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STRATEGIC MAPS IN THE FORMATION OF THE FOOD SECURITY STRATEGY OF THE STATE

Abstract. A deep theoretical research of foreign and domestic scientists' models of strategic maps, which are used for designing the strategy of commercial enterprises, is carried out in the article. The use of strategic maps based on the scientific developments of R. Kaplan and D. Norton's for implementation of the state food security strategy was substantiated.

A strategic food security map has been developed. It includes financial support for agrarian policy; social security of the population; regulation and infrastructure of the domestic market; public administration and resource security of food security. For each element of the strategic map, a system of strategic goals and strategic indicators is proposed.

Key words: food security, state food security strategy, system of strategic goals, balanced scorecard, strategic map

Introduction

In modern conditions of globalization, increasing influence of external economic factors and instability of the internal macroeconomic situation in the country, the number of threats that negatively affect the food security of the country is increasing. Therefore, an urgent task is the use of strategic management tools aimed at ensuring support of the necessary and sufficient level. One of these tools is the balanced scorecard, developed by R. Kaplan and D. Norton [1]. BSC is a system of strategic management of the company based on the analysis and

evaluation of the effectiveness of its activity according to certain indicators, developed in such a way as to take into account all significant aspects of the food security and its components. It allows you to transform the company's mission and general strategy into a system of interrelated indicators. The strategy implementation tool is the strategic map of the balanced scorecard. The application of the concept of food security for the development of theoretical and methodological approaches to the formation and implementation of the food security strategy at the national level is a promising and urgent task that can bring high results.

Literature review

Many works of domestic and foreign specialists are devoted to the study of ways of introducing a balanced scorecard and strategic maps in public management. Among the most famous scientists who dealt with the development and application of strategic maps are foreign scientists R. Kaplan, D. Norton, L. Maisel, K. McNair, R. Lynch and K. Cross, C. Adams, P. Roberts, Russian scientists E. Zvereva, M. Belyaeva, T. Narkevska, I. Zakirov, I. Tajitdinov, V. Kazakov, T. Ermakova, A. Ivanov, V. Andrianova, and Ukrainian scientists K. Doroshkevich, Yu. Melnyk, S. Ananenko, I. Yaroshenko, T. Pakhomova, I. Khramtsova, L. Prykhodchenko and others. However, the possibility of using strategic maps of the balanced scorecard in the development and implementation of the state’s food security strategy has not been investigated.

Research objective

The purpose of the research is to reveal the concept of a balanced scorecard and its tool – strategic maps, and to develop a strategic map of food security.

Results

R. Kaplan and D. Norton are the first scientists who began to use the term "strategic maps" to reflect cause-and-effect chains in the activities of enterprises [1]. A strategy map is a one-page description of a strategy in the form of a set of cause-and-effect relationships. The development of strategic maps to increase the effectiveness of strategic planning at the enterprise helped to generate staff efforts

and structure the implementation of the strategy. A strategic map allows managers to transform a strategy from a formal, rarely used document into an effective, well-founded plan.

The analysis of scientific works on the researched topic showed that there are models similar to the models of strategic maps described by Norton and Kaplan. Their main purpose is to determine the optimal directions for the implementation of the company's strategy. In particular, we can consider the model of L. Meisel, which is similar to the model of D. Norton and R. Kaplan and is based on four main elements: finances, customers, business processes, training and development. The difference between these models lies in the fact that the "training and development" element in L. Meisel's model covers the "labor resources" component and includes the improvement of personnel recruitment and motivation. In general, Meisel's model is identical to Norton and Kaplan's model. Highlighting a separate element of labor resources, L. Meisel argues that managers should pay the main attention and evaluate the efficiency of not only the enterprise as a whole, but also the employees.

The authors C. McNair, R. Lynch and K. Cross in their scientific works consider the "Performance Pyramid" model, which, similarly to the previously named strategic models, is focused on the consumer and the identification of cause and effect relationships between the main strategy of the company and its financial indicators. The "Performance Pyramid" model is based on the concept of general management of quality and industrial developments, as well as accounting of costs by types of activities in the organization's value chain. The "Performance Pyramid" has a four-level organizational structure and characterizes a system of two-way communication, which is necessary for spreading the idea of the corporate mission and strategy at different levels of the organizational hierarchy. The group of indicators presented in the model rather reflects some qualitative characteristics common to all or part of the levels of the organizational hierarchy. These quality characteristics include: customer satisfaction, flexibility, and productivity, which play a major role in achieving the organization's marketing

and financial goals, i.e., second-level goals. They are the link connecting the upper and lower levels of the pyramid. The indicators of the fourth level include the delivery time, the operating cycle and the percentage of defects, which are dependent on each other. In particular, the quality and delivery time are directly related to the efficiency of the enterprise's external activities, while the operational cycle and indicators of defects reflect the efficiency of its internal activities. At the bottom level of the pyramid, which corresponds to operational activities, the efficiency of the enterprise is evaluated for a short period of time (day, week or month). At the upper levels, the assessment is carried out much less often, using mainly financial indicators. From the point of view of C. McNair and his co-authors, the evaluation should be carried out on the basis of a comprehensive system of indicators, in which indicators of operational activity at the lower levels would be coordinated with financial indicators at the upper levels. This would allow the top managers of the enterprise to determine the factors that affect the obtained values of financial indicators [2; 22].

Authors C. Adams and P. Roberts developed the strategic model EP2M (Effective Progress and Performance Measurement), according to which the most significant is the assessment of the company's performance in four areas:

- in the external environment – customer service and demand satisfaction;
- in the internal environment – increasing efficiency and productivity;
- from top to bottom in the organizational hierarchy – spreading and adapting the general strategy of the organization to all lower levels of the organizational structure, stimulating changes;
- from the bottom up in the organizational hierarchy – strengthening the influence of shareholders and expanding the freedom of action of employees [3].

According to the concept of P. Roberts and C. Adams, the system of evaluating the company's activity should be aimed not only at the implementation of the strategy, but also at the corporate culture with its continuous movement

forward and development. An effective evaluation system provides effective control and quick feedback [4].

According to the traditional concept of a balanced scorecard, the formation and development of the system of indicators is carried out in terms of components (financial, customer, internal business processes, training and development of personnel) and consists of the following stages:

− identification of key problems related to the implementation of the existing strategy and determination of the strategic goals of the organization's activities, which are aimed at highlighting in the general strategy a list of specific target attitudes regarding specific components of the BSC;

− drawing up a strategic map, which is a graphic document with depicted cause-and-effect relationships between individual strategic goals of the organization's activity, and is built in the form of a block diagram with strategic goals presented in the form of individual blocks, and cause-and-effect relationships between them in the form of arrows;

− substantiation of target indicators to reflect the content of the set strategic goals and determine the criteria for their achievement, while each strategic goal, according to the traditional concept of BSC, corresponds to 2-4 target indicators;

− substantiating the criteria for achieving the target indicators, which must be achievable and realistic based on the situation at the time of strategy development, since only after determining the criterion for achieving the target indicator, the strategic goal is considered set;

− development of strategic measures for further specification of strategic goals and formation of the interrelationship of the strategy with the tactical tasks of the responsible executors and structural units of the organization, thus turning the strategy into a mechanism for its implementation and control.

The development of the BSC, as a rule, begins with the justification of its financial component and ends with the formation of the training and development component of personnel. Therefore, the concept of a balanced scorecard is an

effective analytical tool for strategic management of a commercial organization (enterprise, firm, company, business unit) in the conditions of a modern market economy. At the same time, the effectiveness of BSC in strategic planning has been proven in the practical activities of public sector enterprises and non-profit organizations, taking into account their specific features. The tactical aspects of the BSC concept are based on building a relationship with budgetary planning and control, as well as the analysis of strategic components of the economic activity of commercial organizations based on the BSC.

Russian experts pay attention to the use of the BSC at the levels of municipal and state administration. In particular, S. Andriyanov proposes an innovative model of the strategic management system, which takes into account the peculiarities of the socio-economic management of a small city and is based on the application of BSC [5]. Another author is M. Sadkovsky proposes the construction of a BSC for a science degree [6]. In the works of such authors as I. Zakirov, I. Tazhitdinov, V. Kazakov [7], T. Yermakova [8] and A. Ivanov [9] consider the formation of the BSC of a municipal entity as a tool for implementing the strategy of territorial development.

In the study of V. Andrianov it is proposed to develop the BSC for managing economic processes in the mode of self-regulation at the state level – a system of balanced socio-economic indicators of sustainable development [10]. The main problem in creating such a system, according to V. Andrianov, consists in determining the optimal values of indicators and building mechanisms for their constant monitoring, a feedback system, and adjusting indicators that ensure the balance of the system.

Features of regional strategic management using a balanced scorecard are revealed in the works of scientists [11-13]. Some scientists have studied the possibilities of using BSC to develop a strategy for the development of economic complexes, in particular, S. Kitaev. used strategic maps for the development of the logistics infrastructure of the grain market [14]. Authors E. Zvereva, M. Belyaeva, T. Narkevska implemented the formation of a strategic map of sustainable

development of the forest complex of the region [15]. The formation of a system of balanced scorecard is also provided for evaluating the effectiveness of the implementation of regional investment strategies in the studies of the authors O. Fedulova, N. Oshchepkova. [16].

Ukrainian scientists T. Pakhomova and I. Khramtsova consider theoretical approaches to the use of regional development strategies as a controlling tool in the regional management system and note that regional development strategies provide a holistic view of the processes of implementation of regional development strategies [17]. L. Prykhodchenko investigates the peculiarities of the application of BSC for evaluating the effectiveness of public management both at the level of the activity of individual employees, groups, and the entire institution by comparing current indicators with planned ones [18]. The authors of the methodological manual [19] highlight the essence, methodology and practice of management based on the results of activities in local self-government bodies. It is emphasized that the applied indicators should be coordinated with already valid performance indicators at the local and national level.

Based on the analysis of existing models of strategic maps, it can be concluded that the ideas of R. Kaplan, D. Norton and other scientists who dealt with this issue are aimed at solving the following questions.

1. Visual presentation of the company’s strategy.

2. Determination of cause-and-effect relationships between the main factors forming value.

3. Combining financial and non-financial factors of value formation.

The effectiveness of applying the principles and approaches of the balanced scorecard at the national level is beyond doubt. The implementation of the strategic map model showed results during the strategic planning of the development of certain regions of Europe and the CIS countries [20].

However, the universality and targeted orientation of the balanced scorecard allows its application to solve a wide range of scientific and practical tasks of strategic planning at different levels. Considering the complexity and

multifacetedness of the country's food security, its dependence on many macro- and microeconomic factors, it is advisable to propose the use of a strategic map for the development of a food security strategy.

Let's proceed to the construction of strategic maps of a balanced scorecard of food security of the state.

The first component of the balanced scorecard is agrarian policy in the context of ensuring food security. Its formation involves the determination of the key strategic goal of agrarian policy and its individual specific goals of a lower level. The key strategic goal of financial support for the formation of an agrarian policy to ensure food security is related to the solution of a priority strategic problem. It consists of the following: what goals must be set for agricultural production to ensure a sufficient level of food security and create prerequisites for maintaining it at a sufficient level [21].

At the same time, it is necessary to take into account two aspects of strategic financial goals in ensuring agrarian policy. Firstly, financial goals should be aimed at increasing investment attractiveness and increasing the main performance indicators of enterprises in the agrarian sector. It will allow realizing strategic potential and forming a reliable base for maintaining a sufficient level of food security in the long term. Secondly, financial goals determine the goals, indicators and results expected from the implementation of other components of the strategic map of food security.

Strategic financial goals are interdependent and closely interrelated. Cause-and-effect relationships between individual strategic financial goals are reflected in the strategic map of financial support of agrarian policy, which is a component of the overall strategic map. The strategic map for financial support of agrarian policy is shown in Fig. 1.

Based on the developed system of strategic financial goals of agrarian policy to ensure food security and target indicators, it is advisable to establish criteria for their achievement. In the future, it is possible to proceed to the development of strategic measures for the financial support of agrarian policy in the context of

food security. These measures should be aimed at the implementation of investment projects, state projects and programs, and other measures that require large-scale financing at the costs of investors and the state.

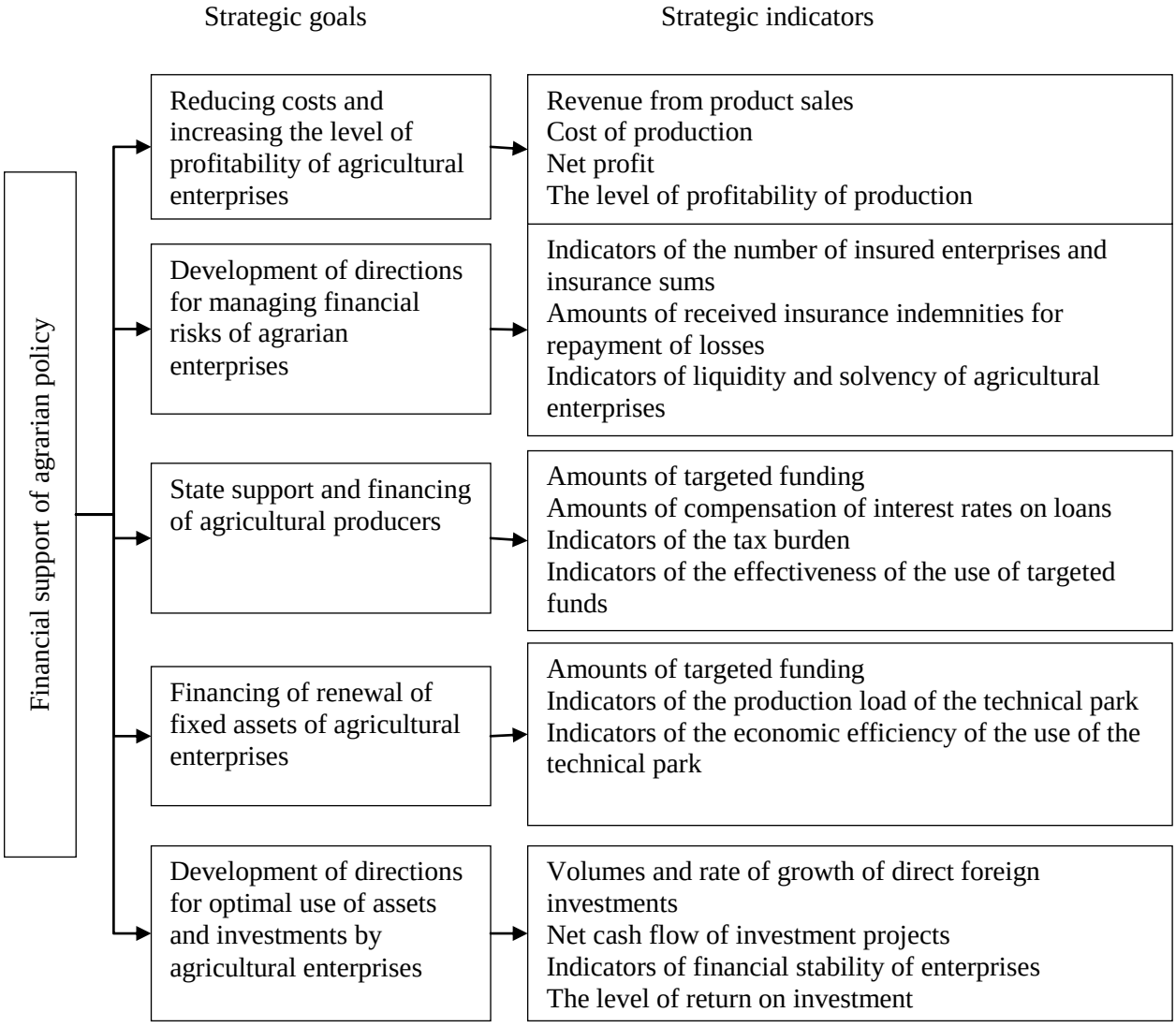

Fig. 1. Strategic map of financial support of agrarian policy

Source: developed by the author

Cause-and-effect relationships between individual strategic social goals are shown in the strategic map of social provision of food security, which is a component of the overall strategic map. The strategic map for social provision of food security is shown in fig. 2.

Based on the developed system of strategic goals in the social sphere, it is expedient to form directions for raising the standard of living of the population,

forming a product quality control system, and creating a reliable base for maintaining stable food prices for the population.

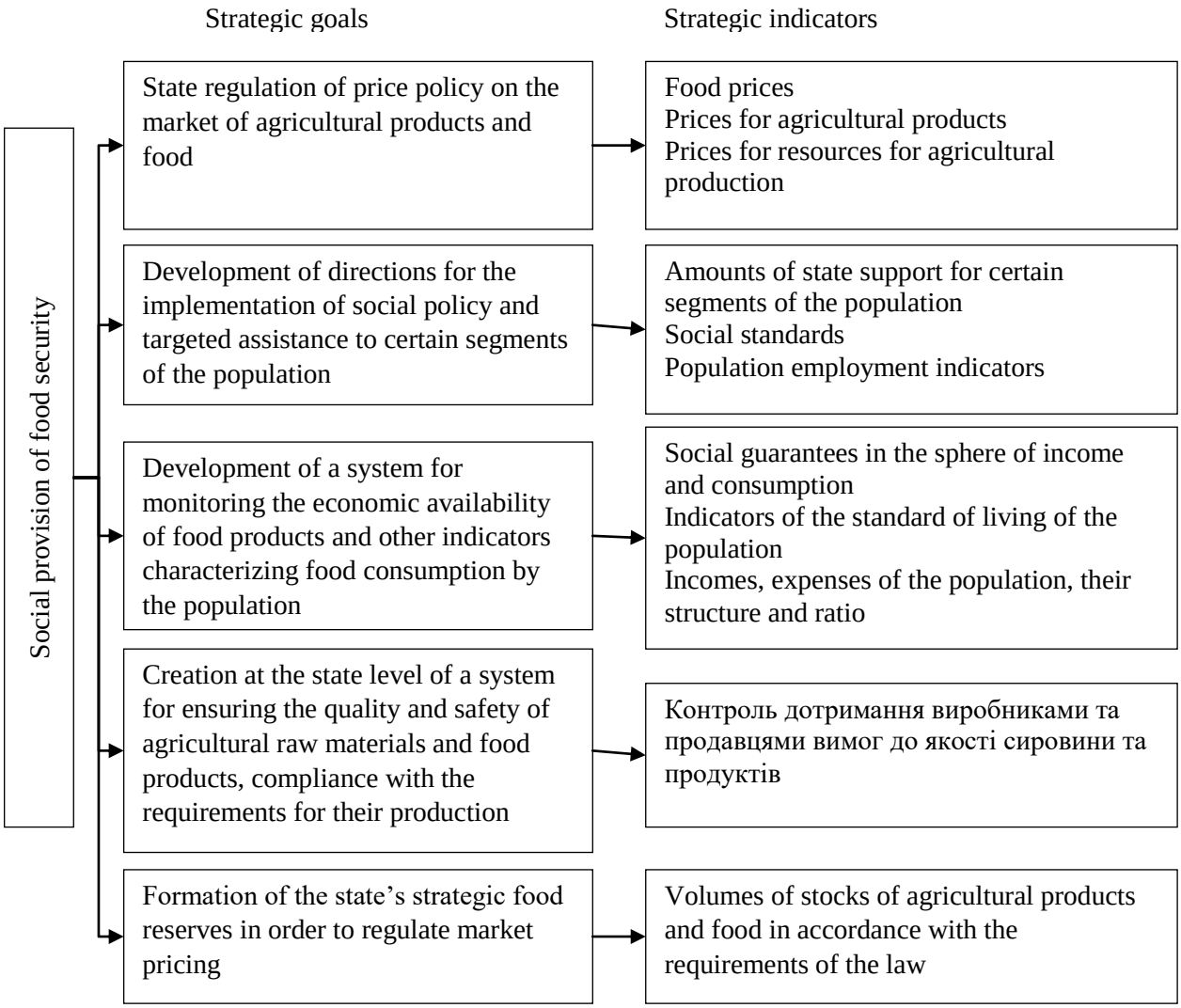

Fig. 2. Strategic map of social provision of food security

Source: developed by the author

The regulation of the internal market and infrastructural support as a component of the food security system is aimed at minimizing costs in the logistics chain in order to ensure market regulation of food pricing in the country. The strategic map for regulation and infrastructural provision of the domestic market is presented in fig. 3.

Based on the developed system of strategic goals of internal market regulation and its infrastructural support for the food security strategy, it is necessary to create a market risk management system, effective logistics and

market infrastructure, ensure food safety at the regional level, and implement information systems and technologies for monitoring market conditions.

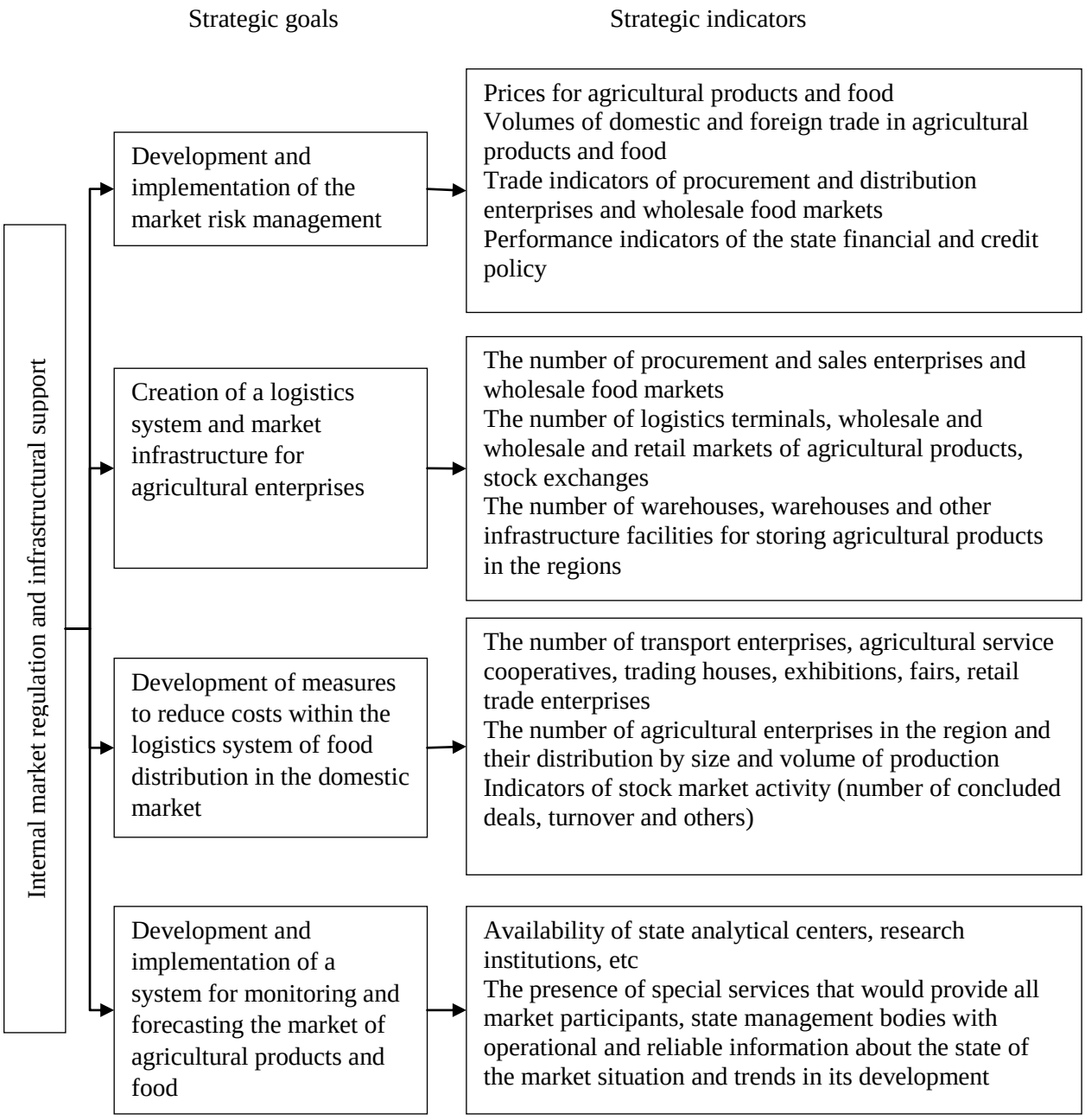

Fig. 3. Strategic map of internal market regulation and its infrastructural support

Source: developed by the author

The directions of public management and resource provision of the market in the food security system are aimed at forming strategic food stocks and ensuring the production volumes of agricultural products and food in accordance with the requirements of food security and the possibility of realizing export potential. The

strategic map for state management and resource provision of the market is presented in fig. 4.

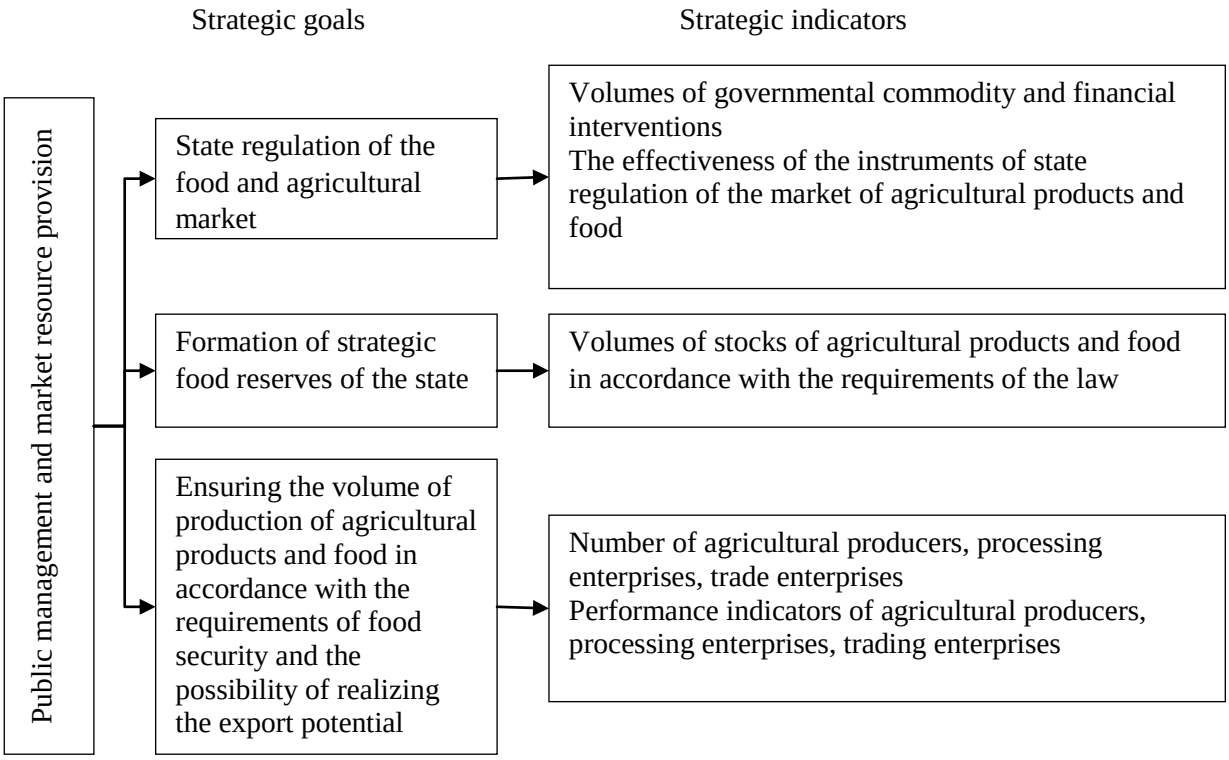

Fig. 4. Strategic map of public management and market resource provision

Source: developed by the author

Based on the developed system of strategic goals in the system of public management and market resource provision, it is possible to improve the further formation of the state's strategic food reserves, state regulation of the food agrarian market and measures in foreign trade policy to realize export potential.

Therefore, strategic maps of food security will provide an opportunity at the strategic level to carry out effective planning, implementation and control of indicators that affect the state of food security. The system of strategic maps, strategic goals and strategic indicators is aimed at identifying the directions of the food security strategy and effective state agro-food policy.

Conclusions

A strategy map is a one-page description of a strategy in the form of a set of cause-and-effect relationships. The development of strategic maps to increase the effectiveness of strategic planning at the enterprise helped to generate staff efforts and structure the implementation of the strategy. A strategic map allows managers

to transform a strategy from a formal, rarely used document into an effective, well-founded plan.

Strategic maps of the balanced scorecard of the state food security were developed for elements of financial support of agrarian policy; social security; regulation of the internal market and its infrastructural support; public management and resource provision of the market. Suggested elements include strategic objectives and strategic indicators.

Further scientific research should be devoted to the practical aspects of the formation of the state's food security strategy using the proposed strategic maps, the calculation of strategic indicators, and the development of directions for strengthening food security.

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