

# Justification Of Management Decisions On Assessing The State Of Economic Security Based On Financial Indicators

**Yevhenii Rudnichenko, Lyudmyla Krymchak, Vasyl Franchuk, Nataliia Havlovska, Stepan Melnyk**

**Abstract:** The aim of the study is a comprehensive assessment of the economic security of an enterprise foreign economic activity, taking into account the main financial indicators and financial results in order to make quality management decisions by enterprise management. An assessment based on criteria for maximizing marginal profit from foreign economic activity and minimizing the share of imports in the total revenue of an enterprise, which allows to quickly determine the level of economic security of foreign economic activity when considering these indicators in dynamics. This approach allows to reasonably make management decisions and form options for analyzing scenarios for achieving levels of economic security and a corresponding reaction of an enterprise management system to them. This technique was tested at industrial enterprises. Based on the analysis, a complex of scenarios for achieving levels of economic security of foreign economic activity and corresponding reaction options for an enterprise management system is proposed, which implementation allows an enterprise management to make rational management decisions and ensure a sufficient level of financial income. The presented methodology focuses on enterprises engaged in foreign economic operations, which is a certain limitation, however, from the perspective of the methodology and practical application of the proposed methodology for assessing the economic security level, the results are verifiable and can be used not only by Ukrainian enterprises, but also by other foreign enterprises-subjects of foreign economic activity. Based on this study, a methodology for assessing the level of economic security of an enterprise foreign economic activity is presented, which combines export and import components and takes into account the main financial results of enterprises. The main criteria of this technique is to maximize marginal profits from foreign economic activity and minimize the import dependence of the enterprise. This approach allows to quickly determine the level of economic security of an enterprise foreign economic activity and ensure the adoption of high-quality management decisions.

**Index Terms:** economic security, quality management decisions, financial results, indicators, scenario analysis

## 1. INTRODUCTION

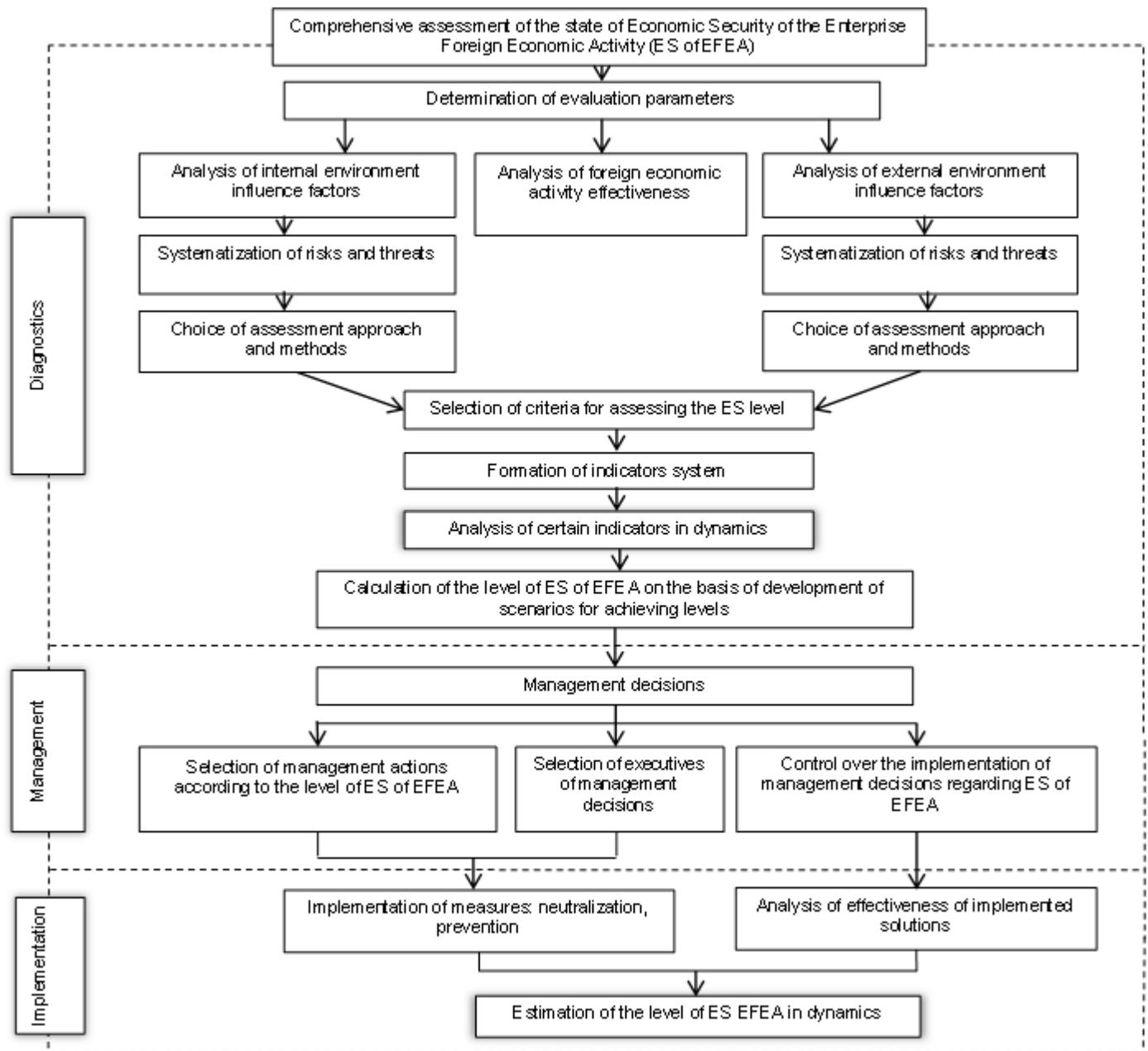
The functioning of modern management systems substantially depends on their level of economic security and their ability to withstand threats. The intensification of existing threats and the emergence of new ones requires enterprise management to introduce modern management mechanisms specifically in the field of economic security. An important role is played by the ability of enterprise management to make high-quality and rational management decisions based on the analysis of financial indicators and taking into account the real financial situation of a subject. The environment for making managerial decisions in the field of the enterprise economic security is marked by complexity and unpredictability, mainly due to the existence of an external component, and the relative unpredictability of a possible outcome of an implementation of such decisions [8], [9], [14], [15]. Therefore, the issue of assessing the state of economic security of business entities as a whole and individual functional types of their activities is relevant [13]. The most common assessment in economic security science is the indicator approach [2], [11] the resource-functional approach [4], [5], program-oriented (integrated) approaches [3], the approach based on the theory of economic risks and game theory [12], [16], [18]. As a separate tool for such an assessment, analytical models based on the assessment of the probability of bankruptcy are used [1], [10], [17].

These approaches have their advantages and disadvantages. Today, scientists when choosing one or another technique, often supplement it with their own recommendations, depending on characteristics of an economic activity of enterprises under study. The formation of a system of indicators in this case is carried out in accordance with an approach chosen by scientists to assess the level of the enterprise economic security. It can be noted that today there is a large number of improvements in assessing the level of the enterprise economic security. However, a much smaller number of developed methods relate to assessing the level of economic security of precisely functional types of activity, among which it is advisable to single out the foreign economic activity due to a significant influence on the formation of enterprise financial results.

## 2 METHODOLOGY

Since the goal of our work is to assess the economic security of the external economic activity of the enterprise, it is necessary to determine exactly the approach that makes it possible to carry out an appropriate assessment in order to make high-quality management decisions. Today, analytical support for management in the field of economic security of the foreign economic activity of industrial enterprises requires a comprehensive assessment of the economic security of their foreign economic activity from the standpoint of identifying and minimizing risks and threats. Graphical scheme of this integrated assessment is presented in Fig. 1.

- Yevhenii Rudnichenko. Professor, Khmelnytsky National University, Khmelnytsky, Ukraine. Corresponding author: E-mail: [e.m.rudnichenko@gmail.com](mailto:e.m.rudnichenko@gmail.com).
- Lyudmyla Krymchak, Senior Lecturer, Khmelnytsky National University, Khmelnytsky, Ukraine.
- Vasyl Franchuk. Professor, Lviv State University of Internal Affairs, Lviv, Ukraine.
- Nataliia Havlovska. Professor, Khmelnytsky National University, Khmelnytsky, Ukraine.
- Stepan Melnyk. Associate professor, Lviv State University of Internal Affairs, Lviv, Ukraine.



**Fig. 1.** Scheme of comprehensive assessment of state of ES of EFEA

The proposed scheme consists of three interconnected blocks: diagnostics, management and implementation. The diagnostic block provides for the analysis of the effectiveness of the enterprise foreign economic activity as a whole, as well as the determination of external and internal factors of influence on the enterprise foreign economic activity, the systematization of risks and threats separately according to the impact environment. According to the current system of indicators, an analysis of the enterprise foreign economic activity in dynamics is carried out. As a result, a set of scenarios is formed to achieve possible levels of economic security of foreign economic activity. The management block involves the adoption of management decisions in accordance with the result of assessing the level of economic security of foreign economic activity and the selection of executives of selected decisions, as well as monitoring the implementation of

management decisions. The implementation block includes the implementation of measures to neutralize existing risks and threats or prevent them. In addition, such measures may include a component of adaptation to those factors whose impact may affect its level and which in no way can be prevented or eliminated by the enterprise. This block also includes an analysis of the effectiveness of the implemented solutions and an assessment of the level of economic security of the enterprise foreign economic activity in dynamics. When entering foreign markets, an important stage is the study of not only the market, its features and opportunities for working on it, but also the study and evaluation of an individual counterparty – a potential partner. This can significantly minimize the appearance of risks and threats to the enterprise economic security when the implementation of foreign economic activity. Of course, for a full analysis of the financial

and economic activities of a partner, it would be worthwhile to conduct a financial analysis of their activities. After receiving the necessary information about the potential partner, you can determine the level of its reliability and make sure on the optimal choice of the counterparty. In our opinion, there is no need to carry out a full analysis of the economic activity of industrial enterprises and calculate a whole range of indicators that may not be sufficiently informative in this case. But in the process of assessing the level of economic security of the enterprise foreign economic activity, we decided to evaluate the export and import components, based on two main criteria: maximizing the marginal profit from foreign economic activity and minimizing the import dependence of an enterprise. Margin analysis is very useful in terms of improving the quality of information and analytical support for the economic security of foreign economic activity of domestic industrial enterprises and for assessing its level. The fundamental basis of this analysis is the marginal income and profit of the enterprise as a whole [6], [7]. It should be noted that one of the key parameters of the enterprise economic security is the realization of the economic interests of the entity, which are expressed by the profits available to the enterprise and used by it for production and social purposes. Accordingly, it can be stated that profit is the basis of an appropriate level of the enterprise economic security. Thus, profit is an important economic category for any enterprise along with the category of "economic security", which, moreover, is interdependent. Today, determining the profit of an enterprise is carried out on the basis of a direct calculation method, it compares income and the total cost of production of the enterprise and on the basis of margin analysis, according to which the basis of the calculation system is variable costs. When calculating the marginal income, it is considered that fixed costs remain unchanged and are covered by part of the marginal profit. And the higher it is, the faster the fixed costs are covered, and the sooner the company can make a profit. In order to assess the level of economic security of the enterprise foreign economic activity, it is advisable to determine the marginal income from the foreign economic activity of the enterprise and analyze its change in dynamics. It should be considered that maximizing revenue from sales of products for export will lead not only to an increase in marginal profit, but also to an increase in the volume of foreign currency earnings of an enterprise. A critical value for the economic security of foreign economic activity will be the situation when the marginal profit from foreign economic activity (MP<sub>fea</sub>) will be equal to the fixed costs (FC<sub>fea</sub>) allocated to these types of products using the break-even ratio (BER), i.e.:

$$MP_{fea} - FC_{fea} = 0. \quad (1)$$

So, this will indicate the maximum permissible level of product sales, which will provide coverage of fixed and variable costs, but will not bring profit.

### 3 RESULTS

Table 1 presents the actual data for the calculation of the marginal profit at the investigated enterprises as a whole and the marginal profit from the making their foreign economic activity. The relevant analysis was carried out at such Ukrainian enterprises as LLC «Atonmash», SE «Novator», LTD «Temp». Analyzing the performance of LLC «Atonmash», it can be noted that the share of revenue from foreign economic activity in 2016 was 50% of the total revenue of the enterprise, and the share of marginal profit from foreign economic activity

was 37%. In 2017, there was a decrease in these indicators, despite the fact that the total revenue of the enterprise grew by almost 40%, and the volume of revenue from foreign economic activity by 3%. At the same time, the marginal profit from foreign economic activity remained almost unchanged, although its share in the total marginal profit decreased by 13%. This indicates that the growth of economic results of the operation of the enterprise occurred not at the expense of foreign economic activity, but of other activities. On the other hand, in 2018 it is possible to observe a decrease in the volume of revenues both from the general activity of the enterprise and from the foreign economic one. However, the share of marginal profit from foreign economic activity remained at the level of the previous year. The overall picture of the dynamics of the share of marginal profit from foreign economic activity in the total marginal profit of the enterprise indicates a decrease in the enterprise foreign economic activity. SE «Novator» is characterized by a decrease in export sales in foreign markets, with a partial increase in the enterprise total revenue in 2017. It should be noted that the share of marginal profit from foreign economic activity in the total volume of margin profit in 2016 was 35%, in 2017 - only 14%, and in 2018 - 17% with not so sharp reduction of marginal profit from foreign economic activity during the given period.

**TABLE 1.**  
*Indicators of activity of the surveyed enterprises for 2016-2018*

Indicator	Year			
	2016	2017	2018	
LLC «Atonmash»				
In general at the enterprise				
Revenue volume	Thousand UAH	88127	121912	88939
Variable costs		42137	61317	54720
Marginal profit		45990	60595	34219
EFEA				
Revenue volume	Thousand UAH	44316	45892	32153
Variable costs		27129	28508	22308
Marginal profit		17187	17384	9845
Share of FEA revenue in total revenue		0,50	0,37	0,36
Share of marginal profit from FEA in total marginal profit		0,37	0,29	0,29
SE «Novator»				
In general at the enterprise				
Revenue volume	Thousand UAH	409998	673384	526449
Variable costs		206326	308371	236185
Marginal profit		203672	365013	290264
EFEA				
Revenue volume	Thousand UAH	152697	106396	102480
Variable costs		80150	55230	52325
Marginal profit		72547	51166	50155
Share of FEA revenue in total revenue		0,37	0,16	0,19
Share of marginal profit from FEA in total marginal profit		0,35	0,14	0,17
LTD «Temp»				
In general at the enterprise				
Revenue volume	Thousand UAH	17780	41253	53240
Variable costs		11760	21730	24320
Marginal profit		6020	19523	28920
EFEA				
Revenue volume	Thousand UAH	7675	14082	18256
Variable costs		5820	8890	10130

Marginal profit		1855	5192	8126
Share of FEA revenue in total revenue		0,43	0,34	0,34
Share of marginal profit from FEA in total marginal profit		0,31	0,26	0,28

Such rather negative dynamics with a slight improvement over the last year indicates a decline in export activity of the enterprise. Regarding the activities of LTD «Temp», we can see an increase in export volumes and total enterprise revenue over the analyzed period. Accordingly, there is an increase in the marginal profit from foreign economic activity. On the other hand, the share of marginal profit from foreign economic activity in the total amount of marginal profit decreased slightly in 2017, with its slight increase in 2018. With such fluctuations in the share due to the growth of the marginal profit from foreign economic activity, we can speak about the partial stabilization of the enterprise foreign economic activity. For all enterprises, which activities were analyzed, changes in marginal profit are proportional to changes in the volume of revenue from sales of products on foreign markets. Therefore, at first glance, it is advisable in this case to increase the volume of production and sales of products will affect the increase in profitability of enterprises. However, it is important to remember certain restrictions that are inherent in the export activities of each enterprise, such as situation on foreign markets, demand for products on foreign markets, products competitiveness, etc. Today, import dependence is a key threat to the economic security of the foreign economic activity of any enterprise and its economic security in general. A study of the enterprise foreign economic activity of indicated in the work showed that the latter mainly import components, raw materials and various parts for a production of their own products and are exported. Therefore, the analysis of import dependence is an important step in the process of assessing the level of economic security of foreign economic activity. The main indicator characterizing the import dependence of an enterprise is the share of imports in its total revenue, which must be calculated at this stage of assessing the level of economic security of foreign economic activity. Thus, table 2 presents the calculated indicators of foreign economic activity of the studied industrial enterprises.

**TABLE 2.**

*Indicators of foreign economic activity of the studied industrial enterprises*

Indicator	Year			
	2016	2017	2018	
<b>LLC «Atonmash»</b>				
Revenue volume (total)	Thousand UAH	88127	121912	88939
Total export volume		44316	45892	32153
Total import volume		23993	28553	25147
Marginal profit from FEA		17187	17384	9845
Import share in total revenue		0,27	0,23	0,28
<b>SE «Novator»</b>				
Revenue volume (total)	Thousand UAH	409998	673384	526449
Total export volume		152697	106396	102480
Total import volume		195800	253762	268350
Marginal profit from FEA		72547	51166	50155
Import share in total revenue		0,48	0,38	0,51
<b>LTD «Temp»</b>				
Revenue volume (total)	Thousand UAH	17780	41253	53240
Total export volume		7675	14082	18256
Total import volume		24113	38413	41174
Marginal profit from FEA		1855	5192	8126

Import share in total revenue	1,36	0,93	0,77
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As for import dependence, which is evidenced by the indicator “share of imports in total revenue”, we can say that low value is typical for LLC «Atonmash» and SE «Novator». For LTD «Temp» these indicators are high, which indicates its dependence of the production on imported raw materials, parts and other necessary materials. In such a situation, there are significant risks to the foreign economic activity for these enterprises. That is why an analysis of the dynamics of import operations and, in particular, the share of imports in total revenue will provide a more accurate, informative picture of the existing level of economic security of the enterprise foreign economic activity. Given the analysis of indicators (table. 2), we proposed a set of scenarios for achieving levels of economic security of foreign economic activity and the corresponding reaction to them from the enterprise management system (fig. 2).

Scenario	Criteria characteristics			Level of economic security of EFEA	Probability of realization of influence of destructive factors	Response of management system
	Revenue from FEA	Marginal profit from FEA	Share of imports in total revenue			
S1	↗	↗	↘	High	Low	State support
S2	↗	↘	↘	Acceptable	Average	Monitoring of deviations
S3	↘	↗	↘			
S4	↗	↗	↗	Critical	High	Improving resource management efficiency
S5	↗	↘	↗			
S6	↘	↗	↗			
S7	↘	↘	↘	Crisis	Full	Recovery from economic crisis
S8	↘	↘	↗			

**Fig. 2.** *Analysis of scenarios for achieving levels of economic security of foreign economic activity and the corresponding reactions from the management system*

The first scenario S1 (fig. 2) is characterized by an increase in the dynamics of revenue from foreign economic activity and marginal profit from foreign economic activity, as well as a decrease in the share of imports in the total revenue of the enterprise. This scenario corresponds to a high level of economic security of foreign economic activity and, accordingly, a low probability of the impact of destructive factors. It is clear that the reaction of the management system in this case is to maintain and support the existing level. However, even in such a scenario, it should be remembered that information and analytical support for the economic security of foreign economic activity is an ongoing process and it is necessary to maintain the current state and timely identify risks and threats, including for foreign economic activity either. Scenario S2 (fig. 2) is characterized by an increase in revenue from foreign economic activity, a decrease in marginal profit from foreign economic activity, and a decrease in the share of imports in the total revenue of an enterprise. Scenario S3 (fig. 2) provides for a decrease in revenue from foreign economic activity, an increase in marginal profit from foreign economic activity and a decrease in the share of imports in the total revenue of an enterprise. Scenario S5 corresponds to the critical level of economic security of foreign economic activity (Fig. 2) (increase

in revenue from foreign economic activity, decrease in marginal income from foreign economic activity and increase in the share of imports in total revenue). On reaching level in scenario S6 (fig. 2) (decrease in revenue from foreign economic activity, increase in marginal profit from foreign economic activity and the share of imports in the total revenue of the enterprise) or S7 (fig. 2) (decrease in all indicators in dynamics), there is a high probability of the occurrence of the negative impact of destructive factors. Such situation indicates certain problematic trends associated with export-import activities of the enterprise. However, for improving an efficiency of resource management and an existing potential of an enterprise, there is a possibility of increasing the level of economic security of foreign economic activity. According to scenario S8 (fig. 2), the enterprise is in a crisis level of economic security of foreign economic activity. When analyzing the indicators in dynamics, we observe: a decrease in revenue and marginal profit from foreign economic activity and an increase in the share of imports in the total revenue of the enterprise. Achieving this level indicate the significant negative trends in the foreign economic activity of an enterprise, the negative impact of destructive factors and the instability of activities in general. Immediate actions are required under such conditions to remove the enterprise from the crisis level. So, scenario S4 (fig. 2) corresponds to an increase in the dynamics of all indicators. These scenarios have an acceptable level of economic security for foreign economic activity. Moreover, there is a certain probability of the impact of destructive factors. Primary actions of a management system is to identify the reasons for reaching this level and taking measures to prevent the transition to a level that corresponds to the following scenarios.

#### 4 CONCLUSIONS

Thus, a consideration of the dynamics of such indicators as revenue from foreign economic activity, marginal profit from foreign economic activity and the share of imports in the total revenue of an enterprise allows to obtain reliable information about the actual level of economic security of the enterprise foreign economic activity and is the basis for the formation of high-quality management decisions in the field of economic security. The effectiveness of this technique is confirmed by its testing at Ukrainian enterprises. So, LLC «Atonmash», based on an analysis of indicators, had a high level of economic security of foreign economic activity in 2017. At the same time, there were positive tendencies proposed by us for assessing the level of economic security of foreign economic activity of indicators, which corresponded to scenario S1. And already in 2018, the C8 scenario was realized for the enterprise, in which LLC «Atonmash» was at a crisis level of economic security of foreign economic activity, in which all these indicators had negative dynamics. On the other hand, SE «Novator» was at a critical level in 2017, i.e. the S7 scenario was implemented for the enterprise for which the revenue from foreign economic activity, marginal profit from foreign economic activity and the share of imports in the total volume of enterprise revenue declined in dynamics. In 2018, similar to the previous enterprise, SE «Novator» was at a crisis level (scenario S8). In contrast to previous enterprises, LTD «Temp» had a high level of economic security of foreign economic activity both in 2017, and in 2018, as evidenced by the analysis of indicators in dynamics. Accordingly, the scenario S1 was implemented for this subject. So, the management of LLC «Atonmash» and SE «Novator» need to develop and implement the necessary measures to get enterprises out of the crisis level as soon as

possible. The failure to take the necessary measures in time can lead to significant economic losses in the short term and more serious ones in the long run. Thus, the proposed and tested at the enterprises valuation methodology provides sufficient analytical basis for making quality management decisions, and is an important component of the information and analytical tool for ensuring the economic security of foreign economic activity, which in modern conditions of the enterprise functioning requires effective improvement.

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