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# ASSESSING THE EFFECTIVENESS OF STATE POLICY FOR THE DEVELOPMENT OF SMALL AND MEDIUM-SIZED BUSINESSES: FINANCIAL ASPECT

## ABSTRACT

The main purpose of the article is a theoretical and methodological substantiation of the optimal choice of a modern strategy for implementing state policy for the development of small and medium-sized businesses in Ukraine. The object of the study is the development of small and medium-sized businesses. The subject of the study is the state policy for the development of small and medium-sized businesses in Ukraine. The scientific task posed in the article involves demonstrating a new approach to choosing the optimal strategy for implementing the state policy for the development of small and medium-sized businesses in Ukraine. The research methodology involves the use of various methods, including the expert analysis method, the paired comparison method, the Delphi method, the integral assessment method, the regression analysis method and a number of general theoretical methods, such as synthesis, deduction, abstract logical, etc. As a result of our research, we presented two models of optimal financial support for the development of small and medium-sized businesses in Ukraine. The calculation made it possible to select one that is most significant for modern conditions. An approach is proposed to assess the effectiveness of the development of small and medium-sized businesses through the calculation of an integral indicator of the effectiveness of the implementation of state policy for the development of small and medium-sized businesses. The study has limitations and does not take into account statistics for the last year in the calculation due to the lack of a number of indicators due to martial law. Prospects for further research are to focus on solving the problems of effectively countering modern financial threats and risks in the context of implementing state policy for the development of small and medium-sized businesses under martial law.

**Keywords:** financial support, financial assistance, small and medium-sized businesses, mathematical modeling, state management, planning, business and financial planning, choosing the optimal strategy

**JEL Classification:** C50, G18, M21, O20

## INTRODUCTION

Small and medium-sized businesses (SMSB) have always played a key place in the development of the national economy and made it possible to open both new jobs and strengthen its security in general. In almost any scientific study or report you can find phrases that SMSB are "a source of new jobs." It definitely is, but that's not its only advantage. The development of SMSB is also economic growth. In fact, due to SMSB (predominant in Ukraine in most leading sectors of the economy), it provides high economic activity and, as a result, growth and improvement of macro indicators. Another positive aspect is innovation and competition in the market. It is a well-known fact that competition stimulates the improvement of products and services. SMSB can develop on their own, but with corruption and strong pressure from a small, but still group of large enterprises, this is extremely problematic in certain industries. Effective government policy plays an important role in "levelling the odds in the market."

The relevance of research and evaluation of the effectiveness of the implementation of state policy for the development of SMSB, especially in conditions of martial law and

taking into account the financial aspect, is important for several reasons. First, it contributes to economic recovery and development after war damage, becoming a key factor in creating new jobs and increasing GDP. Secondly, SMSB can significantly improve the financial stability of the country by providing income streams for the population and increasing tax revenues to the state budget. These enterprises are also characterized by greater flexibility and the ability to quickly adapt to changing conditions, which is critical for effectively responding to wartime challenges. Their innovative potential can contribute to the modernization of the national economy and increase its competitiveness. In addition, the development of small and medium-sized enterprises (SMSE) is important for social stability, as it helps reduce unemployment and improve living standards in times of military conflict. Finally, diversifying the economy through different SMSE sectors reduces its dependence on one or a few large players or industries, which is especially important in difficult economic conditions. Therefore, analysis of the effectiveness of government policy in this area is necessary to develop and adjust strategies that can significantly improve the economic situation of the country. It is extremely difficult to find a single universal indicator that would show how effective modern government policy is in developing SMSB. It should be a set of indicators, and if strategy is key to this, the indicators should also include the financial aspect of the matter.

## LITERATURE REVIEW

Modern literature is constantly trying to offer new approaches to improving the development of SMSB around the world. At its core, the financial aspect of the development of SMSB is an international scientific and practical problem. It is considered at two levels at once: at the state level (government, state regulation, etc.), as well as at the level of specific SMSE.

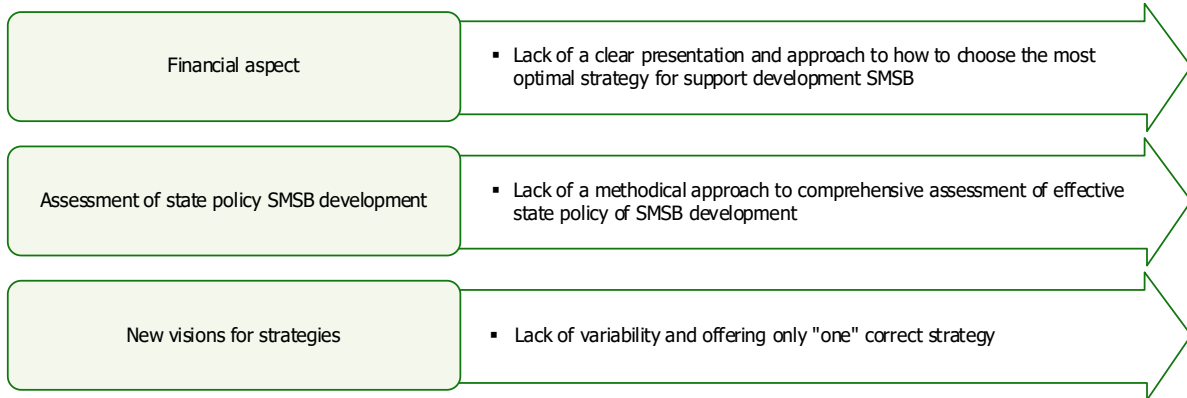
The work of Berger and Udell (2006) offered a more comprehensive conceptual view of SMSE financing that is fundamental to understanding the field. Vos et al. (2007) explore the "happy history of small business finance", highlighting the positive aspects of SMSE finance.

Benigno (2013) focuses on financial crises and macro-prudential regulation, which is important for understanding the impact of external shocks on SMSEs. Knedlik and von Schweinitz (2011) analyze macroeconomic imbalances as indicators of debt crises in Europe, which is important for studying the resilience of SMSEs in unstable economic conditions. A study by Raharja et al. (2022) analyzed the behavioural aspect of SMSE owners and its impact on financial decisions. This aspect is important for public policy, as understanding behavioural factors can contribute to the formation of more effective strategies to support SMSEs. A study by Dong and Men (2014) examines SMSE financing in developing countries in the context of firm characteristics, banking structure, and institutional conditions. It highlights how public policy can affect access to finance, which is critical for SMSE development. Al-Tit (2020) examines the factors that promote and inhibit the use of e-commerce in SMEs, as well as their impact on e-customer loyalty. This is important for public policy, as the integration of e-commerce can be a key element in stimulating the growth of SMSEs. Together, these studies emphasize the importance of understanding various aspects of the functioning of SMSEs for the development and evaluation of public policies aimed at supporting their development and financial health.

Pérez-Bustamante Ilander and colleagues (2016) focus on the impact of lifelong learning in SMEs by studying an industrial case that is important for the strategic development of SMSE. Lopez-Claros (2014) examines fiscal challenges after the global financial crisis, which is important for assessing the sustainability of SMEs in the post-crisis period.

Alazzam et al. (2023) develop an information model for e-commerce platforms, exploring contemporary socio-economic systems in the context of global digitization and legal compliance, which is relevant for understanding emerging trends in SMSE. Stasytyte and Aleksienė (2015) assess operational risk and its management in SMSEs, which is important for strategic planning and management in these enterprises.

Thus, it is possible to highlight key determinants related to the SMSB development: state policy, and financial support/security. Along with this, there are a sufficient number of gaps in the literature, which makes the problem of the development of SMSB incomplete (Figure 1).



**Figure 1. Key gaps in the literature regarding the development of SMSB.**

At the same time, despite interesting ideas and a large amount of scientific and practical attention, the issue of state policy for the development of SMSB with an emphasis on choosing the optimal strategy and proposing a new methodological approach to assessing the implementation of this entire process is becoming a novelty.

## AIMS AND OBJECTIVES

The main aim of the study is the theoretical and methodological substantiation of the optimal choice of a modern strategy for implementing the state policy for the development of SMSBs in Ukraine. The development of SMSB is the object of our study. In addition, during the research process we strive to solve the following tasks:

- to analyze the development of SMSB in Ukraine;
- to formulate the concept of state policy for the development of SMSBs in Ukraine;
- to look in detail at the key stages of the concept of state policy for the development of SMSBs in Ukraine, such as choosing the optimal strategy and assessing its effectiveness and efficiency.

## METHODS

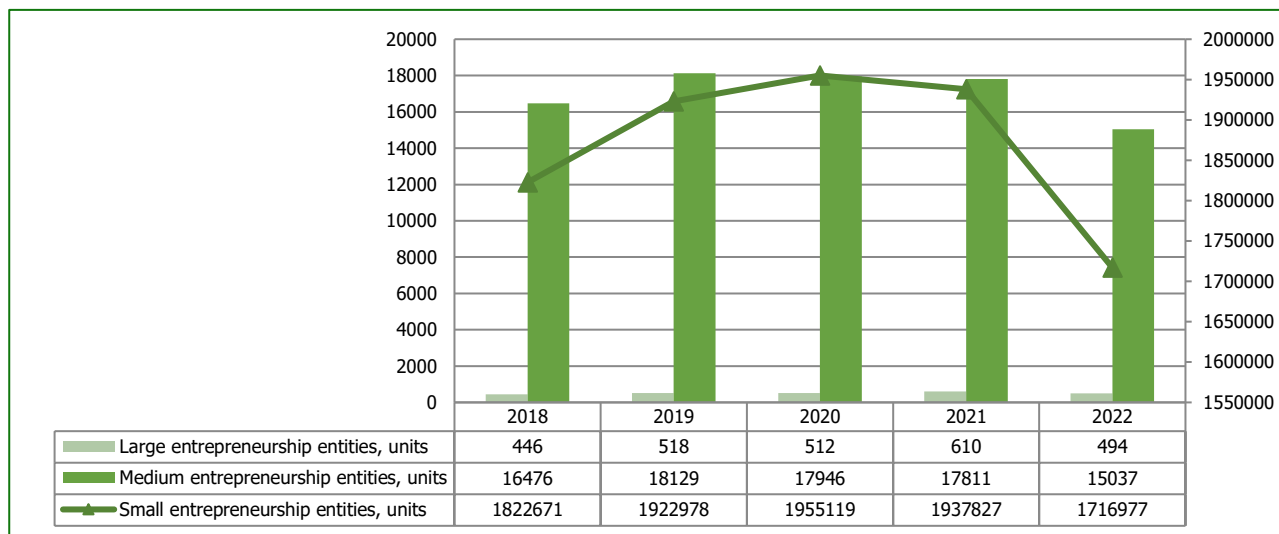
The methodology includes a variety of methods to better reveal the purpose and objectives of the article. In addition to general theoretical methods, such as analysis, synthesis, graphical, and abstract-logical, the article also uses more specific ones. Firstly, the method of expert analysis, which involves the involvement of experts and specialists from the SMSBs sector, government managers, and financiers (the entire analysis involved the use of an additional Delphi method for a better result), an opinion that allows us to understand which modern factors most significantly influence the choice strategies and their reasoning are taken into account when using another method, namely even comparison. The paired comparison method is an important tool in analytical and research disciplines, especially in evaluating and ranking different alternatives or options (in our case, strategies).

In addition, as part of the analysis stage and determining the level of effectiveness of the implementation of the current SMSB development plan, the regression modelling method was applied. For this purpose, the key indicator of the model is the integral indicator of the effectiveness of the state policy for the development of SMSBs. In accordance with the goals set, the integral assessment method was used. The integral assessment method is one of the approaches in the field of analytics used for a comprehensive assessment of objects based on multiple parameters or criteria. This method allows you to combine various indicators into a single integral indicator that reflects the general condition or quality of the object being assessed. A comprehensive assessment is focused on the selection of key indicators for determining the level of effectiveness of the implementation of the state SMSB development policy, with significant emphasis placed on financial indicators (their number is the largest).

## RESULTS

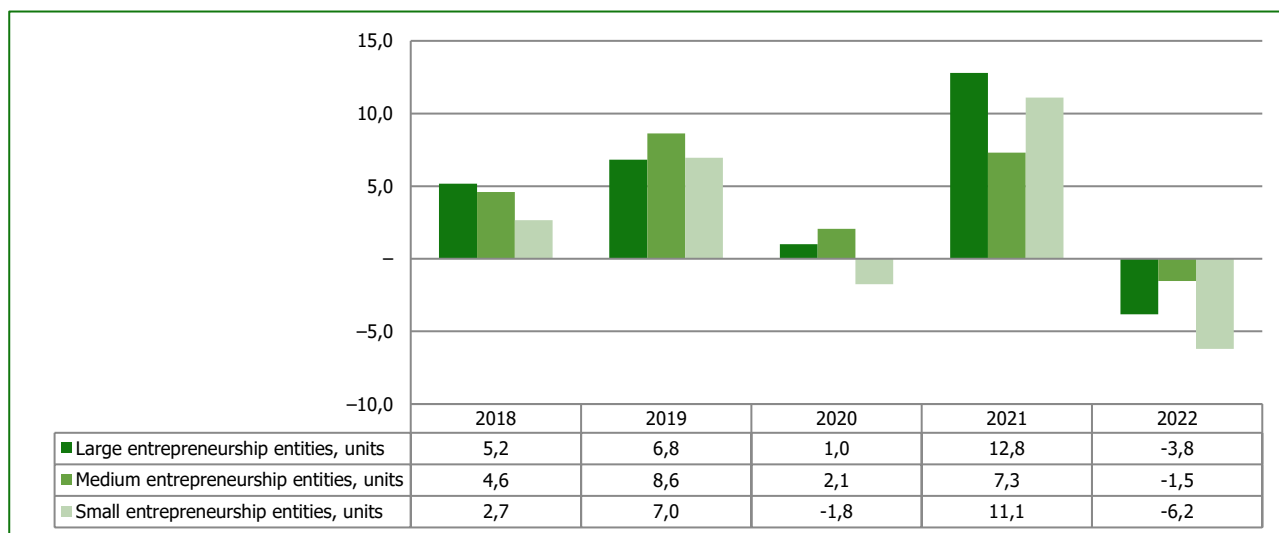
To date, the activity of SMSB is caused by significant problems and crisis situations. This affects not only its basic indicators but also its very survival. In such difficult conditions as martial law, not everyone will be able to withstand this kind of load

and stay in the market. In general, the business market in Ukraine is formed in such a way that it is dominated by small businesses, which are almost three times larger than others. In such a situation, it is not news why he needs support from the state, especially when it comes to finances (Figure 2).



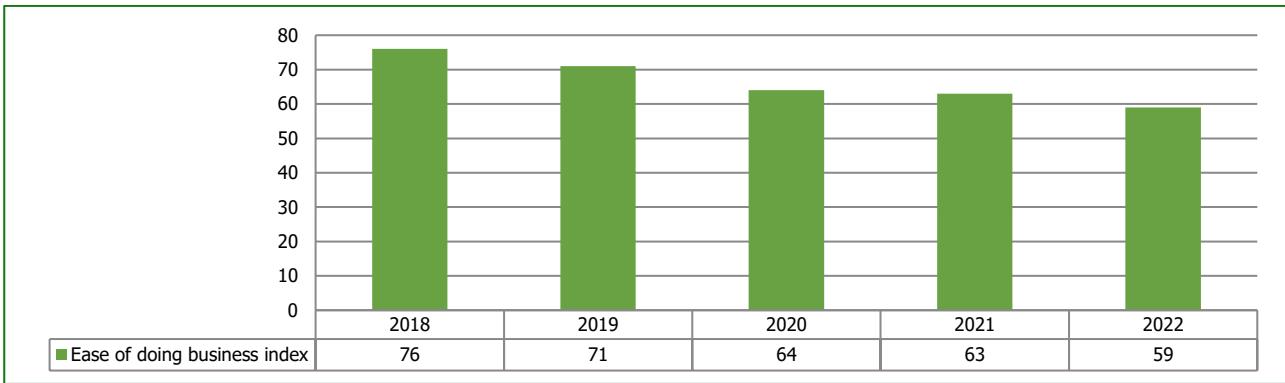
**Figure 2. Number of active entities of large, medium and small entrepreneurship by type of economic activity in 2018-2022.** (Source: formed by authors with data from *State Statistics Service of Ukraine, 2023*)

And what indicators can be well replaced in the most crisis years of 2020 and especially 2022. The number of enterprises is decreasing and the fact that the war will continue into 2023 with a potential extension into 2024 means that these figures and data will decline. Financial results also logically declined. Only the profitability indicator already shows a negative value in 2022. This proves the relevance of forming a plan for the development of SMSB in Ukraine focusing attention on the strategic approach of financial assistance to them in order to slow down the decline in all key indicators (Figure 3).



**Figure 3. Profitability of all activity of enterprises in 2018-2022, %.** (Source: formed by authors with data from *State Statistics Service of Ukraine, 2023*)

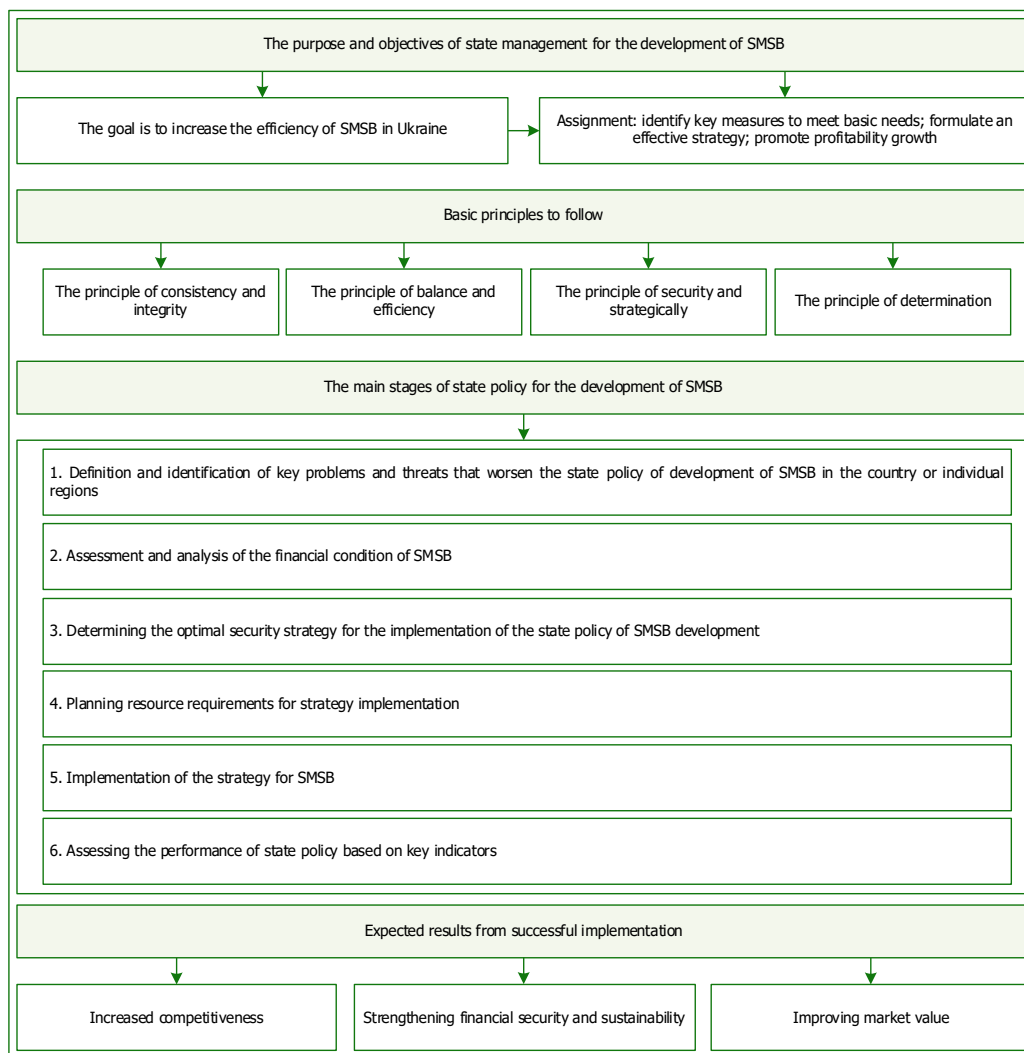
One of the interesting indicators demonstrating the state of capability for the development of SMSB is the "Ease of doing business index", which demonstrates how regulated business is in the country and what protection the state provides for it. In general, the higher, the better business development in the country. Ukraine initially showed really high results, but over time it began to decline, which is a negative trend (Figure 4).



**Figure 4. Ease of doing business index in Ukraine from 2018-2022.** (Source: formed by authors with data from *State Statistics Service of Ukraine, 2023*)

In general, the situation is worsening in terms of key indicators and even greater aggravations are possible in the future. Thus, there is a dire need for effective state policy for the development of SMSB in the current conditions under a state of war.

First, we will present the concept of modern state policy for the development of SMSBs in Ukraine, which will include several key elements, one of which is the creation of a qualitatively new strategy and assessment of the effectiveness of its implementation in this area (Figure 5).



**Figure 5. The concept of state policy of SMSB development in Ukraine.**

One of the main stages is choosing the optimal strategy. To do this, we present two possible strategies for the implementation of the state policy of SMSB development (Table 1).

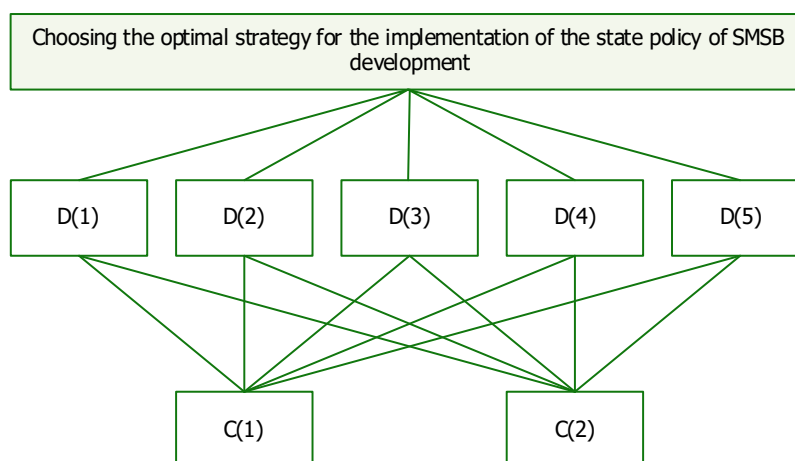
**Table 1. Strategies for the implementation of the state policy of SMSB development.**

Strategy for maintaining financial stability C(1)	Strategy for enhancing functioning C(2)
1. Conducting a constant and active search for ways to stimulate SMSB to joint activities with the state (partnership, etc.)	1. Emphasis on creating a security environment for the development of SMSB
2. Emphasis on government agencies which specialize in growth and development support of SMSB	2. Expansion of state institutions to support the development of SMSB
3. Implementation of only planned state SMSB development programs	3. Expansion of the infrastructure network
4. Assistance in the implementation of innovative projects	4. Expansion of the development of SMSB state programs
5. Planned direct financing of enterprises is provided	5. The state does not finance innovative projects if they do not relate to the country's defence capability
6. An already established system of benefits and preferences is in place	6. Direct financing is provided
	7. The state is expanding benefits and preferences but is not interested in partnerships with SMSB

A separate issue is the determinants that influence the choice of one of the strategies. For this purpose, experts (40 specialists on the formation of strategic business development, managers of SMSBs, government officials) in the field of finance and state policy were involved, and among the experts were heads of SMSE. Through surveys and analysis of their reasoning on the application of the Delphi Method, we determined the following list of determinants:

- D-(1). Negative demographic changes (mobilization, ageing population, migration, population decrease - decrease in the number of consumers).
- D-(2). Martial law (full-scale invasion of the Russian Federation and the severance of all market relations with it and the republic in Belarus).
- D-(3). Total digitalization (development of digital technologies, industry 5.0).
- D-(4). Disproportions in development opportunities between SMSB and large enterprises.
- D-(5). Structural economic transformations (reduction in the number of companies, decrease in personnel potential).

Next, a hierarchical analysis and pairwise comparison were carried out to identify which of the proposed strategies is most optimal today (Figure 6).



**Figure 6. Task hierarchy of choosing the optimal strategy for the implementation of the state policy of SMSB development.**

Next, possible alternatives should be assessed through the corresponding equality (1):

$$n*(n-1)/2 \tag{1}$$

where: *n* is the number of determinants at one level (in our case it is 5).

In order to compare, the opinion of experts is converted into a scale from 1 to 5 (when 1 is for determinants that are equal, and 5, one determinant absolutely significantly outweighs the other). Thus, a matrix of paired comparisons of the determined determinants affecting the choice of the optimal strategy is formed. Next, the sum of the elements (S) of the column of such a matrix is determined. The coefficient of agreement (CI) and the level of inconsistency (CR) are determined. The latter should not exceed 0.1 according to the pairwise comparison method. In our case, it is 0.02 (Table 2).

**Table 2. Matrix of pairwise comparison of determinants affecting the choice of the optimal strategy for the implementation of the state policy of SMSB development.**

D	D-(1)	D-(2)	D-(3)	D-(4)	D-(5)
D-(1)	Rank:1	Rank:1/2	Rank:1/3	Rank:3	Rank:2
D-(2)	Rank:2	Rank:1	Rank:1/2	Rank:3	Rank:4
D-(3)	Rank:3	Rank:2	Rank:1	Rank:4	Rank:5
D-(4)	Rank:1/3	Rank:1/3	Rank:1/4	Rank:1	Rank:2
D-(5)	Rank:1/2	Rank:1/4	Rank:1/5	Rank:1/2	Rank:1
S	0.2	0.3	0.4	0.1	0.1
CI=0.03		CR=0.02		K=5.1	

The next step is to compare the already proposed strategies for each of the identified determinants (2):

$$n*(m*(m-1)/2) \tag{2}$$

In this case, m is the number of alternatives (in our case, these are 2 possible strategies). Then everything follows a similar scenario (Table 3).

**Table 3. Matrix of paired comparisons of possible strategies to continue the development of certain determinants.**

D-(1)	C(1)	C(2)
C(1)	Rank:1	Rank:3
C(2)	Rank:1/3	Rank:1
S	0.7	0.3
D-(2)	C(1)	C(2)
C(1)	Rank:1	Rank:3
C(2)	Rank:1/3	Rank:1
S	0.75	0.25
D-(3)	C(1)	C(2)
C(1)	Rank:1	Rank:5
C(2)	Rank:1/5	Rank:1
S	0.8	0.2
D-(4)	C(1)	C(2)
C(1)	Rank:1	Rank:1/2
C(2)	Rank:2	Rank:1
S	0.3	0.7
D-(5)	C(1)	C(2)
C(1)	Rank:1	Rank:4
C(2)	Rank:1/4	Rank:1
S	0.8	0.2

Next, we select the optimal strategy for the development of SMSB through equality U(3):

$$U = \sum S_i * S_j; j=1.....m \tag{3}$$

Thus, the calculation results showed the following result: U1=0.6; U2=0.4. Thus, the strategy of preserving financial stability in the new plan for the development of SMSB will be optimal.

The key stage of any improvement process is the stage of conducting an assessment based on it; the plan can be adjusted, modified, etc. The regression modelling method will allow you to assess how effectively current state policy is being implemented. Let's build the following regression model:

Dependent variable:

- Y - growth in sales volumes of SMSB (in per cent).

Independent variables:

- X1 - the amount of financial assistance received by the business according to the selected strategy (in thousands of hryvnias);
- X2 - number of professional development trainings/seminars attended by business owners;
- X3 – integral indicator of the effectiveness of state policy of SMSB development.

The model can look like this (4):

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \tag{4}$$

where:  $\beta_0$  - constant representing the baseline level of sales growth when all independent variables are equal to zero;  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  - coefficients that show the effect of the relevant independent variables on sales growth;  $\epsilon$  - an error term that takes into account all other factors that may affect sales growth but are not included in the model.

It is important to understand that the so-called "Integral indicator of the effectiveness of state policy of SMSB development" has the greatest value here. We will apply the method of integral modelling and calculate it. For this, a certain set of indicators is required. In our opinion and the opinion of experts who were also involved, emphasis will be given to the financial group of indicators. We will group all indicators and characterize their essence and measurement (Table 4).

**Table 4. The essence of the selected groups of indicators for calculating the integral value of the effectiveness of state policy of the development of SMSB.**

Nº	Indicator	Economic content of the indicator
<i>Group of national-level indicators</i>		
1	Indicator of the measurement of the sector ( $I_{ms}$ )	$I_{ms} = SMSB_n$ SMSB <sub>n</sub> - Number of SMSB entities for the reporting period (units)
2	Indicator of the number of personnel workers in SMSB ( $NPW_{smsb}$ )	$NPW_{smsb} = NE_{smsb}$ NE <sub>smsb</sub> - The number of employees in the field of SMSB for the reporting period (thousands of people)
3	Indicator of sold products (SP)	$SP = SP_{smsb}$ SP <sub>smsb</sub> - The value of the volume of products sold by SMSB entities for the reporting period (billion UAH)
4	Profitability indicator (P)	$P = FR_{rp}$ FR <sub>rp</sub> - The value of the financial result obtained for the reporting period (million UAH)
5	Indicator of innovative activity (IA)	$IA = IA_{smsb}$ IA <sub>smsb</sub> - The number of innovatively active subjects of SMSB during the reporting period (units)
<i>Group of indicators by institutional and legal direction</i>		
6	Indicator of consistency of state policy in the sphere of SMSB development ( $CSP_{smsb}$ )	$CSP_{smsb} = NDP$ NDP - The ratio of planned regulations to the number of developed projects in the field of SMSB (%)
7	Indicator of tracking the effectiveness of state policy in the field of SMSB ( $TESP_{smsb}$ )	$TESP_{smsb} = PME_{smsb}$ PME <sub>smsb</sub> - The ratio of the number of reports on monitoring the effectiveness of regulatory acts to the number of regulatory acts in the sphere of SMSB (%)
<i>Group of indicators in the fiscal area</i>		
8	Indicator of actual financing of development programs of SMSB (FDP)	$FDP = PAF$ PAF - The ratio of the actual and planned amount of funding (%)
9	Indicator of tax pressure (TP)	$TP = GRTP_{smsb}$ GRTP <sub>smsb</sub> - The ratio of growth rates of tax payments to the number of SMSB entities (index)

(continued on next page)

Table 4. Continued

№	Indicator	Economic content of the indicator
<i>Group of indicators by financial direction</i>		
10	Indicator of the loan portfolio of SMSB ( $LP_{smsb}$ )	$LP_{smsb} = LPB_{smsb}$ $LPB_{smsb}$ - The volume of the loan portfolio of SMSB from banking institutions for the reporting period (million UAH).
11	Indicator of financing of innovative activities of SMSB ( $FI-A_{smsb}$ )	$FIA_{smsb} = IAF$ $IAF$ - Ratio of the volume of financing of innovative activities from own funds to the volume from credit funds (%)
12	The average interest rate on loans for SMSB ( $AIL_{smsb}$ )	$AIL_{smsb} = PRLP_{smsb}$ $PRLP_{smsb}$ - The average interest rate on loans provided to SMSB in Ukraine for the reporting period (%)
13	Indicator of long-term loans provided for the development of SMSB ( $ILTLP_{smsb}$ )	$ILTLP_{smsb} = LTL_{lp}$ $LTL_{lp}$ - Ratio of the volume of long-term loans to the total volume of the loan portfolio (%)
14	Indicator of the cost of concluded financial leasing agreements by SMSB ( $CFL_{smsb}$ )	$CFL_{smsb} = CFL_{ia}$ $CFL_{ia}$ - Variety of concluded financial leasing agreements for the reporting period (UAH billion)
<i>Group of indicators in the infrastructure area</i>		
15	Indicator of the number of objects of infrastructural support for the development of SMSB ( $IS_{smsb}$ )	$IS_{smsb} = NO_{smsb}$ $NO_{smsb}$ - Number of objects (units)
16	Performance indicator of the research sector in supporting of SMSB ( $SS_{smsb}$ )	$SS_{smsb} = RW_{is}$ $RW_{is}$ - Ratio of the volume of research work performed to the number of institutions in the field of supporting the development of SMSB (million UAH)
<i>Group of indicators in the information direction</i>		
17	Indicator of provision of information and on-site consulting services of state support for the SMSB ( $I_{pi}$ )	$I_{pi} = SP_v$ $SP_v$ - Volumes of services provided (units)
18	Indicator of the number of information events held in the sphere of development of SMSB ( $I_{ie}$ )	$I_{ie} = E_n$ $E_n$ - Number of events (units)

For an illustrative example, a real calculation of the integral indicator was carried out according to the defined groups of indicators. The data for the calculation was from the period 2017-2021, since in 2022, under martial law, not all data were published, but this is not a problem for visual work of a methodical approach. Having calculated the value for each indicator, the data should be standardized properly (5):

$$\delta^s = P_i / P_{max}; \delta^d = P_{min} / P_i \quad (5)$$

where:  $\delta^s$  – relative assessment of the indicator, which is a stimulant;  $\delta^d$  – relative assessment of the indicator, which is a disincentive;  $P$  is the value of the indicator for the reporting period; min/max – maximum/minimum value for the analyzed period.

The results of the standardization of indicators for an assessment of the efficiency of the state policy of the development of SMSB for 2017-2021 are shown in Table 5, and we will present immediately determined integral indicators for each group.

**Table 5. Standardized Value Matrix in the period 2019-2021.**

Nº	Indicator	2017	2018	2019	2020	2021
<i>Group of national-level indicators</i>						
1	Indicator of the measurement of the sector ( $I_{ms}$ )	0.7	0.7	0.8	0.9	0.8
2	Indicator of the number of personnel workers in SMSB ( $NPW_{smsb}$ )	0.42	0.44	0.54	0.57	0.7
3	Indicator of sold products (SP)	0.8	0.87	0.8	0.77	0.7
4	Profitability indicator (P)	0.8	0.53	0.2	0.37	0.6
5	Indicator of innovative activity (IA)	0.95	0.91	0.9	0.4	0.47
<i>Group of indicators by institutional and legal direction</i>						
6	Indicator of consistency of state policy in the sphere of SMSBs development ( $CSP_{smsb}$ )	0.6	0.7	0.8	0.7	0.6
7	Indicator of tracking the effectiveness of state policy in the field of SMSB ( $TESP_{smsb}$ )	0.3	0.3	0.3	0.4	0.5
<i>Group of indicators in the fiscal area</i>						
8	Indicator of actual financing of development programs of SMSB (FDP)	0.8	0.6	0.3	0.27	0.3
9	Indicator of tax pressure (TP)	0.45	0.41	0.9	0.15	0.26
<i>Group of indicators by financial direction</i>						
10	Indicator of the loan portfolio of SMSB ( $LP_{smsb}$ )	0.9	0.6	0.4	0.5	0.5
11	Indicator of financing of innovative activities of SMSB ( $FIA_{smsb}$ )	0.1	0.19	0.2	0.17	0.16
12	The average interest rate on loans for SMSB ( $AIL_{smsb}$ )	0.47	0.6	0.3	0.3	0.2
13	Indicator of long-term loans provided for the development of SMSB ( $ILTLP_{smsb}$ )	0.46	0.5	0.2	0.31	0.19
14	Indicator of the cost of concluded financial leasing agreements by SMSB ( $CFL_{smsb}$ )	0.29	0.27	0.42	0.17	0.1
<i>Group of indicators in the infrastructure area</i>						
15	Indicator of the number of objects of infrastructural support for the development of SMSB ( $IS_{smsb}$ )	0.3	0.3	0.37	0.4	0.3
16	Performance indicator of the research sector in supporting of SMSB ( $SS_{smsb}$ )	0.53	0.8	0.33	0.12	0.23
<i>Group of indicators in the information direction</i>						
17	Indicator of provision of information and on-site consulting services of state support for the SMSB ( $I_{pi}$ )	0.44	0.54	0.69	0.9	0.8
18	Indicator of the number of information events held in the sphere of development of SMSB ( $I_{ie}$ )	0.7	0.75	0.8	0.84	0.72

It is calculated from the coefficient of the significance of indicators for each group with the help of experts who determine this level of importance according to the corresponding rank (for this, the concordance coefficient is additionally used to determine the degree of consistency and if the concordance value is higher than 0.5, consistency exists (6):

$$W = (12 \cdot S) / (m^2(n^3 - n)) \quad (6)$$

where  $m$  – its number of experts (in our case its 40);  $n$  – the number of indicators in each group;  $S$  – the sum of squared deviations.

In our case, for each group indicators were consistent: 0.81; 0.73; 0.83; 0.87; 0.88; 0.76; 0.82). Next, the value of the coefficient is multiplied by the standardized value of the indicator for each group (7):

$$I_{g1} = CW_1 \cdot P_{1s} + CW_2 \cdot P_{2s} + \dots + CW_n \cdot P_{ns} \quad (7)$$

We present the results of the integrated indicator for each group in the Table. 6.

**Table 6. The value of the integral indicator by specified groups in the period 2019-2021.**

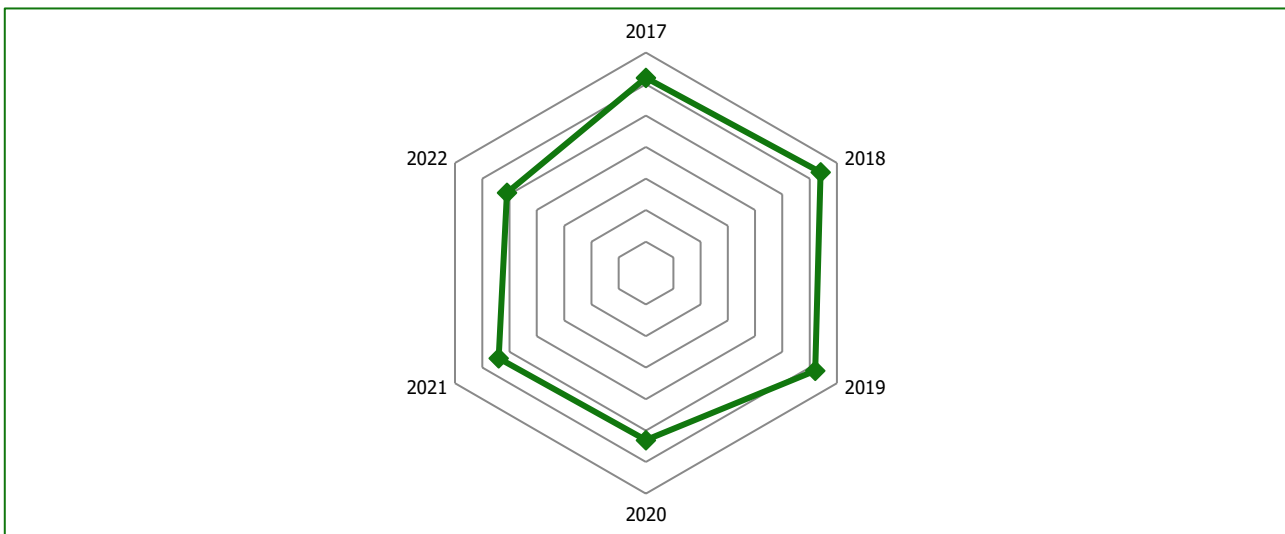
№	Groups	2017	2018	2019	2020	2021
1	Group of national-level indicators	0.68	0.58	0.45	0.49	0.43
2	Group of indicators by institutional and legal direction	0.53	0.55	0.56	0.61	0.56
3	Group of indicators in the fiscal area	0.56	0.67	0.73	0.7	0.54
4	Group of indicators by financial direction	0.68	0.7	0.56	0.57	0.53
5	Group of indicators in the infrastructure area	0.59	0.73	0.63	0.59	0.56
6	Group of indicators in the information direction	0.72	0.79	0.88	0.98	0.95

Therefore, the integral indicator of the effectiveness of the state policy of the development of SMSB should be presented as a weighted average of the integral components for each group (8):

$$I_f = \sqrt{I_{g1} * I_{g2} * I_{g3} * I_{g4} * I_{g5} * I_{g6}} \quad (8)$$

Thus, in our case, the indicator is almost always in the range of 0.51-0.7, that is, according to the scale, it is a critical level, that is, there are clear signs of problems and obstacles according to the group of national indicators. For the effective development of SMSB, a strategy is needed that will improve profitability and innovative activity (Figure 7).

To increase the profitability and innovative activity of SMSB, government policy can focus on creating a favourable business environment, which includes a number of interrelated initiatives. One of the key steps is to ensure access to finance through specialized loan programs and guarantees that reduce the risks for banks and other lenders in financing SMSEs.



**Figure 7. Change of the value of the integral performance indicator of state policy for the development of SMSB for the period 2017-2021.**

The calculation of the integral indicator involves the formation of a methodological approach and key stages and an example of calculation. Its use serves as an effective complement to an understanding of the results demonstrated by the system of state policy for the development of SMSB.

## DISCUSSION

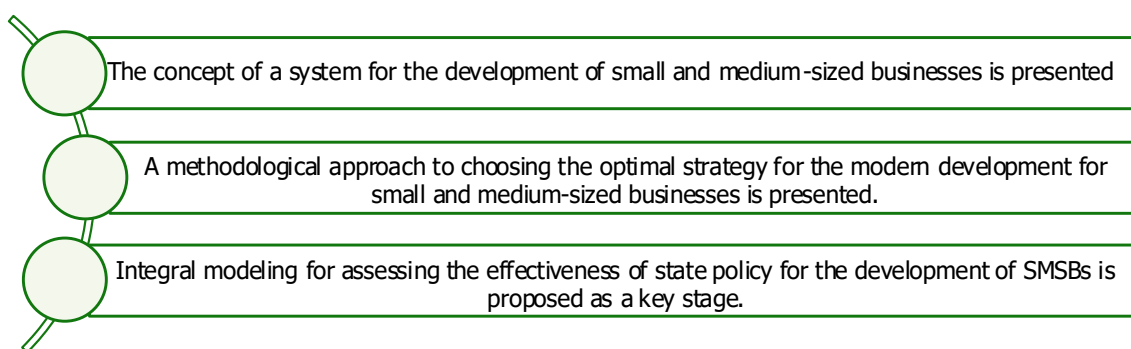
Discussing the results obtained by us, we should highlight how they differ from similar and others. For example, Kundid, (2011) and Radzivil (2011) presented modern approaches to financing SMSB. They substantiated the issue of legal support for ensuring the financial security of SMSE. Instead, in our research, we focus on the integral indicator of the effectiveness of the implementation of the state policy of SMSB development, which is an innovation in the context of the emphasis on

financial indicators, and also on the fact that, unlike other scholars, we conducted an expert survey using the Delphi method.

Dias, (2014) and Homolka, (2017) presented a state management plan to achieve cooperation between large enterprises and SMSB. This planning also provided for the formation of a strategy and took into account possible financial risks. At the same time, our study adds a new dimension to this topic by analyzing strategies at the state level, not just business-to-business interactions.

Li, (2016) and Neuberger, (2014) focus on innovation in the implementation of financial support for the development of SMSB. Our work offers a methodical approach with a possible solution option, which provides a system for choosing the optimal strategy in which the emphasis is placed on the financial component in the conditions of SMSB development.

In general, we would like to highlight three key results that characterize the innovativeness of our research (Figure 8).



**Figure 8. Key results obtained during the research in the article**

Our research includes a variety of modern methods and approaches to modelling, allowing us to show what the modern development of SMSB can look like and how the implementation of all planned activities can be assessed through an integral performance indicator.

## CONCLUSIONS

As a result of the study, we presented the author's vision of the concept of state policy for the development of SMSB in Ukraine. The key step is to select the optimal implementation strategy. The proposed methodological approach to choosing a strategy included identifying modern factors included in a variable that can be adapted to current conditions, and conducting paired comparisons, based on the results of which one of two options was selected. To assess the effectiveness of its implementation in the context of the implementation of the master plan for the development of SMSB, a regression model is proposed, the key indicator of which is the integral indicator of the effectiveness of the state policy for the development of SMSB. The calculation presented as an example shows that the weight of financial indicators has the greatest weight.

We calculated the integral indicator and proposed an approach to its calculation. Its integral value is in the range of 0.51-0.7, that is, on the scale, it is a critical level, that is, there are clear signs of problems and obstacles. They are especially available for the group of financial indicators and innovative activity of SMSBs. To solve identified problems in the field of finance and the innovative activity of SMSBs, public policy can focus on the creation of specialized funds or credit programs aimed at facilitating access to finance for SMSBs. It is also possible to introduce tax incentives for enterprises that invest in research and development, technology and innovation, which will contribute to increasing their competitiveness. An important part of the policy should be to support education and training for entrepreneurs and SMSB employees to improve their management, finance and marketing skills. In addition, simplification of bureaucratic procedures and reduction of administrative burden will allow SMSB to use its resources more effectively for business development and innovation. The financial aspect of assessing the effectiveness of state policy for the development of SMSBs is an integral assessment that focuses on analyzing and measuring the impact of state policy on the development of SMSBs. In this context, the financial aspect suggests that most indicators focus on financial performance.

The study has limitations and does not take into account statistics for the last year in the calculations due to the absence of some indicators due to martial law. At the same time, we are limited territorially, which requires taking into account the specifics of government policy and the state of development of SMSB only for Ukraine. Unfortunately, we cannot say that

our results can be highly effective for other countries. At the same time, despite the completion of the study, there are many guidelines for further scientific developments. Particular attention should be paid to researching the effectiveness of various forms of financial assistance, such as grants, tax incentives and soft loans for the development of SMSBs, as well as creating new comprehensive models that take into account various factors. including economic context, industry characteristics, regional differences, etc.

## ADDITIONAL INFORMATION

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### CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

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## ОЦІНЮВАННЯ ЕФЕКТИВНОСТІ ДЕРЖАВНОЇ ПОЛІТИКИ РОЗВИТКУ МАЛОГО Й СЕРЕДЬОГО БІЗНЕСУ: ФІНАНСОВИЙ АСПЕКТ

Основною метою дослідження є теоретико-методичне обґрунтування оптимального вибору сучасної стратегії реалізації державної політики розвитку малого й середнього бізнесу в Україні. Об'єктом дослідження є розвиток малого й середнього бізнесу. Предметом дослідження є державна політика розвитку малого й середнього бізнесу в Україні. Наукове завдання передбачає демонстрацію нового підходу до вибору оптимальної стратегії реалізації державної політики розвитку малого й середнього бізнесу в Україні. Методологія дослідження передбачає застосування різноманітних методів, серед яких метод експертного аналізу, метод парного порівняння, метод Дельфі, метод інтегрального оцінювання, метод регресійного аналізу та ряд загальнотеоретичних методів, таких як синтезу, дедукції, абстрактно-логічний тощо. У результаті проведеного дослідження представлено дві моделі оптимальної фінансової підтримки розвитку малого й середнього бізнесу в Україні. Проведене обчислення дозволило вибрати більш вагомий для сучасних умов. Запропоновано підхід до оцінювання ефективності розвитку малого й середнього бізнесу через розрахунок інтегрального показника ефективності реалізації державної політики розвитку малого й середнього бізнесу. Дослідження має обмеження й не враховує під час обчислення статистичних даних за останній рік через відсутність ряду показників внаслідок воєнного стану. Перспективами для подальших досліджень є зосередження уваги на вирішенні проблем ефективної протидії сучасним фінансовим загрозам і ризикам у контексті реалізації державної політики розвитку малого й середнього бізнесу в умовах воєнного стану.

**Ключові слова:** фінансова підтримка, фінансова допомога, малий і середній бізнес, математичне моделювання, державне управління, планування, бізнес-планування, вибір оптимальної стратегії

**JEL Класифікація:** C50, G18, M21, O20