substantiated in R.E. Hoyt & A.P. Liebenberg [2]. J. Lessen, N.A. Dentchev & L. Roger [3] focus on an integrated approach to sustainable development risk management through the prism of individual, sectoral, national and supranational levels of management. However, in the conclusions, the authors rely only on the consequences of the financial and economic crisis of 2008-2012.

I.A. Lagunova [4] devoted her work to certain aspects of the essence of risks, their analysis, determination of factors and causes of risks and their management. O.E. Kuzmin & N.Yu. Podolchak, in [5] different approaches of domestic and foreign economists to the interpretation of the term "risk" were highlighted, methods of risk assessment were considered. They gave a description of the main external risks and their causes. However, the mechanism of taking risk factors into account when planning foreign economic activity is considered only on the example of one enterprise. N.S. Skopenko, & O.V. Piankova, in [6] the stages of formation and implementation of risk management are considered, the main directions of influence on the degree of risks of business entities are established, the use of a methodical approach to determining the optimal way of regulating the degree of risk. I.V. Fedulova [7] argued the methods that should be used to identify the economic risks of the enterprise, each of which provides certain recommendations for their use in the process of forming the risk management system at the enterprise.

L. Spedding & A. Rose, 2008 as cited in V. González Díaz, F. Pérès and A. Márquez, 2011 [8], explain the practical relationship between risk management and the impact on the cost of capital using a sustainable and economic risk management methodology. P. Shimpi, [9] creates a corporate finance framework that integrates both insurance and capital markets. This model is the basis for understanding the role of corporate capital, including off-balance sheet and paid-in capital, and its cooperation with the riskiness of a firm's activities. G. Dickinson, [10] emphasizes that the financing of the risks faced by the enterprise should be integrated into the general financing of the enterprise itself. The decision on whether to hedge, self-insure or purchase insurance should be closely aligned with the capital structure decision.

N. A. Doherty [11] demonstrates how traditional cost of capital approaches can be modified to integrate risk capital, thus accurately reflecting the cost of capital of a company with an active risk management policy. He also disputes Shimpi's [9] cost of capital calculations, arguing that the released capital underestimates the true cost of capital. P. Liebwein [12] emphasizes that internal risk models are able to support business decisions. These models are fundamental to risk-based performance measurement. T.J. O'Brien, [13], tries to clarify the influence of risk management on the cost of capital of the company. However, the research is only based on a one-line company evaluating an investment opportunity.

Among Ukrainian scientists, L.V. Gnilitzka [14], investigates the essence of risks in order to display information about them in the accounting system. The formation of reserves will ensure an increase in the informativeness of accounting in risk management and will strengthen the reliability and transparency of financial reporting. In order to substantiate the connection between risk and the facts of economic activity caused by its influence, L.V. Gnilitzka suggests dividing risks into: - risk-causes (conditional fact of economic activity), the object of which in accounting will be the reserve of future expenses and payments; – risk-consequence (a real fact of economic activity), the object of which in accounting is the reserve of doubtful debts and capital reserve [14]. In particular, M.R. Luchko [16], and O.A. Zorina [17], determine the types, causes and list of accounting objects by which the impact of risk can be reflected.

The works of I.M. Vyhivska [18], S.F. Legenchuk & I.R. Polishchuk [19], are devoted to the formation of the conceptual foundations of accounting for risks in business activities and the accounting display of risks. Analyzing the characteristics of corporate governance models, the information needs of stakeholders and their impact on the accounting methodology and accounting policy of corporations, I.M. Vyhivska points out that according to "German accounting practice, it is generally accepted to create accounting reserves to cover various types of short-term and long-term risks" [18, p. 15].

Theoretical and practical aspects of the organization and methods of formation and use of reserves are considered in the works of Ya.D. Krupka [20], M.D. Korinko. and I.M. Grynenko [21]. In particular, they clarified and expanded the content of the concept of reserves as an object of accounting. The types and trends of ensuring the formation of reserves of non-financial companies Borsa Istanbul 100 are studied in detail in Ayca, Zeynep Suer in [22]. The issue of capital reserves, in particular their reflection in reporting, problems of accounting and auditing were considered by Yu.A. Veryga, M.M. Oryshchenko. in [23].

O.S. Lemishovska and I.Y. Yaremko in [24] studied the information function in accounting as one of the mechanisms for managing the reserve capital of public companies.

Scientists from related fields of economic knowledge mostly consider reserves as a way of managing business risks and forming a certain stock of resources to cover possible future losses or damages, the occurrence of which is not clearly predictable. However, scientific accounting theories, in particular balance theory, interpret reserves more broadly, albeit ambiguously. The importance of capital reserves as a tool for risk management and protection of the enterprise's capital from reduction determines the need to build an effective accounting system for their accrual and use.

AIMS AND OBJECTIVES

In this research, we aim to analyze:

- dynamics of changes in the share of capital reserve in the structure of equity capital of large, medium, small and micro enterprises by types of economic activity;
- conditions for the use of capital reserves in accounting by enterprises;
- the structure and dynamics of the creation of capital reserves of the largest Ukrainian enterprises;
- types of reserves that are appropriate for enterprises to create, depending on the types of risks inherent in their activities.

The purpose of the article is the analysis and disclosure of organizational and methodical approaches to the formation of accounting provision of capital reserves as a risk management tool for the protection of the capital of the enterprise.

METHODS

A general scientific method of analysis was used to substantiate the essence of capital reserves of enterprises; classification method for identifying types of risks and their characteristics; deduction method for researching the reporting of 15 business entities from the rating of the largest enterprises of Ukraine on the subject of their creation of capital reserves. On the basis of the general scientific method of deduction and elaboration of scientific works on the subject of research, an additional feature of classification is distinguished in the classification of capital reserves - by the identification of risks for the management of which the reserves are formed. The division of reserves into identified and unidentified risks is the basis for the justification of approaches to their assessment in accounting.

RESULTS

The interpretation of the concept of "risk" currently remains inconsistent due to the lack of a unified approach among scientists to understanding its meaning and classification. In modern economic literature, risk has different interpretations. Thus, "risk" is defined as probability, uncertainty, action, event, situation or consequences of risky events, potential losses, probability and possibility of occurrence of adverse events, etc. Risk by its nature has an ambiguous character: firstly, it is an event, expected with a certain degree of probability, and secondly, the consequences of this event can be dual in nature, i.e. lead to both additional costs and additional income. Such ambiguity creates difficulties in reflecting this phenomenon in the company's accounting system. In addition, there are no regulatory requirements for the use of certain methods and approaches to risk assessment in the accounting and analytical system.

In accounting practice, it is possible to form such types of capital reserves to cover risks:

- Reserve for doubtful debts (reserve to cover expected credit losses), which is created for the purpose of covering bad debt in the future;
- Reserve of capital is the amount of the reserve, which consists of deductions from the net profit of the enterprise or from undistributed profit in the amount provided for by the founding and legal and regulatory documents. Reserve capital is created to cover company losses, as well as to pay dividends on preferred shares, etc.;
- Provision of future expenses and payments that enterprises create to reimburse future expenses for payment of vacations to employees; performance of warranty obligations; additional pension provision; rewards (payment of bonuses) to employees; restructuring; performance of obligations upon termination of activity; fulfilment of obligations under onerous contracts; for reclamation; decommissioning of assets; on legal proceedings and fines; conducting audits, etc.

Traditionally, business entities (taking into account the previous editions of legislative documents on business and joint-stock companies) set the standard of capital reserve as a percentage of the amount of authorized capital. Therefore, in order to determine the dynamics of changes in the share of capital reserve in the structure of equity capital, based on generalized statistical data, an analysis of enterprises by type of economic activity with a division into large, medium, small and micro enterprises for 2013-2022 was carried out (Table 1).

Table 1. The share of capital reserve in the structure of the equity capital of Ukrainian enterprises by type of economic activity for 2013-2022. Note: Data on banks and budget organizations for 2014-2021 temporarily occupied territories of the Autonomous Republic of Crimea, the city of Sevastopol and a part of temporarily occupied territories in the Donetsk and Luhansk regions, is excluded; data for 2022 exclude the territories which are temporarily occupied by the Russian Federation and part of territories where the military actions are/were conducted. (Source: the data was generated on the basis of data analysis of the State Statistics Service of Ukraine for 2013-2022)

№	Type of economic activity	Years	Large enterprises	Medium enterprises	Small enterprises	Micro enterprises
1	Agriculture, forestry and fisheries	2013	0.07	11.65	8.69	6.85
		2014	0.16	12.19	9.14	8.38
		2015	0.37	9.76	7.00	6.69
		2016	0.04	8.63	6.98	6.61
		2017	0.05	7.78	7.60	7.69
		2018	0.04	7.18	8.77	10.11
		2019	0.28	7.75	8.21	6.46
		2020	0.38	6.82	7.17	5.93
		2021	0.23	5.58	5.89	5.46
2	Industry	2013	2.44	2.26	3.04	3.05
		2014	2.63	5.24	4.57	3.69
		2015	3.32	4.64	69.14	6.19
		2016	2.75	6.02	17.17	13.93
		2017	2.46	12.58	286.27	-22.81
		2018	2.11	-36.39	-15.61	-3.67
		2019	1.03	3.01	2.04	12.51
		2020	1.02	5.52	3.14	10.12
		2021	0.77	4.68	1.66	4.13
3	Construction	2013	3.31	5.03	1.71	1.57
		2014	72.15	7.71	-10.18	-1.96
		2015	-2.98	35.68	-1.93	-2.61
		2016	-	-	-1.97	-1.86
		2017	-6.58	4.53	-1.19	-0.79
		2018	-28.46	2.70	-1.74	-2.28
		2019	0.07	2.73	-10.17	4.51
		2020	0.02	1.99	-5.37	-1.56
		2021	0.03	1.41	50.55	-1.19
4	Wholesale and retail trade; repair of motor vehicles and motorcycles	2013	1.28	2.70	2.71	2.73
		2014	19.24	-3.25	-1009.90	-8.87
		2015	-0.94	-1.89	-19.90	171.72
		2016	19.70	-4.47	-16.46	-102.02
		2017	12.21	14.92	26.79	22.96
		2018	5.51	8.28	3.48	2.92
		2019	0.98	3.17	2.19	1.91
		2020	1.09	1.34	2.89	3.38
		2021	1.14	1.29	1.77	2.66
5	Transport, warehousing, postal and courier activities	2013	0.36	1.83	1.91	1.19
		2014	0.63	2.56	-4.29	3.02
		2015	0.09	9.41	-4.00	8.06
		2016	0.07	2.10	-3.96	-1.70
		2017	0.06	1.46	5.95	-16.25
		2018	0.08	1.75	2.35	1.06
		2019	0.13	0.87	1.35	1.35
		2020	0.10	1.04	1.30	1.20
		2021	0.13	1.20	0.97	0.88
6	Information and telecommunications	2013	0.16	0.56	0.42	-1.82
		2014	2.16	1.74	2.59	1.90
		2015	3.55	-2.11	-74.22	14.68
		2016	3.47	-5.59	0.19	0.31
		2017	2.37	-1.86	2.62	1.88
		2018	0.97	-1.02	1.93	1.22
		2019	1.14	-37.26	1.81	1.06
		2020	1.06	8.40	2.33	0.57
		2021	0.67	-17.59	2.20	1.16
2022	0.62	7.01	1.40	0.78		
2022	0.51	103.91	0.67	0.76		

Analysis of those listed in Table 1 share of capital reserve in the structure of the equity capital of Ukrainian enterprises with their distribution by size and types of economic activity generally indicates a mostly insufficient level of protection against the risks of their equity capital. It is clear that such conclusions based on generalized data are not sufficiently substantiated, but they can be recognized as an additional argument regarding the conclusions about the underestimation of the reserve mechanism in the management culture of managers of Ukrainian enterprises, which, in our opinion, strengthens the relevance of the formation of capital reserves in conditions of uncertainty, especially in socially important companies.

An analysis of the financial reports of the largest Ukrainian enterprises for 2018-2022 (for analysis, 15 business entities were selected from the rating of the largest enterprises of Ukraine, which was concluded by the editors of Forbes.UA magazine [26], Table 2 shows that currently, they create reserves at their discretion (except for capital reserve), independently making decisions about their amount and purpose.

Table 2. Generalized information on capital reserves in the reporting of Ukrainian companies for 2018-2022. (Source: formed by the authors based on the analysis of financial statements of enterprises for 2018-2022)

Available capital reserves in the companies' statements	PJSC «Ferrexpo Poltava mining»	JSC Yuzhnyi Gok	PJSC «Kyivstar»	The company «ATB-Market»	PJSC «Ukrnafta»	PJSC «Concern Galnaftogaz»	Nibulon AJV	PJSC Kyiv Confectionery Factory «Roshen»	PJSC Ukraine International Airlines	Philip Morris Sales and Distribution LLC	Dtek Westenergy Jsc	JSC Farmak	PJSC Interpipe Ntrp	PJSC Zaporizhstal	JSC Nikopol Ferroalloy Plant
Capital reserve	+	+	+			+		+			+		+	+	+
Reserve for expected credit losses	+	+	+	+	+	+				+	+	+	+	+	+
Provision for payment of vacations						+	+	+		+	+		+		+
Additional pension provision	+	+			+		+				+	+	+	+	+
Provision for the fulfilment of warranty obligations										+					
Provision for restructuring															
Provision for the performance of obligations under onerous contracts															
Reserve for reclamation	+										+				
Reserve for decommissioning of assets			+												
Current provisions for employee benefits/payment of bonuses to employees				+		+									
Provision for legal proceedings and fines					+						+		+		+
Provision under financial guarantee contracts						+									
Provision for conducting audits						+							+		
Capital in revaluation (reserve from revaluation of all groups of fixed assets and assets from the right of use)							+								
Other reserves of the company	+				+								+	+	+

Based on the analysis of the investigated enterprises, it can be concluded that, in addition to the legally regulated capital reserves, the enterprises also form non-mandatory (optional) capital reserves (in italics in Table 2), and none of the analyzed enterprises forms provision for restructuring and provision for the performance of obligations under onerous contracts. An analysis of the financial statements of Public Joint Stock Company Ukraine International Airlines shows that the company did not form any type of reserve capital for the period 2018-2022. This indicates an underestimation by the management of these enterprises of the reservation tool in their management system in general and risk management in particular.

Each type of capital reserve has a purpose related to the coverage of possible losses, damages or payments due to the occurrence of unforeseen events of a certain type. That is, capital reserves should correlate with the company's risks.

The conditions for the use of previously created capital reserves in the activity are summarized in Table 3.

Table 3. Conditions for the use of capital reserves in accounting by enterprises. (Source: created by the authors)		
Types of capital reserves	Conditions and prerequisites for write-off	Determining the amount of reserves for write-off
Capital reserve	<ul style="list-style-type: none"> ▪ acquisition of a share in own authorized capital without its reduction; ▪ loss coverage; ▪ settlement with participants (payment of dividends on preferred shares); ▪ other conditions stipulated by the founding documents of the enterprise 	The amount of write-off of the reserve capital is determined by the purchase price of the purchased share, the amount of loss that will be covered by the capital reserve, the amount of dividends on preferred shares, etc.
Reserve for doubtful debts	Recognizing receivables as hopeless under the conditions of expiration of the statute of limitations, availability of information about liquidation of the debtor, recognition of his bankruptcy or death of a natural person - the debtor	The volume of the reserve for write-off is equal to the amount of bad receivables, but not more than the amount of the actually formed reserve
Provision for payment of vacations	Order on payment of annual basic and additional vacations to employees, payment of monetary compensation for days of annual vacation not used by the employee, etc.	The amount of the written-off reserve is equal to the sum of accrued vacation pay and the Unified Social Contribution accrued on them
Additional pension provision	Termination of the employee's employment due to reaching retirement age	The amount of the written-off reserve is equal to the amount of accrued pension benefits
Provision for the fulfilment of warranty obligations	The occurrence of a warranty event provided for by the contract or agreement	The amount of the written-off reserve is equal to the sum of the costs incurred for repair, replacement and elimination of defects of the sold goods
Provision for restructuring	An order of the enterprise to close individual divisions from a certain date; ordering the divisions of the enterprise to search for potential customers for the assets of the divisions to be restructured; notification of the company's personnel about reduction or transfer to other positions; the start of equipment dismantling and other actual actions that create a reasonable expectation among customers, suppliers and employees that the restructuring will be carried out	The amount of the written-off reserve is equal to the amount of direct costs that arise as a result of the implementation of the restructuring plan
Provision for the performance of obligations under onerous contracts	The occurrence of onerous conditions stipulated by concluded contracts and agreements	The amount of the written-off reserve is equal to the amount of the actual costs associated with the performance of the onerous contract
Reserve for moral (technological) depreciation of fixed capital	Recognizing non-current assets or technology in the production processes of which they are used as morally obsolete and making a decision on writing off or revaluation of these non-current assets	The amount of the written-off reserve is equal to the value of the written-off morally obsolete non-current assets or the amount of their value depreciation

It is worth noting that the amount of use of each type of reserve also depends on whether there is a balance of the created reserves of previous periods at the beginning of the reporting period. If there is such a balance, capital reserves are written off from these amounts first. If the remaining amount is insufficient to create a capital reserve, accrual is made at the expense of the corresponding expenses depending on the type of capital reserve. Reduction of excess accrued capital reserves is carried out according to the "reversal" accounting method.

In general, reserves are estimated on the basis of professional judgments of financial managers of the enterprise, experience of similar operations, as well as the opinion of independent experts. The approach to the assessment of the created reserve depends primarily on the nature of the event for which it is created. Based on the analysis of the accounting theory and practice of capital reserves, three approaches to their evaluation are distinguished:

- according to the legislation;
- taking into account past events and costs;
- in accordance with the financial policy of the enterprise.

The choice of a specific approach to the assessment of each type of reserve, which is formed in the accounting system of the enterprise, must be recorded in the Order on the accounting policy with detailed disclosure of the accounting methodology for its accrual and write-off [27].

An important methodological problem of accounting for capital reserve is that, in practice, companies, creating reserve capital, only make an account that does not reserve real assets that, if necessary, could be used to cover the losses received. At the same time, failure to create capital reserve can lead to the outflow of highly liquid assets in the form of dividends.

A detailed (element-by-element) analysis of the dynamics of capital reserves of the largest Ukrainian enterprises (Table 4) shows the predominance of the role of imperatively regulated reserves (capital reserve, reserve for doubtful debts (covering expected credit losses) and additional pension provision). Along with the mandatory ones, the investigated enterprises also form non-mandatory (optional) capital reserves, but none of them create a provision for restructuring or fulfilling obligations under onerous contracts.

Our research covered companies that have remained in the Forbes ranking for the past five years. Every year, Forbes published the 100 largest companies of Ukraine, but in 2022, companies were identified that proved to be more stable than others and were able to preserve and sometimes increase their business. Due to the uncertainty and possible duration of the events related to Russian aggression, companies do not have a practical opportunity to accurately assess the quantitative impact of these events on the financial condition, therefore, during the war, companies are exempted from the need to publish financial statements.

Based on this, there is no information on the formation of reserves of most companies for 2022.

However, in our opinion, the lack of data on the part of the enterprises does not affect the conclusions regarding the need to form capital reserves in conditions of uncertainty, but on the contrary, confirms our arguments in favour of reserves.

Table 4. Generalized information on the amount of formed capital reserves of a sample of the largest Ukrainian enterprises for 2018-2022, UAH thousand. (Source: the data was generated on the basis of the analysis of financial statements of enterprises for 2018-2022)

№	Company name	Year	Capital reserve	Reserve for expected credit losses	Provision for payment of vacations	Additional pension provision	Provision for the fulfillment of warranty obligations	Reserve for reclamation	Reserve for decommissioning of assets	Provision for lawsuits and fines	Provision for rewards and bonuses to employees	Provision under financial guarantee contracts	Provision for the costs of the audit of financial statements	Reserve against revaluation of fixed assets	Other reserves of the company	Total capital reserves
1	Public JSC Ferrexpo Poltava mining	2018	285354	11786	0	462509	0	38338	0	0	0	0	0	0	287614	1085601
		2019	285354	22192	0	684346	0	48153	0	0	0	0	0	0	423404	1463449
		2020	285354	174557	0	773196	0	55587	0	0	0	0	0	0	452023	1740717
		2021	285354	19947	0	640532	0	48153	0	0	0	0	0	0	423004	1416990
		2022	285354	145472	0	463140	0	62345	0	0	0	0	0	0	347059	1303370
2	JSC Yuzhnyi Gok	2018	40626	114424	0	1156963	0	0	0	0	0	0	0	0	0	1312013
		2019	40626	105448	0	1889579	0	0	0	0	0	0	0	0	0	2035653
		2020	40626	216338	0	1867385	0	0	0	0	0	0	0	0	0	2124349
		2021	40626	175712	0	1826785	0	0	0	0	0	0	0	0	0	2043123
		2022	40626	6708350	0	905612	0	3209	0	14248	0	0	0	0	0	7672045

(continued on next page)

Table 4. Continued

№	Company name	Year	Capital reserve	Reserve for expected credit losses	Provision for payment of vacations	Additional pension provision	Provision for the fulfillment of warranty obligations	Reserve for reclamation	Reserve for decommissioning of assets	Provision for lawsuits and fines	Provision for rewards and bonuses to employees	Provision under financial guarantee contracts	Provision for the costs of the audit of financial statements	Reserve against revaluation of fixed assets	Other reserves of the company	Total capital reserves
3	Public JSC «Kyivstar»	2018	13660357	59463	0	0	0	0	81233	0	0	0	0	0	0	13801053
		2019	13660357	51515	94994	23312	0	0	208954	0	0	0	0	0	0	14039132
		2020	13660357	66928	89604	26944	0	0	180173	0	0	0	0	0	0	14024006
		2021	132933	241903	185997	34779	0	0	280273	0	0	0	0	0	0	875885
		2022	132933	483692	176864	129342	0	0	106933	0	0	0	0	0	0	1029764
4	The company ATB-Market	2018	0	307174	0	0	0	0	0	0	227083	0	0	0	0	534257
		2019	0	217940	0	0	0	0	0	0	304605	0	0	0	0	522545
		2020	0	116160	0	0	0	0	0	0	335685	0	0	0	0	451845
		2021	0	46073	0	0	0	0	0	0	546007	0	0	0	0	592080
		2022	0	45987	0	0	0	0	0	0	655208	0	0	0	0	701195
5	Public JSC Ukrnafta	2018	0	10009500	0	1682234	0	0	840090	17187700	0	0	0	0	0	29719524
		2019	0	10784120	258121	2067278	0	0	1102441	19785208	0	0	0	0	0	33997168
		2020	0	14521385	267922	2021788	0	0	1151394	1929083	0	0	0	0	0	19891572
		2021	0	14557275	326011	1713212	0	0	1263417	1929083	0	0	0	0	0	19788998
		2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	JSC Concern Galnaftogaz	2018	38476	7971	73807	0	0	0	0	0	125366	0	4032	0	0	249652
		2019	38476	139400	58915	0	0	0	0	0	77078	10212	3462	0	0	327543
		2020	38476	149131	79010	0	0	0	0	0	73759	16847	4034	0	0	361257
		2021	38476	5469275	2579	0	0	0	12231	0	73081	16568	4034	0	0	5616244
		2022	38476	31690648	6275	0	0	0	23036	0	0	16568	0	0	0	31775003
7	Nibulon A JV	2018	5	2103	83019	0	0	0	0	0	46859	0	0	9663024	0	9795010
		2019	5	648	98663	0	0	0	0	0	63072	0	0	9118410	0	9280798
		2020	5	458	101671	0	0	0	0	0	69767	0	0	10516728	0	10688629
		2021	5	552	114694	0	0	0	0	0	78166	0	0	1902498	0	2095915
		2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Private JSC «Yiv Confectionery Factory «Toshen»	2018	4789	0	10538	0	0	0	0	0	0	0	0	0	0	15327
		2019	5345	0	11714	0	0	0	0	0	0	0	0	0	0	17059
		2020	5762	0	17675	0	0	0	0	0	0	0	0	0	0	23437
		2021	5921	0	18437	0	0	0	0	0	0	0	0	0	0	24358
		2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Public JSC Ukraine International Airlines	2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2021	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Philip Morris Sales and Distribution LLC	2018	0	548012	12763	0	0	0	0	0	0	0	0	0	0	560775
		2019	0	725175	16876	0	54452	0	0	0	0	0	0	0	0	796503
		2020	0	919399	0	0	227122	0	0	0	0	0	0	0	0	1146521
		2021	0	920188	0	0	231478	0	0	0	0	0	0	0	0	1151666
		2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(continued on next page)

Table 4. Continued

№	Company name	Year	Capital reserve	Reserve for expected credit losses	Provision for payment of vacations	Additional pension provision	Provision for the fulfillment of warranty obligations	Reserve for reclamation	Reserve for decommissioning of assets	Provision for lawsuits and fines	Provision for rewards and bonuses to employees	Provision under financial guarantee contracts	Provision for the costs of the audit of financial statements	Reserve against revaluation of fixed assets	Other reserves of the company	Total capital reserves
11	DTEK JSC Westenergy	2018	19290	225854	66976	416276	0	48848	0	5364	0	0	0	0	0	782608
		2019	19290	446859	71868	611031	0	87279	0	26339	0	0	0	0	0	1262666
		2020	19290	229341	84542	580784	0	107096	0	26339	0	0	0	0	0	1047392
		2021	19290	228687	85525	572030	0	112794	0	26339	0	0	0	0	0	1044665
		2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	JSC Farmak	2018	0	44077	0	131231	0	0	0	0	0	0	0	0	0	175308
		2019	0	33741	0	163586	0	0	0	0	0	0	0	0	0	197327
		2020	0	44619	0	163776	0	0	0	0	0	0	0	0	0	208395
		2021	0	45051	0	163776	0	0	0	0	0	0	0	0	0	208827
		2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Public JSC Nizhnedneprovsky Tube Rolling Plant	2018	19993	11454	38967	511829	0	0	0	218629	583312	0	1309	0	1519	1387012
		2019	19993	20622	46281	548545	0	0	0	220390	613290	0	2429	0	0	1471550
		2020	19993	11999	43719	731590	0	0	0	218181	796775	0	2250	0	0	1824507
		2021	19993	38624	29784	674872	0	0	0	218231	317395	0	1791	0	44405	1345095
		2022	19993	34963	40395	445184				221808	332622		2831		24007	1121803
14	Public JSC Zaporizhstal	2018	506200	16991002	0	1734154	0	0	0	0	0	0	0	0	0	19231356
		2019	506200	8464758	0	2221239	0	0	0	0	0	0	0	0	0	11192197
		2020	506200	8776609	0	2545401	0	0	0	0	0	0	0	0	0	11828210
		2021	506200	8777260	0	2546093	0	0	0	0	0	0	0	0	0	11829553
		2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	JSC Nikopol Ferroalloy Plant	2018	62837	5958	60190	383935	0	0	0	121495	0	0	0	0	0	634415
		2019	62837	56278	77394	453291	0	0	0	333669	0	0	0	0	0	983469
		2020	62837	600404	78310	501455	0	0	0	287018	0	0	0	0	0	1530024
		2021	62837	600405	79099	502437	0	0	0	286587	0	0	0	0	0	1531365
		2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Data from Table 4 shows that only 9 enterprises form reserve capital (PJSC «Ferrexpo Poltava mining», JSC Yuzhniy Gok, PJSC «Kyivstar», Joint Stock Company «Concern Galnaftogaz», PJSC «Kyiv Confectionery Factory «Roshen», Dtek Westenergy JSC, PJSC Interpipe NTRP, Public Joint Stock Company Zaporizhstal, JSC Nikopol Ferroalloy Plant), and other enterprises do not carry out its formation (The company «ATB-Market», Public Joint Stock Company «Ukrnafta», Nibulon AJV, PJSC Ukraine International Airlines, Philip Morris Sales and Distribution LLC, JSC Farmak). However, only one enterprise – PJSC «Kyiv Confectionery Factory «Roshen» during the analyzed period of 2018-2021 annually made deductions to the reserve capital and provided information about its dynamics in the notes to the financial statements.

The types of reserves that should be created at the enterprise depend on the types of risks that are inherent in its activities. Therefore, the subject of the formation of reserves is the risks of enterprises. According to the results of the analysis of scientific works on risk management A.G. Zagorodniy, and L.M. Pylypenko identified 18 signs of enterprise risk classification and their corresponding types of risks [15, p. 56-57]. In the context of the application of self-financing and self-insurance (that is, the formation of reserves) as a method of risk management, it is worth highlighting the following signs of their classification and types:

1. Risk magnitude (permissibility level) – insignificant, permissible, critical, catastrophic risks;
2. Time of occurrence - design, planned, actual risks;
3. Legal conditions of occurrence – risks arising from obligations and risks arising from other reasons related to obligations;

4. Time of making risky decisions - anticipatory risk, timely risk, delayed risk;
5. Cause of occurrence - technical, economic, environmental risks;
6. Nature of influence - discrete, random, continuous and systematic risks [15, p. 56-57].

At the same time, it is possible and expedient to form reserves for both timely and delayed risks (for example, the return by buyers of products that turned out to be defective or that were damaged within the warranty period) according to the example given, a reserve for warranty provisions.

One of the reasons for the emergence of technical risks is the moral obsolescence of equipment and technologies. Given the dynamic development of the modern economy and the introduction of scientific and technical developments into economic activity (especially in the high-tech sector of the economy), the relevance of this type of risk becomes particularly acute. The scientific justification for the expediency of creating this reserve is based on the organic balance theory and the application of the replacement cost approach to asset valuation.

Potential uncontrolled impacts of the company's activities on the environment, which are not of a systematic nature, indicate the existence of certain environmental risks. If the magnitude of these risks is significant, it is advisable for enterprises to form appropriate environmental reserves to cover the negative consequences of the likely occurrence of risk events (reserves to cover environmental risks). Thus, the impact of the company's activities on the environment can be reflected in the accounting system in various ways (Figure 1).

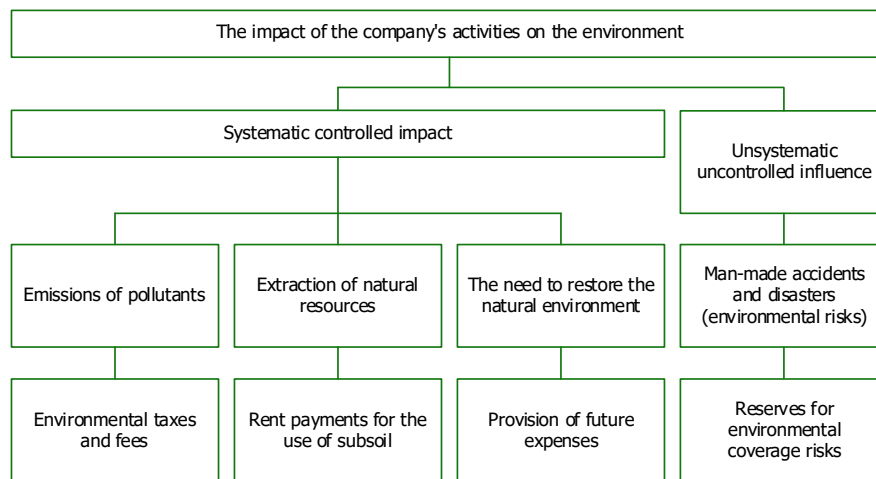


Figure 1. Reflecting the impact of the company's activities on the environment in the accounting system.

When considering the classification of risks by the nature of the impact, it is worth noting that for continuous and systematic risks, which are mostly identifiable, separate types of reserves can be formed, that is, for each type of risk, a separate reserve. At the same time, random risks, which are mostly unidentified, can be provided with reserve capital. These arguments make it possible to single out an additional feature of the classification of capital reserves - the identification of the risks for which the reserves were formed. According to this feature, capital reserves can be divided into two types:

- capital reserves for identified risks (for example, a reserve for doubtful debts, a reserve for moral (technological) depreciation of fixed capital, etc.);
- capital reserves for unidentified risks (only capital reserve actually belongs to this type).

In risk management, risk management methods include avoidance, transfer, prevention, distribution, obtaining additional information, and self-financing (self-insurance). The latter method involves covering losses or other negative consequences from the occurrence of risks at the expense of specially created reserves at the enterprise [28, p. 61]. Thus, provisioning is one of the enterprise's risk management methods, and capital reserves are one of the risk management tools.

DISCUSSION

Investigating risk management methods depending on their type, the authors claim that self-financing or self-insurance (i.e., reserving) should be applied only to permissible and insignificant risks, and catastrophic and critical risks should be avoided or insured [15, p. 62]. From the point of view of effective management, it is quite logical to form reserves for

design and planned risks, while as a result of the occurrence of actual risks, reserves are used (write-off of losses at the expense of reserves). Provision is formed for risks arising from liabilities, and other types of capital reserves can be formed for other risks not related to liabilities. However, recommendations for avoiding risks are ambiguous. After all, as you know, risk most often arises in case of inaction, namely the risk of unused opportunities. In many cases, managers delay decision-making under conditions of uncertainty and as a result, fall into a situation of risk.

L.M. Pylypenko in order to protect enterprises from them, proposes to form a reserve for moral (technological) depreciation of the fixed capital in the stock (equity) capital of their balance sheets [28, p. 198-200]. The author's statement regarding the accrual of this reserve at the expense of profitable capital, or in its absence - at the expense of reserve capital, is debatable. Given the purpose and sources of formation of the reserve for moral (technological) depreciation of the fixed capital, it can be counted among the types of capital reserves of enterprises.

Since technical risks belong to the identified risks according to the feature proposed by us, we believe that it is justified and appropriate to form a separate type of reserve for them.

The classification of capital reserves according to this feature will be used in the future when formulating approaches to their evaluation.

CONCLUSIONS

To ensure continuous business activity, each enterprise must constantly monitor the level of losses and possible risks, as well as develop further measures that will ensure the minimization of these risks. An important role can be played by the formation of reserves. The importance of capital reserves as a tool for risk management and protection of the enterprise's capital from reduction determines the need to build an effective accounting system for their accrual and use.

In the context of the need to improve the accounting method of capital reserves, in particular, their recognition and evaluation as an object of accounting, another feature of their classification is proposed - the identification of risks for which reserves are formed. According to this feature, capital reserves can be divided into reserves formed for identified risks and reserves formed for unidentified risks.

The separation of reserves for identified and unidentified risks was subsequently used in the justification of approaches to their assessment in accounting.

Summarizing the above, it can be concluded that the conditions and criteria for recognizing capital reserves of enterprises are associated with certain risks for their activities: reserve capital - the risk of receiving losses, reserve of doubtful debts - the risk of non-payment of receivables, etc. The theory and practice of risk management prove that it is almost impossible to avoid risks, and one of the methods of managing them is self-insurance. Thus, the formation of a system of capital reserves of enterprises is not only an object and subject of accounting but also a management mechanism of the enterprise's risk management system.

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

Conceptualization: *Olga Grytsay, Natalia Voskalo, Volodymyr Voskalo, Yuliia Demska, Ihor Defir*

Data curation: *Olga Grytsay*

Formal Analysis: *Olga Grytsay, Yuliia Demska*

Methodology: *Natalia Voskalo, Volodymyr Voskalo*

Software: *Ihor Defir*

Resources: *Natalia Voskalo, Volodymyr Voskalo, Ihor Defir*

Supervision: *Olga Grytsay, Yuliia Demska*

Validation: *Natalia Voskalo, Volodymyr Voskalo*

Investigation: *Olga Grytsay, Yuliia Demska*

Visualization: *Ihor Defir*

Project administration: *Volodymyr Voskalo*

Writing – review & editing: *Olga Grytsay, Volodymyr Voskalo, Yuliia Demska*

FUNDING

The Authors received no funding for this research.

CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

REFERENCES

- Cormican, K. (2014). Integrated Enterprise Risk Management: From Process to Best Practice. *Modern Economy*, 5, 401-413. <https://doi.org/10.4236/me.2014.54039>
- Hoyt, R.E., & Liebenberg, A.P. (2011). The Value of Enterprise Risk Management. *Journal of Risk and Insurance*, 78, 795-822. <http://dx.doi.org/10.1111/j.1539-6975.2011.01413.x>
- Lenßen, J.-J., Dentchev, N.A., & Roger, L. (2014). Sustainability, risk management and governance: towards an integrative approach. *Corporate Governance*, 14(5), 670-684. <https://doi.org/10.1108/CG-07-2014-0077>
- Lagunova, I. A. (2018). Sutnist' ta pryntsyipy kontseptsiiy ryzyk- menedzhmentu. *Actual problems of public administration*, 1(53), 44-52. http://nbuv.gov.ua/UJRN/apdy_2018_1_9
- Kuzmin, O.E., & Podolchak, N.Yu. (2001). Vrakhuvalnyy faktor ryzyku pry planuvanni zovnishn'oeconomichnoyi diyal'nosti pidpryyemstva. <https://ena.lpnu.ua:8443/server/api/core/bitstreams/7c0b2134-f002-4202-b9fd-362961e1aa02/content>
- Skopenko, N.S., & Piankova, O.V. (2014). Teoretyko-metodolohichni zasady ryzyk- menedzhmentu yak instrumentu upravlinnya hospodars'kym ryzykom. *Economics and management organization*, 1(17)-2(18), 235-243. <https://jeou.donnu.edu.ua/index.php/eou/article/view/1064>
- Fedulova, I. V. (2017). Identyfikatsiya hospodars'kykh ryzykiv. *Bulletin of the Kyiv National University of Trade and Economics*, 4, 89-103. <http://visnik.knute.edu.ua/files/2017/04/8.pdf>
- V. González Díaz, F. Pérès, & A. Márquez. (2011). On the Risks and Costs Methodologies Applied for the Improvement of the Warranty Management. *Journal of Service Science and Management*, 4(2), 191-202. <https://doi.org/10.4236/jssm.2011.42023>
- Shimpi, P. (2002). Integrating Risk Management and Capital Management. *J. Appl. Corp. Finan*, 14, 27-40. <https://doi.org/10.1111/j.1745-6622.2002.tb00446.x>
- Dickinson, G. (2001). Enterprise Risk Management: Its Origins and Conceptual Foundation. Geneva Pap. *Risk Insur*, 26, 360-366. <https://doi.org/10.1111/1468-0440.00121>
- Doherty, N.A. (2005). Risk Management, Risk Capital, and the Cost of Capital. *J. Appl. Corp. Finan*, 17, 119-123. <https://doi.org/10.1111/j.1745-6622.2005.00052.x>
- Liebwein, P. (2006). Risk Models for Capital Adequacy: Applications in the Context of Solvency II and Beyond. Geneva Pap. *Risk Insur. Issues Pract*, 31, 528-550. <https://doi.org/10.1057/palgrave.gpp.2510095>
- O'Brien, T.J. (2006). Risk Management and the Cost of Capital for Operating Assets. *J. Appl. Corp. Finan*, 18, 105-109. <https://doi.org/10.1111/j.1745-6622.2006.00116.x>
- Gnilitska, L.V. (2014). Informatsiynе zabezpechennya upravlinnya ryzykamy pidpryyemnyts'koyi diyal'nosti: oblikovyy aspekt. <http://dspace.nbuv.gov.ua/bitstream/handle/123456789/72406/10-Gnilitska.pdf?sequence=1>
- Zagorodniy, A.G., & Pylypenko, L.M. (2010). Ryzyky audytors'koyi diyal'nosti: metodyka vyavlennya y otsynuyannya: monohrafiya. Lviv: ZUKTS.
- Luchko, M.R. (2013). Nevyznachenist' ta ymovirnist' hospodars'kykh operatsiy: do pytannya bukhholders'koho obliku. Scientific and practical publication "Independent Auditor", 5 (III), 15-22. https://www.google.com/url?sa=i&url=http%3A%2F%2Fwww.irbis-nbuv.gov.ua%2Fcgi-bin%2Firis_nbuv%2Fcgiirbis_64.exe%3FC21COM%3D2%26I21DBN%3DUJRN%26P21DBN%3DUJRN%26IMAGE_FILE_DOWNLOAD%3D1%26Image_file_name%3DDPDF%2FNa_2013_5_5.pdf&psig=AOvVaw30_mwNbV1OCFUGODsgIEPt&ust=1707234080869000&source=images&cd=vfe&opi=89978449&ved=0CAYQn5wMahcKEwiY6fzdxJSEAxUAAAAAHQAAAAAQBA
- Zorina, O. A. (2018). Oblik yak informatsiyna funktsiya upravlinnya ryzykamy. Instytut bukhholders'koho obliku, kontrol' ta analiz v umovakh hlobalizatsiyi. Institute of accounting, control and analysis in the conditions of globalization. *International scientific journal*, 3-4, 49-57. <http://dspace.wunu.edu.ua/bitstream/316497/36317/1/%D0%97%D0%BE%D1%80%D1%96%D0%BD%D0%B0.pdf>
- Vyhivska, I.M. (2010). Bukhholders'kyy oblik diyal'nosti pidpryyemstv v umovakh ryzyku: orhanizatsiya ta metodyka: avtoref. dys. kand. ekon. nauk: spets. 08.00.09 Bukhholders'kyy oblik, analiz ta audyt (za vydamy ekonomichnoyi diyal'nosti). Zhytomyr: Zhdtu.
- Legenchuk, S.F., & Polishchuk, I.R. (2021). Rezervnyy kapital yak instrument minimizatsiyi ryzykiv u systemi stratehichnoho upravlinnya: oblikovyy aspekt. *Problems of the theory and methodology of accounting, control and analysis*, 2(49), 34-39. [https://doi.org/10.26642/pbo-2021-2\(49\)-34-39](https://doi.org/10.26642/pbo-2021-2(49)-34-39)
- Krupka, Y. D. (2021). Vidkryti ta prykhovani rezervy v systemi obliku i zvitnosti pidpryyemstv. *Bulletin of the*

- economy*, 2, 117-128.
<https://doi.org/10.35774/visnyk2021.02.117>
21. Korinko, M.D., & Grynenko, I.M. (2021). Rezervy yak ob'yeht bukhhalters'koho obliku: utochnennya katehoriyno-ponyatiynoho aparatu. *Investments: practice and experience*, 4, 15-20. <https://doi.org/10.32702/2306-6814.2021.4.15>
 22. Ayca, Zeynep Suer. (n.d.). The Recognition of Provisions: Evidence from BIST100 Nonfinancial Companies. <https://cutt.ly/1Hqx5wR>
 23. Veryha, Y.U., & Oryshchenko, M. (2011). Rezervuvannya kapitalu: oblik, audyt ta zvitnist: monohrafiya. Poltava: RVV PUET.
 24. Lemishovska, O., & Yaremko, I. (2021). Capital reserve management of public companies: accounting tools as information function of target mechanism. *Baltic Journal of Economic Studies*, 7(3), 150-158. <https://doi.org/10.30525/2256-0742/2021-7-3-150-158>
 25. Hrynchyshyn, Y.A. (2012). Deyaki problemy obliku zabezpechen dlya vidshkoduvannya vytrat na restrukuryzatsiyu. *Bukhhalterskyy oblik i audyt*, 9, 26-39. http://irbis-nbuv.gov.ua/cgi-bin/irbis_nbuv/cgiirbis_64.exe?C21COM=2&I21DBN=UJRN&P21DBN=UJRN&IMAGE_FILE_DOWNLOAD=1&Image_file_name=PDF/boau_2012_9_5.pdf
 26. One hundred largest private companies of Ukraine 2021. (n.d.). Forbes. <https://forbes.ua/ratings/100-naybilshikh-privatnikh-kompaniy-ukraini-2021-12102021-2580>
 27. Dem'ska, Yu. (2022). Bukhhalterskyy oblik ta kontrol rezerviv kapitalu pidpryyemstv. Qualifying scientific work on the rights of the manuscript. The dissertation on competition for the degree of Doctor of Philosophy in specialty 071 Accounting and Taxation. Lviv Polytechnic National University, Ministry of Education and Science of Ukraine, Lviv. <https://lpnu.ua/sites/default/files/2022/radaphd/20338/dem-ska-yuv-duser.pdf>
 28. Pylypenko, L.M. (2016). Rozvytok kontseptsiy pobudovy systemy publichnoyi zvitnosti korporatsiy v umovakh postindustrial'noyi ekonomiky: monohrafiya. Lviv. Lviv Polytechnic Publishing House.

Грицай О., Воськало Н., Воськало В., Демська Ю., Дефір І.

ОБЛІКОВЕ ЗАБЕЗПЕЧЕННЯ РЕЗЕРВІВ КАПІТАЛУ ЯК ІНСТРУМЕНТ РИЗИК-МЕНЕДЖМЕНТУ ДЛЯ ЗАХИСТУ КАПІТАЛУ ПІДПРИЄМСТВА

Діяльність суб'єктів господарювання провадиться в умовах невизначеності, що зумовлює виникнення різного роду ризиків підприємницької діяльності. Важливу роль в інформаційному забезпеченні управління ризиками відіграє система бухгалтерського обліку. Достовірні дані бухгалтерського обліку можуть бути надійним джерелом інформації при ухваленні рішень щодо управління економічними ризиками й із боку менеджерів підприємства, і з боку інших зацікавлених у його діяльності сторін.

Статтю присвячено дослідженню облікового забезпечення резервів капіталу як інструменту ризик-менеджменту для захисту капіталу підприємства.

У класифікації резервів капіталу виокремлено додаткову ознаку за ідентифікованістю ризиків, для управління якими резерви сформовані. Установлено, що ризики підприємств є предметом формування резервів, а отже, підприємству доцільно створювати конкретні види резервів, які необхідні для покриття тих видів ризиків, що притаманні його діяльності.

Ключові слова: бухгалтерське забезпечення, запаси капіталу, ризики, захисний резерв, ідентифікація ризиків

JEL Класифікація: M41, G32, G39, E22