MANAGEMENT ACCOUNTING TOOLS TRANSFORMATION FOR THE NEEDS OF ENTERPRISE MANAGERS UNDER MARTIAL LAW IN UKRAINE

Dmytro Ljudvenko
Doctor of Economic Sciences, Associate Professor, Senior Research Officer at the Department of Economics of Regional Development and Forecasting, National Scientific Center “Institute of Agrarian Economics”, Ukraine
e-mail: buttercup@ukr.net, orcid.org/0000-0002-7908-5718

Sergey Khomovyi
Ph.D. (Economics), Associate Professor, Head of the Department of Accounting and Taxation, Bila Tserkva National Agrarian University, Ukraine
e-mail: 2serik2@ukr.net, orcid.org/0000-0001-7483-7426

Nadiia Tomilova-Yaremchuk
Ph.D. (Economics), Associate Professor, Associate Professor at the Department of Accounting and Taxation, Bila Tserkva National Agrarian University, Ukraine
e-mail: ntomilova1984@gmail.com, orcid.org/0000-0001-6409-7487

Vitalii Vakulenko
Ph.D. (Economics), Associate Professor at the Department of Management named after Professor Josyp S. Zavadskyi, Head of the Department of Postgraduate Studies, National University of Life and Environmental Sciences of Ukraine, Ukraine
e-mail: vakulenko@nubip.edu.ua, orcid.org/0000-0001-7019-1832

Mykhailo Khomovyi
Ph.D. (Agricultural Sciences), Associate Professor at the Department of Agriculture, Soil Science and Plant Protection, Head of the Educational Laboratory “Botanic Garden”, Podillia State University, Ukraine
e-mail: mhomoviy@ukr.net, orcid.org/0000-0002-7964-7733

Summary
The main purpose of this article is to analyze and research the main tools of management accounting functioning, identify trends of their future development and optimize processes improving its information content for managers based on the changes that are taking place in the current conditions of martial law in Ukraine.

The analysis of the features of economic processes was carried out using the principles of dialectics, which allowed to classify the effects of the crisis processes of the Ukrainian economy. The classification of the effects of the crisis processes of the Ukrainian economy associated with the introduction of martial law is carried out and their impact on the development of management accounting tools was shown. The main functions of management accounting, which characterize the depressive phenomena of the economy and have a direct impact on its functioning, are highlighted. Based on the highlighted functions, we have adjusted the objects and tasks facing management accounting during martial law. The conceptual anti-crisis model
of management accounting was formed, its functional variability determines the set of objects of management accounting, which is mainly associated with the need to manage the parameters of strategic anti-crisis development of the economic entity, as well as monitoring and control of its detailed microenvironment under martial law.

The results of the study have important practical value for managers of enterprises that are affected by crisis phenomena caused by rapid negative changes in the external environment.

**Key words:** management accounting, management decisions, crisis processes, objects of management accounting, martial law, information support of enterprise management, anti-crisis model of management accounting.

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1. **Introduction**

Effective management of enterprises in conditions of business risk is based on the use of relevant information, the main supplier of which is management accounting. The procedure for the formation and systematization of information in management accounting, especially today during the period of martial law in Ukraine, is primarily associated with a large number of new challenges for enterprises, which correlate not only with the methodology of management accounting, but also with the definition of its substantive content. This state of affairs causes the revision of the system of organization and methodology of formation, transfer and use of accounting information of management accounting for users.

In the researching process of the theoretical and organizational-methodological foundations of management accounting, the works were analyzed of such foreign scientists as: Barton L. (1993), Drury, C. (2018), Edward W. (2020), Johnson, H. (2012) and others. Korinko M. (Korinko, M.D. & Gutkevich S.O., 2022), Matyukha M. (2022), Onyshchenko V. (2020), Pugachenko O. (Puhachenko, O. & Zarudna, N., 2021) and others worked on solving the problems of improving the informativeness of the theory and methodology of management accounting and its main tools. However, despite a significant number of developments in management accounting, there is no information on the conduct of its instruments during martial law.

The main goal is to analyze and research the main tools of management accounting functioning, identify trends in their future development and optimize processes to improve its information content for managers based on changes that occur in the current economic conditions of Ukraine.

2. **Methods**

The method of theoretical generalization was used to identify the properties that affect the organization of the management accounting system. The State Statistics Service of Ukraine data, analytical publications and expert assessments of specialists in this field became the information base of the study.

The analysis of the features of economic processes is carried out using the principles of dialectics, which will allow to classify the effects of the crisis processes of the Ukrainian economy. In addition, while researching the systems of methods were used such as: monographic – in the formulation of the purpose of the study, the results of which are reflected in the article. The method of theoretical generalization of foreign and local works of scientists, used
in the selection of properties that directly affect the organization of the management accounting system at the enterprise. General scientific methods of cognition, such as analysis and synthesis, induction and deduction, systematic integrated approach were used for summarizing the conclusions.

3. Results

3.1 Prerequisites for adjustment of management tools
Russia's aggression against Ukrainian territories led to the adjustment of the processes of our country's economy, economic, social and humanitarian crisis in Ukraine, new challenges, risks and problems: at least 12 million people have left their homes, 8 million internally displaced persons, 3.5 million refugees and the introduction of martial law.

Increased intensity of hostilities, disruption of production and logistics routes, destruction of assets and infrastructure, high energy prices and reduced demand delay the recovery of economic activity in all sectors of our economy. In the survey of Ukrainian enterprises (Figure 1) among which 45.5% are industrial companies, 28.1% are service sector companies, 21.4% are trade companies, 5.0% are construction companies, 32.4% of respondents are large enterprises, 31.7% are medium-sized companies, 36.0% are small-sized companies, 34.8% of surveyed enterprises carry out export and import operations, 9.8% only export operations, 14.5% only import operations, 41.0% do not carry out foreign economic operations, the index of business activity expectations in 2022 is projected to reach 43.8 based on the analysis of expert estimates and will further depend on the duration of martial law (2).

![Fig. 1. Index of business activity of Ukrainian enterprises in 2019–2022](source: the official data of the National Bank of Ukraine)

Analysis of similar processes that occurred in Ukraine in 2014 (Kucherova, H., 2019) and in other countries of the world in different periods of time has shown that such a situation encourages many enterprises to make changes in their usual economic processes, and in most cases it is characterized by inevitable crisis phenomena both in the economy of country and in enterprises in particular.

3.2 Analysis of the differentiation of the newly created environment
We consider it appropriate to analyze the legislative provisions and scientific views on these phenomena of prominent scientists for a more detailed understanding of the essence of the concept of “economic crisis” and “martial law” (Table 1).
Table 1

Interpretation of the concepts of “economic crisis” and “martial law”
by different scientific sources

<table>
<thead>
<tr>
<th>№</th>
<th>Source</th>
<th>Essence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L. Barton (1993)</td>
<td>An economic crisis is a large-scale unpredictable event that leads to potentially negative results and can cause serious damage to the entire enterprise.</td>
</tr>
<tr>
<td>2</td>
<td>John M. Keynes (Edward, W., 2020)</td>
<td>An economic crisis is as a rule a sudden and drastic change in a growing downward trend, while in the reverse process such a sharp turn often does not happen.</td>
</tr>
<tr>
<td>3</td>
<td>Economic Dictionary (6)</td>
<td>Economic crisis is an imbalance between supply and demand for goods and services, which causes a depressive process in the economic situation. It is manifested by a decline in production, rising unemployment, increasing number of bankruptcies, as well as a tendency to deepen the crisis.</td>
</tr>
<tr>
<td>4</td>
<td>K. Hermann (Forgue, B., 1996)</td>
<td>A crisis is an unpredictable, unexpected situation that threatens the priority goals of the organization with limited time for making management decisions.</td>
</tr>
<tr>
<td>5</td>
<td>Law of Ukraine (2015)</td>
<td>Martial law is a special legal regime imposed on this. Ukraine or in separate houses in the event of armed aggression or threat of attack, the danger of state independence of Ukraine, its territorial integrity and the granting of appropriate State authorities, military commanders and bodies the local self-government of the authority needed to be frank The threat and security of national security, as well as temporary, concerning the threat, limitations of constitutional rights and human rights and citizen and rights and legal interests of legal persons with set the action string of these constraints.</td>
</tr>
<tr>
<td>6</td>
<td>Y. Shemshuchenko (2004)</td>
<td>Martial law is a special state, a procedure of governance, which is introduced on the entire territory of the state or in some of its areas in case of declaration of war, armed aggression or threat of military attack.</td>
</tr>
<tr>
<td>7</td>
<td>E. Killam (1989)</td>
<td>Martial law implies the temporary replacement of civilian authorities by military ones and is usually applied in times of war, rebellion or natural disaster.</td>
</tr>
</tbody>
</table>

Analyzing Table 1, we note that each of the above statements on the definition of the essence of the concept of “economic crisis” and “martial law”, which in our opinion in the Ukrainian realities are intertwined in a single process, are extremely important for the economy and proves the fact that they are quite complex phenomena, have different elements of formation and in each country lead to different specific consequences.

3.3 Identification of classification features of accounting and analytical tools

That is why we tried to classify the effects of the crisis processes of the Ukrainian economy associated with the introduction of martial law and show their impact on the development of management accounting tools (Table 2).

The presented classification in Table 2 shows the heterogeneity of the impact of economic crisis processes on the development of management accounting tools. Crisis processes have a negative impact on most aspects of the formation of management accounting methodology, but there are also those on which this impact is positive. in Table 2 shows the heterogeneity of the impact of economic crisis processes on the development of management accounting tools. Crisis processes have a negative impact on most aspects of the formation of management accounting methodology, but there are also those on which this impact is positive.
## Classification of the impact of crisis processes in the economy on accounting and analytical tools for management decision-making

<table>
<thead>
<tr>
<th>Negative aspects</th>
<th>Positive aspects</th>
</tr>
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<tbody>
<tr>
<td><strong>Conceptual</strong></td>
<td><strong>Conceptual</strong></td>
</tr>
<tr>
<td>1. Reforms in the direction of accounting reporting led to reformatting the minds of users, which ultimately often led to untimely, incomplete or distorted analysis of events.</td>
<td>1. The crisis indicates the inefficiency of the application of tools, techniques and methods used in the formation of information for management decisions. It forces to revise theoretical approaches in management, accounting, control, analysis.</td>
</tr>
<tr>
<td>2. Strengthening the effect of control of accounting processes on crisis phenomena almost always has a negative impact on management. This leads to the leveling of special factors inherent in each enterprise in the application of internal accounting.</td>
<td>2. The crisis strengthens the role of accounting infrastructure (new laws, concepts, programs are introduced, specialized professional organizations are formed etc.), which is intended to improve the relationship between accounting processes and management system. New or revised standards in the field of accounting and reporting, principles, rules of conducting those areas of accounting, which contain processes that can lead to aggravation of crisis phenomena are introduced.</td>
</tr>
<tr>
<td>3. From the side of users, any changes at their initial stage always meet resistance, which is dictated by human psychology.</td>
<td></td>
</tr>
<tr>
<td>4. When reforming, accounting regulators often focus on the analysis of past events, and only in few cases are they oriented towards the future.</td>
<td></td>
</tr>
<tr>
<td>5. Crisis processes of the enterprise necessarily require rethinking the situation in terms of pricing, production, financial and other policies.</td>
<td></td>
</tr>
<tr>
<td>6. As a result of the crisis situation, the economy leads to a reduction in large-scale research in the direction of management accounting, focusing on minor refinements.</td>
<td></td>
</tr>
<tr>
<td><strong>Methodological</strong></td>
<td><strong>Methodological</strong></td>
</tr>
<tr>
<td>1. Desiring to improve the situation by standardizing business procedures and rethinking the accounting instruments themselves may lead to further problems and contradictions in conceptual accounting at higher levels.</td>
<td>1. Crises focus the attention of managers on external processes of the economic entity, i.e. expand the range of objects of management accounting.</td>
</tr>
<tr>
<td>2. The destructive nature of the economy brings natural evolutionary changes in the tools in accordance with the requirements of the economy, eliminating those enterprises that are not able to adapt to them.</td>
<td></td>
</tr>
</tbody>
</table>

Source: made by the authors.

### 3.4 The impact of crisis processes on the organization of the management accounting system

In the conditions of martial law in the economy, management accounting should contribute to the production of such information that would contribute to ensuring sustainable functioning, despite external and internal transformations in order to implement effective management decisions and anti-crisis financial strategy (Khomovy, S.M., Tomilova-Yaremchuk, N.O., Khomovy, M.M. & Makarchuk O.G., 2019). In this context, crisis processes in the economy have the following properties that directly affect the organization of the management accounting system:
– depending on the scale and nature of the crisis phenomenon, it can have a heterogeneous impact on various business processes of an economic entity, affecting the efficiency of functioning of a particular object of management accounting in different ways (Puhachenko, O. & Zarudna, N., 2021);
– the configuration of the facts of economic life is largely determined by the periodicity (cyclicity) of a particular stage (phase, stage) of the crisis phenomenon (Johnson H., 2012; Amosha O., Pidorycheva I. & Zemliankin A., 2021);
– the intensity of the use of management accounting tools to develop the most important management decisions is also determined by the dynamism of changes in economic parameters, both of the economic entity itself and the socio-economic system in which it operates (Matiykha, M., 2022);
– any crisis situation, and especially under martial law, is destructive by nature, and carries a set of destructive phenomena and problems that require prompt resolution (Drury Colin, 2018). This feature of the crisis situation indicates the need to organize an effective system of collecting and summarizing internal and external information in the management accounting system for effective decision-making. As a result of the analysis of the highlighted features and accounting – analytical work of the management accounting subsystem at such enterprises of Ukraine as LLC “Bilotserkivkhliboprodukt”, LLC “Kolos”, LLC “Dan Farm Ukraine”, PE “Rosava Agro”, FG “Agro Land” and others, functioning in the conditions prevailing in our country during the last time, information on the main parameters of the functioning of the internal and external environment of the economic entity should be produced in the form of management reports, analytical references and databases, cases of model solutions, strategic and operational plans etc.

3.5 Characterization of functions and tasks of management accounting in the context of changes in the external environment

We believe that the functional variability of management accounting in martial law should be much wider than in periods of economic growth, which also does not contradict the basic models of sustainable development of Ukrainian enterprises in the post-war period (Alrowwad, A. M., Alhasanat, K. A., 2022). In this context, we have identified the main functions of management accounting that characterize the depressive phenomena of the economy and have a direct impact on the functioning of management accounting (Figure 2).

Based on the highlighted functions, we believe that the management accounting subsystem used under martial law should be focused on the following tasks:

– assessment of the external environment for the formation of key documents in the strategic management system (mission, strategy, vision, business model, key performance indicators (KPI) etc.) Formation of a system of indicators for assessing the performance of responsibility centers, business processes, managers, production and management employees in order to level the impact of crisis processes in the economy on the functioning of the economic entity;
– planning the costs of the economic entity, identification and further reduction of inefficient costs, in order to invest the released value in innovations that can increase the sustainability of the economic entity;
– reporting formation of sustainable development, including the disclosure of information about the implemented business model for external users. It should be noted that the business model is the basis of any organization, and the management accounting system should be the basis of each business model. In this regard, in management accounting it is necessary to develop recommendations for the development of economic entities that link the business model and the management accounting system by identifying data on the state of the business model, as well as diagnosing dangerous situations and potentially promising activities;
Management accounting functions

- **Standardization and regulation function of accounting and analytical procedures**
  Provides for the development of a methodology for accounting, analytical, evaluation and control measures in the management accounting system to counteract the crisis. The whole set of new techniques and methods of management accounting, relevant for use in the economic crisis is fixed in the relevant regulations and standards.

- **Function of methodological support of anti-crisis decision-making**
  Involves the development of analytical methods, systems of indicators, instructions, scenarios and algorithms of actions, a list of preventive actions and anti-crisis measures, typical changes in the implemented business model depending on the development of the situation, in order to develop relevant information in the management accounting system.

- **Crisis damping function**
  Implemented in the system of preliminary, current and further control and provides for the leveling of internal and external triggers of a crisis situation or an unstable situation. It is carried out in conditions of permanent readiness to assess, record and analyze the danger posed by martial law in Ukraine.

- **Function of financial control over the implementation of key business processes**
  Consists of ensuring functioning processes that facilitate the implementation of a system of control, documentation and reporting financial activities in order to ensure the efficient use of resources and reliable reflection of the results of financial and economic activities of both internal and external users. In addition, this function involves the management of all financial assets and related aspects of activities, including the management of banking operations, financing processes, foreign exchange and interest rate risks.

- **Function of optimal division of resources (financial, labor, land, non-material etc.)**
  Considers the realities of martial law in the economy and strategic priorities for the development of the economic entity

**Fig. 2. Management accounting functions that characterize depressive economic phenomena and have a direct impact on the functioning of management accounting**

Source: made by the authors

- management of risks determined by both internal factors and the environment in order to implement the business model and strategic priorities of the economic entity;
- assessment of the degree of macroeconomic negative phenomena influence on the further functioning of the economic entity (inflation, fall in total demand, crisis of the banking system, increase in the key rate, stagnation processes in certain industries, unemployment, high volatility in the stock markets, bankruptcy of key partners and counterparties, deformation of payment relations with major stakeholders, etc.) At the same time, management accounting should ensure the compatibility of data with the indicators of the base period in the conditions of changes in external factors of the economic entity's functioning (*Shirov, A.*, 2022), as well as accounting policies and legislation.
4. Discussion

In fact, we have formulated a hypothesis about the need to allocate an anti-crisis model of management accounting with a specific set, functions, tasks and tools in the course of substantiating the scientific independence and expanding the functionality of management accounting during martial law.

This model (subsystem) is allocated by us for the purpose of more effective management of the microenvironment of the economic entity, forecasting the impact of changes in the external environment on its financial state and making management decisions that increase the stability and balance of the enterprise development. Its allocation is caused by the impact of the war on the tools of management accounting and as a result of changes in information requests of the main categories of users, which determines the identification of its objects (Figure 3).

![Diagram](image)

**Fig. 3. Definition of management accounting objects under normal conditions of economic functioning and under martial law**

Source: made by the authors

The lack of instrumental methodological system of management accounting for use under martial law in Ukraine requires the development of a whole range of methods and techniques (*Onyshchenko, V.*, 2020), in particular:

1. Formation of methodological recommendations for the preparation of strategic documents of an economic entity in crisis conditions (strategy, mission, policy and others) etc;
2. Methods of improving the system of accounting and analytical support in the formation of reserves that negate the crisis processes;
3. Development of budgeting method in the conditions of crisis processes in the economy (methodological process support of forming non-financial budgets, including budgets for environmental, human and social development).
4. System development of indicators for operational diagnostics of crisis processes under the influence of endogenous and exogenous triggers (CRI);

5. Development of a methodological approach regarding the impact assessment of external factors on the functioning of the enterprise;

6. Development of recommendations and regulations for the construction and further functioning of a new responsibility center for the management accounting system – anti-crisis (or crisis damping center), which is responsible for the permanent monitoring of the system for the emergence of a crisis situation;

7. Formation of a system of management reports, including reports on sustainable (balanced) development;

8. Improvement of traditional and perspective calculation systems in the conditions of crisis processes in the economy.

In our opinion, a certain set of tools must correspond to each selected object of the system of management accounting under martial law in the economy, the totality of which determines the procedural and methodological support of the functions of the manager (Korinko, M.D. & Gutkevich S.O., 2022) and ultimately the goals of the entire enterprise in such a period of time (Table 3).

Table 3

<table>
<thead>
<tr>
<th>№</th>
<th>Function</th>
<th>Object of accounting</th>
<th>Management accounting tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accounting (information support and cost optimization)</td>
<td>Price policy</td>
<td>Information support of expenses by detailing the options of management accounting; implementation of accounting functions of the process of “inflationary adjustments”; methodological recommendations for the formation of a special reserve for changes in the value of assets.</td>
</tr>
<tr>
<td>2</td>
<td>Organization (optimization of the enterprise structure)</td>
<td>Economic options of the market environment</td>
<td>Methodology of reserve formation for doubtful debts; organization of the reserve system of the economic entity; making changes in the job descriptions of employees.</td>
</tr>
<tr>
<td>3</td>
<td>Planning (forecast of future events)</td>
<td>Reserves and reserve budgeting</td>
<td>General and operating budgets. Organization of inflation-corrective measures; creation of a system of accounts, sub-accounts and journals of correspondent entries within the framework of reserves.</td>
</tr>
<tr>
<td>4</td>
<td>Control (optimization of external information flows)</td>
<td>Inflation</td>
<td>Methodology of CVP-analysis in conditions of hyperinflation; methodology of formation of reserves for depreciation of financial investments.</td>
</tr>
<tr>
<td>5</td>
<td>Decision-making (formation of diagnostic points of all external and internal processes of the enterprise)</td>
<td>Risks of management decisions</td>
<td>Adjusted test system of internal assessment by qualitative options (CRISIS-analysis), quantitative internal assessment of the impact of crisis phenomena (CRISIS-analysis), SWOT-analysis of the effectiveness of the external system of the economic entity.</td>
</tr>
</tbody>
</table>

Source: made by the authors
It should be noted that the functional variability of such a system determines the set of objects of management accounting, which is mainly associated with the need to manage the options of the strategic anti-crisis development of the economic entity, as well as monitoring and control of its detailed microenvironment under martial law. Reasoning of strategic directions of anti-crisis development of the enterprise requires a conceptual approach (Figure 4).

Fig. 4. Conceptual anti-crisis model of management accounting
Source: made by the authors
Thus, management accounting is the anti-crisis model of management accounting provides for the neutralization of crisis phenomena through prompt response to management decisions, as well as prevention of their occurrence through the internal economic mechanism.

5. Conclusions

Thus, management accounting is as an important information system of any enterprise under martial law requires adjustment of its functions, objects and a set of effective tools that are formed by the current crisis phenomena of the economy of our country.

Our proposed model of management accounting which is supplemented by important specific objects that have been formed under martial law will allow generating relevant information for managers of enterprises and making effective management decisions to stabilize the economic situation at the enterprise throughout the crisis period. Prospects for further research in this area are further coverage of theoretical knowledge on the development of institutional foundations of the theory of management accounting and the expansion of its tasks in different conditions of a market economy and as for practical it is the implementation in the organizational activities of enterprises in the process of reforming their management mechanism.

References


