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SYNTHETIC INDICATORS OF QUALITY OF LIFE: EVALUATION OF THE EFFECTIVENESS OF UKRAINE'S ECONOMIC POLICY

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Abstract. This paper examines the effectiveness of Ukraine's economic policies through the lens of quality of life and argues for the adoption of a minimal set of evaluation criteria, ideally a single composite criterion, to optimise policy evaluation. Despite ongoing efforts to identify such criteria, the study introduces a novel approach by using synthetic indicators of quality of life as the basis for evaluation. This approach is particularly relevant in the context of Ukraine's post-war recovery and its aspirations towards European Union integration. These conditions require the adoption of economic policies that meet European standards of quality of life and facilitate the necessary reforms. Such policies are crucial for improving the living conditions of the Ukrainian population and facilitating the return of refugees after Ukraine's victory over Russia, the aggressor country. This study develops a methodology that uses synthetic indicators of quality of life as a system of criteria to assess the effectiveness of Ukraine's economic policy. The research involves a cross-country analysis of data from seven EU Member States and Ukraine, and the construction of regression models that link the determinants of state economic policy to several indicators: population quality, welfare, social quality, and a comprehensive synthetic indicator – quality of life. The obtained results confirm the hypothesis about the key parameters of the state economic policy as determinants of improving the quality of life of Ukrainian citizens. In addition, the analysis of the dynamics of synthetic indicators of the quality of life in Ukraine and their determinants makes it possible to identify priority areas of economic policy aimed at improving these indicators, which will contribute to the overall efficiency of Ukraine's economic policy.

Keywords: efficiency of economic policy in Ukraine, quality of life indicators, policy evaluation criteria, econometric regression models, determinants of economic policy.

JEL Classification: C50, I31, P51

1. Introduction

The effectiveness of a country's economic policies is usually assessed using a mix of economic and social criteria. These criteria are interrelated and interdependent, highlighting the complexity of policy evaluation. In practice, it is desirable to use a minimal set of evaluation criteria – ideally a single consolidated criterion. However, the identification of such criteria remains an ongoing challenge. Among various approaches, the concept of quality of life emerges as a particularly relevant framework for evaluating Ukrainian economic policy. This study aims to explore the practical application of this approach, particularly in the context of Ukraine's economic landscape shaped by ongoing war and aspirations for European Union membership.

The question naturally arises as to how the results of this study may affect the quality of life of Ukrainian citizens, especially at a time when the country has been at war for three years. People strongly believe in Ukraine's ultimate victory. The post-war recovery of the national economy and Ukraine's movement towards membership in the European Union require the development and implementation of economic policies that meet European standards of quality of life. Such a policy is essential not only for advancing the necessary reforms, but also for improving the quality of life of Ukrainian citizens, thereby facilitating the

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repatriation of refugees after the war with Russia, the aggressor country.

The main goal of this study is to develop a methodology that uses Synthetic Indicators of Quality of Life (SIQL) as a systematic criterion for assessing the effectiveness of Ukraine's economic policy. Achieving this goal involves solving several specific tasks:

1. To determine the composition of SIQL as a comprehensive system for assessing the effectiveness of the state economic policy.
2. To identify a priori sets of explanatory variables (parameters) related to economic policy for each SIQL in the analysed EU Member States and Ukraine.
3. To build regression models to study the causal relationships between the identified SIQLs and the parameters of the state economic policy and to select relevant determinants from these a priori sets.
4. To analyse the dynamics of Ukraine's SIQL and the determinants of economic policy in order to determine the level of problematisation of the SIQL and to identify priority areas of economic policy aimed at improving these indicators, which will contribute to the efficiency of Ukraine's economic policy.

This paper is structured in such a way as to methodically discuss the results of solving these tasks, ensuring logical consistency and careful consideration of the research objectives.

2. Literature Review

The concept of "quality of life" has been widely applied in economic research by both international and Ukrainian scholars, such as S. Aivazjan (2016), D. Gandhi (2019), M. Rojas (2011), B. Havrylyshyn (2009), E. Libanova (2013) and L. Cherenko (2023). This concept also features prominently in the assessments of international organisations. For example, UN specialists use the Human Development Index to assess global economic development, with the latest data ranking Ukraine 100th out of the countries monitored (Human Development Reports, 2023/2024). In addition, the Institute for Management Development provides insights into global competitiveness for more than 60 countries, using "quality of life" as a key indicator (IMD World Competitiveness Online, 2024). The international Numbeo project also contributes by annually ranking European countries in terms of quality of life, with Ukraine ranked 35th out of 36 countries in mid-2024 (Numbeo, 2024).

The International Society for Quality-of-Life Studies (ISQOLS) publishes Applied Research in Quality of Life, a journal that disseminates research with direct relevance to the practical application of quality-of-life research in areas such as public administration (Rojas, 2011; Shek, 2023). These publications help policy makers to adopt performance measurement and outcome evaluation methods that focus on "well-being" and "quality of life".

Furthermore, the role of the "quality of life" indicator as a criterion for assessing the effectiveness of economic development was highlighted in a report by the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz, 2009). The report criticises the reliance on Gross Domestic Product (GDP) as a measure of development, arguing that GDP may not accurately reflect the economic experience of most citizens.

In Ukraine, the approach to measuring and assessing quality of life is described in an analytical report by specialists from the Ptoukha Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine (Libanova, 2013). This report, prepared with the support of the United Nations Development Programme in Ukraine, highlights the theoretical foundations and conceptual approaches to measuring quality of life in Ukraine. It notes that the measurement and evaluation of the effectiveness of government policies to improve the quality of life can be based on the analysis of composite indicators in a temporal (retrospective) or spatial (inter-territorial) context. In the first case, the impact of economic policies on quality of life can be assessed by tracking changes in certain parameters during the implementation of programmes at national and regional levels. In the spatial context, differences in quality of life between countries and regions can be identified in order to set benchmarks for the implementation of national and regional economic policies (Libanova, 2013). Therefore, an important goal of applied research using quality of life measurement tools can be the evaluation of the effectiveness of economic policies implemented in the state.

The analysis of the world and national experience in the construction and practical use of composite indicators of quality of life shows, on the one hand, a variety of approaches to the construction and interpretation of these indicators, and, on the other hand, the existence of unresolved issues in this area. These include the following:

– Determination of a system of comprehensive quality of life indicators and partial criteria, including parameters of state economic policy that adequately characterise latent signs of quality of life. Partial criteria may include both statistical indicators and expert assessments.

– Development of comprehensive quality of life indicators based on aggregation of partial criteria into one indicator. Notably, almost all considered methodologies (see, for example, Aivazjan, 2016; Libanova, 2013; Puskorius, 2015) involve combining

partial criteria $x^{(1)}, x^{(2)}, \ldots, x^{(p)}$ – statistically recorded indicators and expert assessments) using a linear function *f*:

$$f\left(x^{(1)}, x^{(2)}, \ldots, x^{(p)}\right) = \sum_{j=1}^{p} w_j x^{(j)}, \quad (1)$$

where the weights $w_j \left(j = 1, 2, \ldots, p\right)$ are determined subjectively by experts or with the help of factor analysis, in particular the principal components method. Sometimes, the function *f* is constructed by calculating the geometric mean of partial criteria.

– Development of methodological foundations for selecting a relatively small number $p'(p' < p)$ of partial criteria from the a priori set of partial criteria $x^{(1)}, x^{(2)}, \ldots, x^{(p)}$, which play a key role in forming the values of the single composite quality of life indicator. It is about the formation of reduced (a posteriori) sets of partial criteria, which in this case fully characterise the latent features of quality of life.

These problematic tasks aimed at assessing the effectiveness of the economic policy of the state, including Ukraine, are insufficiently studied in the scientific economic literature and require further research.

3. Research Methodology

In this article, the methodology for constructing composite indicators of quality of life based on specific computational functions (see function (1)) is not discussed, as it was discussed in previous studies (Aivazjan, 2016; Libanova, 2013; Puskorius, 2015). Instead, this study uses well-established synthetic indicators of quality of life to assess the effectiveness of Ukraine's economic policy. The authors seek to determine how the values of these SIQL *y* depend on the determinants $x^{(1)}, \ldots, x^{(p')}$, which characterise the reduced sets of explanatory variables that determine the economic policies of the analysed EU Member States and Ukraine. In this context, the explanatory variables $x^{(1)}, \ldots, x^{(p')}$ are considered potential factors influencing the analysed outcomes *y*, and may be the objects of regulation when evaluating the effectiveness of state economic policy.

The purpose of this study is to test the hypothesis that there are key parameters of state economic policy that significantly affect the quality of life of Ukrainian citizens. This hypothesis does not claim to be original, but is closely related to the main problems of this study.

In solving the third task of this study – building regression models – a combination of backward and forward regression methods was used. These methods allowed to iteratively select and refine the set of explanatory variables that determine the determinants of state economic policy. Adjustments to this set were made within a narrow range of adjusted *R*-squared values to ensure reliability without compromising interpretability. When such refinements led to a more consistent interpretation of the synthetic quality of life indicators, the new adjusted set of determinants was adopted as the final model.

To fulfil the fourth task of the research, a comprehensive analysis of the dynamics of Ukraine's synthetic indicators of quality of life and their determinants was carried out. In addition, the authors compared Ukraine's performance with that of seven EU Member States included in the study. A decline in the Ukrainian SIQL from its previous values, coupled with a worsening position in the rankings relative to the other EU Member States, highlights a significant level of concern regarding this indicator. This situation indicates what is known as a high degree of problematisation of the SIQL. Conversely, a consistent improvement in the SIQL relative to past values within Ukraine suggests that the current policies contributing to these positive trends are effective and should be continued.

The central question that guided this aspect of the study is as follows: How can an analysis of the dynamics of Ukraine's SIQL and the determinants of economic policy help to determine the degree of SIQL problematisation and to identify the priority areas of Ukraine's economic policy that are critical for improving SIQL scores and, consequently, the effectiveness of Ukraine's economic policy?

The choice of data sources for this study was influenced by accessibility issues caused by the COVID-19 pandemic and the ongoing war in Ukraine. Therefore, to gather the necessary data, a number of reputable and widely recognised databases and reports were relied upon:

– International Institute for Management Development

The authors used the global competitiveness database provided by IMD World Competitiveness Online, which contains comprehensive data on the competitiveness of national economies.

World Bank

This paper uses data from the World Governance Indicators, which can be found in the World Bank's annual reports. These indicators provide valuable information on the effectiveness and stability of governance.

– World Data Atlas

This resource offers a number of economic and social indicators that are critical to the analysis.

– United Nations Development Programme

The authors consulted the UN Human Development Reports, which are important for measuring broad development outcomes, including quality of life.

– Eurostat

The section "Statistics Explained – Quality of Life Indicators" provided by Eurostat was important for

comparing EU Member States and understanding the broader context of quality of life in the region.

These sources provided a reliable basis for the analysis, providing a comprehensive assessment of synthetic indicators of quality of life in the context of the effectiveness of Ukraine's economic policy.

The datasets used in the study cover the period from 2010 to 2019. The analysis focuses on Ukraine and seven neighbouring countries that either border Ukraine or were formerly part of the Soviet Union and are now members of the European Union. These countries are Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Poland.

4. Results and Discussion

The findings of the study are discussed within the framework of the four objectives previously outlined in the introduction. This structured approach ensures a comprehensive analysis and interpretation of the results in accordance with the objectives of the research.

4.1. Results and Discussion of Task 1

Figure 1 illustrates the hierarchical system of synthetic quality of life indicators and the determinants of state economic policy. The figure presents the results of an econometric analysis exploring the relationships between a system of synthetic quality of life indicators and various sets of explanatory variables relating to the state's economic policy.

As depicted in Figure 1, the SIQL system at the second level of aggregation, which encapsulates latent features of quality of life, comprises five key indicators: quality of population, welfare of population, quality of the social sphere, quality of the environment, and natural-climatic conditions. The present analysis is primarily concerned with the interdependencies of the first three indicators, namely population quality, population welfare and quality of the social sphere, in relation to the determinants of state economic policy. Furthermore, the analysis is extended to the highest-level synthetic indicator, namely the overall quality of life, in order

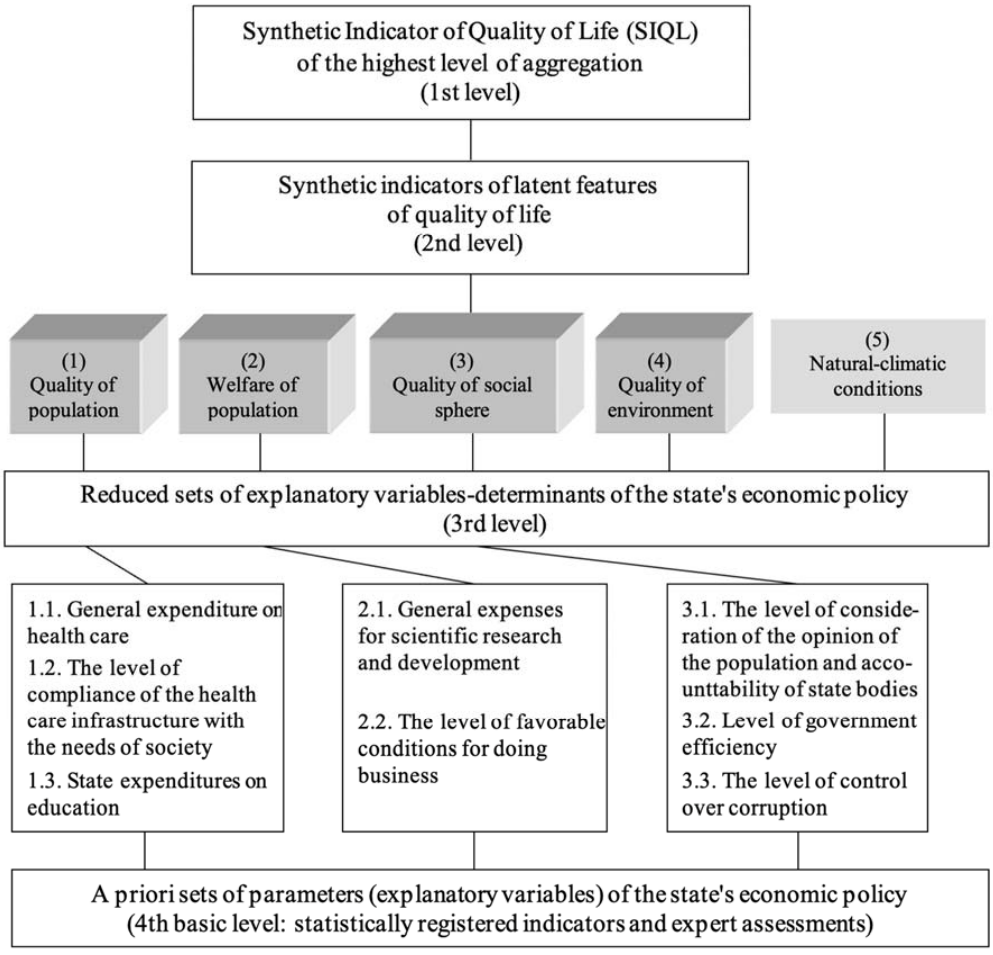

Figure 1. Hierarchical system of synthetic indicators of quality of life and determinants of the state economic policy
Source: compiled by the authors on the basis of (Aivazjan, 2016)

to provide a broader perspective on the impacts of economic policy.

It is crucial to emphasise that the synthetic indicators of quality of life can be calculated using the values derived from the first principal component, which is constructed from a predefined set of statistical indicators and expert assessments. Nevertheless, as demonstrated by the research conducted by S. Aivazjan (2016), the results of this method are largely consistent with those obtained by utilising the values of the most correlated partial criterion in place of the first principal component values. This finding suggests that more straightforward and direct measurements may yield comparable insights into quality of life, thereby streamlining the analytical process while maintaining the accuracy of the results.

Therefore, the following system of synthetic quality of life indicators is used:

– *Quality of population* – measured by the Human Development Index in fractions of one (hereafter referred to as $y^{(1)}$);

– *Welfare of population* – measured in USD in terms of gross domestic product per capita (GDP (PPP)), taking into account the purchasing power parity of currencies (hereafter referred to as $y^{(2)}$);

– *Quality of social sphere* – measured by the Social Progress Index as a combined indicator on a 100-point scale (hereafter referred to as $y^{(3)}$);

– *Quality of life* – the highest-level synthetic indicator, measured as the geometric mean of the first three indicators $y^{(1)}$, $y^{(2)}$, and $y^{(3)}$ (hereafter referred to as $y^{(4)}$).

4.2. Results and Discussion of Task 2

The second objective of the study was to comprehensively present the economic policy parameters of the analysed EU Member States and Ukraine. Each synthetic indicator of quality of life was combined with a priori sets of explanatory variables. This process resulted in a priori sets consisting of 21 policy parameters, as described in detail in the work of Artemenko (2021).

It is important to note that while most of the variables analysed in this study are measured on a 10-point scale, with zero being the least favourable outcome and ten being the most favourable, some variables are measured on different scales. In addition, some variables show a non-monotonic dependence on the analysed SIQL, which adds complexity to the analysis and interpretation of the data. In other words, there exists an optimal value x_{opt} between x_{min} and x_{max}, at which the highest quality is achieved. According to the recommendations of S. Aivazjan (Aivazjan, 2016), in order to convert such a variable x, measured on an arbitrary scale, into a 10-point scale, it is necessary to apply a certain transformation to this variable by moving to the variable $\tilde{x}$ using the formula:

$$\tilde{x} = \left[1 - \frac{\left|x - x_{\text{opt}}\right|}{\max\left\{\left(x_{\text{opt}} - x_{\min}\right), \left(x_{\max} - x_{\text{opt}}\right)\right\}}\right] \cdot 10, \quad (2)$$

where $x_{\min}$, $x_{\max}$, and x_{opt} are the minimum possible, maximum possible, and optimal (in the sense of measuring this variable) values, respectively.

For the analysed variables that are measured in other scales and require unification of these measurement scales (2), the minimum, maximum and optimal values are given in the article by O. Artemenko and V. Artemenko (Artemenko, 2021). Here, x_{min} and x_{max} were taken as the minimum and maximum values, respectively, among all values of this variable for the analysed countries. As x_{opt}, the average value of this indicator was used for three EU Member States that are leaders in the analysed synthetic indicator of the latent quality of life.

4.3. Results and Discussion of Task 3

To identify the determinants of state economic policy for the analysed synthetic indicators of quality of life, the authors developed regression models using the STATISTICA software package. The results of these models are presented in Tables 1-4.

In Tables 1-4, the coding of variables is standardised for clarity. Each variable, including any standardised variables, is identified by a superscript. This superscript corresponds to the variable identification number in the corresponding table to ensure consistency

Table 1

Regression Summary for SIQL $\tilde{\hat{y}}^{(1)}$ with Selected Determinants

	Regression Summary for Dependent Variable *y*1 (NQL-EPS-unif_y4) R=0,7509, R^2=0,5639, Adjusted R^2=0,5525, F(2,77)=49,773, p<0,0000, Std.Error of estimate: 0,2259					
N=80	Beta	Std.Err. of Beta	B	Std.Err. of B	t(77)	p-level
Intercept.			7,426	0,099	74,366	0,0000
*x*2	0,448	0,077	0,112	0,019	5,858	0,0000
*x*6	0,527	0,077	0,075	0,011	6,886	0,0000

Table 2

Regression Summary for SIQL $\hat{\tilde{y}}^{(2)}$ with Selected Determinants

	Regression Summary for Dependent Variable *y*2 (NQL-EPS-unif_y4) R=0,7957, R^2=0,6332, Adjusted R^2=0,6237, F(2,77)=66,461, p<0,0000, Std.Error of estimate: 1,5896					
N=80	Beta	Std.Err. of Beta	B	Std.Err. of B	t(77)	p-level
Intercept.			-11,841	1,616	-7,329	0,0000
*x*7	0,240	0,071	0,345	0,103	3,352	0,0012
*x*10	0,699	0,071	2,264	0,231	9,781	0,0000

Table 3

Regression Summary for SIQL $\hat{\tilde{y}}^{(3)}$ with Selected Determinants

	Regression Summary for Dependent Variable *y*3 (NQL-EPS-unif_y4) R=0,9823, R^2=0,9649, Adjusted R^2=0,9641, F(2,77)=1060,7, p<0,0000, Std.Error of estimate: 0,0809					
N=80	Beta	Std.Err. of Beta	B	Std.Err. of B	t(77)	p-level
Intercept.			6,591	0,038	171,683	0,0000
*x*18	0,349	0,049	0,088	0,013	7,043	0,0000
*x*21	0,656	0,049	0,146	0,011	13,257	0,0000

Table 4

Regression Summary for SIQL $\hat{\tilde{y}}^{(4)}$ with Selected Determinants

	Regression Summary for Dependent Variable *y*4 (NQL-EPS-unif_y4) R=0,9515, R^2=0,9054, Adjusted R^2=0,9029, F(2,77)=368,52, p<0,0000, Std.Error of estimate: 0,5899					
N=80	Beta	Std.Err. of Beta	B	Std.Err. of B	t(77)	p-level
Intercept.			-6,038	0,603	-10,018	0,0000
*x*10	0,573	0,039	1,357	0,093	14,621	0,0000
*x*17	0,545	0,039	0,523	0,038	13,911	0,0000

and ease of reference to the documented results. For example, $\tilde{y}^{(1)}$ is denoted as *y*1, $x^{(2)}$ as *x*2, and so on.

Thus, regression models can be represented by the equations (3)-(6).

The regression model for the synthetic indicator of population quality, which includes the two selected determinants, is determined by the formula:

$$\hat{\tilde{y}}^{(1)} = 7,426 + 0,112x^{(2)} + 0,075\tilde{x}^{(6)}, \quad (3)$$

where $x^{(2)}$ represents the level of adequacy of healthcare infrastructure to societal needs; $\tilde{x}^{(6)}$ represents government expenditure on education a s a percentage of GDP.

The regression model for the synthetic indicator of the population's well-being, which includes the two selected determinants, is determined by the formula:

$$\hat{\tilde{y}}^{(2)} = -11,841 + 0,345\tilde{x}^{(7)} + 2,264\tilde{x}^{(10)}, \quad (4)$$

where $\tilde{x}^{(7)}$ represents total expenditures on research and development as a percentage of GDP; $\tilde{x}^{(10)}$ represents the level of favorable conditions for doing business.

The regression model for the synthetic indicator of the quality of the social sphere, which includes the two selected determinants, is determined by the formula:

$$\hat{\tilde{y}}^{(3)} = 6,591 + 0,088\tilde{x}^{(18)} + 0,146\tilde{x}^{(21)}, \quad (5)$$

where $\tilde{x}^{(18)}$ represents the level of government effectiveness; $\tilde{x}^{(21)}$ represents the level of control over corruption.

The regression model for the synthetic indicator of the highest level, the quality of life, with the selected determinants of economic policy is determined by the formula:

$$\hat{\tilde{y}}^{(4)} = -6,038 + 1,357\tilde{x}^{(10)} + 0,523\tilde{x}^{(17)}, \quad (6)$$

where $\tilde{x}^{(10)}$ represents the level of favorable conditions for doing business; $\tilde{x}^{(17)}$ represents the level of political stability and absence of violence/terrorism.

It should be noted that models (3)-(6) were built on the basis of available data. The analysis of the values of the coefficients of determination R^2 and its adjusted value R^2_{adj}, the *F*-statistic, the *t*-statistic,

and the significance level *p-level* (see Tables 1-4) leads to the conclusion that the linear regression models (3)-(6) adequately describe the relationships between the analysed data.

4.4. Results and Discussion of Task 4

Considering the results of the analysis of the dynamics of the identified Ukrainian SIQL and the determinants of economic policy, it is possible to determine the degree of SIQL problematisation and the priority areas of economic policy aimed at improving SIQL values and thus increasing the effectiveness of Ukraine's economic policy.

The logic of solving this task assumed that one already knew the SIQL $y_{it}^{(l)}$ and certain determinants $x_{it}^{(j)}$, which are the values of the corresponding SIQL l and determinant j for the analysed country i in year t ($l=1,2,3,4$; $j=2,6,7,10,17,18,21$; $i=1,2,\ldots,8$; $t=1,2,\ldots,10$ – covering the years 2010-2019).

It should be noted that according to recommendations S. Aivazjan (2016), the authors distinguished between *auto-dynamics* (changes in the values of the analysed indicator $y_t^{(l)}$ and $x_t^{(j)}$, which characterize Ukraine in different years) and *inter-state dynamics* (changes in Ukraine's position among other states). An assessment of Ukraine's interstate dynamics was made based on its position (rank $r_t\left(y^{(l)}\right)$) or $r_t\left(x^{(j)}\right)$) among the analysed EU Member States considering the synthetic indicator $y^{(l)}$ or the value of the determinant $x^{(j)}$.

The results of the analysis of the dynamics of the Ukrainian SIQL and the determinants of economic policy are presented in Table 5. Here, in each row, the left number indicates the numerical value of the variable, and the right one (after the slash) – the rank (ordinal position) of Ukraine among the analysed countries.

Based on the data presented in Table 5, it is clear that both the synthetic indicators of the quality of life in Ukraine and the determinants of economic policy have been consistently kept at an extremely low level throughout the analysed period. Moreover, the data did not show any significant positive dynamics.

From this analysis, it was possible to identify the degree of problematisation associated with the Ukrainian SIQL. This assessment has also helped to identify the priority areas within Ukraine's economic policy that require urgent attention. Improvements in these areas are critical not only for improving SIQL scores, but also for increasing the overall effectiveness of Ukraine's economic strategies.

In particular, the following directions are discussed:

1. Analysis of the auto- and inter-state dynamics of the synthetic indicator of quality of population $\tilde{y}_t^{(1)}$ indicates that Ukraine consistently ranks last among the 8 compared countries. The determinants $x^{(2)}$ and $\tilde{x}^{(6)}$ did not show any positive trends. To remedy this situation, it is necessary to focus on the priority areas of economic policy regulation in Ukraine in the areas of health care and education, which are outlined in equation (3).
2. According to the results of the auto- and inter-state dynamics of the synthetic indicator of welfare of population $\tilde{y}_t^{(2)}$, Ukraine also holds the position of an outsider. The two determinants, total expenditures on research and development $\tilde{x}^{(7)}$ and the level of favourable conditions for doing business $\tilde{x}^{(10)}$, also place Ukraine in the outsider position. Therefore,

Table 5

Dynamics of Ukrainian synthetic indicators of quality of life and their determinants (all values of variables are given on a 10-point scale)

Variable	Variable value / Ukraine's rank among analysed states									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
$\tilde{y}^{(1)}$	7,6/8	7,6/8	7,6/8	7,7/8	7,7/8	7,7/8	7,7/8	7,7/8	7,7/8	7,8/8
$\tilde{y}^{(2)}$	0,0/8	0,2/8	0,3/8	0,3/8	0,4/8	0,1/8	0,2/8	0,4/8	0,6/8	0,7/8
$\tilde{y}^{(3)}$	7,0/8	7,0/8	7,1/8	7,2/8	7,2/8	7,2/8	7,2/8	7,2/8	7,2/8	7,2/8
$\tilde{y}^{(4)}$	0,8/8	2,2/8	2,47/8	2,66/8	2,71/8	1,9/8	2,3/8	2,7/8	3,1/8	3,5/8
$x^{(2)}$	1,9/8	1,5/8	1,4/7	6,8/1	6,0/1	1,9/8	1,9/8	2,2/8	2,3/7	2,7/8
$\tilde{x}^{(6)}$	0,8/8	3,2/8	1,2/8	1,2/7	4,4/7	6,0/7	8,0/5	6,4/8	6,4/8	6,8/8
$\tilde{x}^{(7)}$	3,4/4	2,9/7	3,0/7	3,0/7	2,5/7	2,3/7	1,7/7	1,6/8	1,5/8	1,6/8
$\tilde{x}^{(10)}$	4,1/8	4,5/8	4,6/8	5,0/8	6,0/8	6,2/8	6,4/8	6,5/8	6,8/8	6,9/8
$\tilde{x}^{(17)}$	4,6/8	4,4/8	4,2/8	2,1/8	0,6/8	0,5/8	0,7/8	0,7/8	0,6/8	0,9/8
$\tilde{x}^{(18)}$	2,4/8	2,1/8	3,2/8	3,1/8	4,0/8	3,5/8	3,2/8	3,5/8	3,9/8	4,0/8
$\tilde{x}^{(21)}$	1,6/8	1,6/8	1,3/8	1,1/8	1,5/8	1,5/8	2,1/8	2,2/8	1,8/8	2,6/8

Source: compiled by the authors

state management bodies should consider the priority areas of state economic policy aimed at increasing the values of determinants $\tilde{x}^{(7)}$ and $\tilde{x}^{(10)}$, as defined in equation (4).

3. The analysis of the dynamics of the synthetic indicator of the quality of the social sphere $\tilde{y}_t^{(3)}$ indicates strong outsider positions for Ukraine in this indicator as well. For determinants such as the level of public voice and accountability ($\tilde{x}^{(16)}$), the level of government effectiveness ($\tilde{x}^{(18)}$), and the level of control over corruption ($\tilde{x}^{(21)}$), Ukraine firmly occupied outsider positions and did not show any positive trends during 2010-2019. Thus, the government should focus on the following priority areas of economic policy aimed at increasing the importance of these determinants.

4. According to the results of the auto- and inter-state dynamics of the highest-level synthetic indicator of quality of life $\tilde{y}^{(4)}$, presented in Table 5, Ukraine consistently ranks last. To remedy this situation, it is necessary to apply the priority directions of economic policy regulation in Ukraine as defined in equation (6). This concerns the improvement of favourable conditions for doing business ($\tilde{x}^{(10)}$) and the level of political stability and absence of violence/terrorism ($\tilde{x}^{(17)}$).

5. Conclusions

The results obtained provide for two general conclusions.

First, the authors' hypothesis – in line with the main focus of the study – that there are certain parameters of state economic policy that are crucial determinants of improving the quality of life of Ukrainian citizens was confirmed. Using the econometric analysis presented in Figure 1, seven determinants out of 21 explanatory variables in the set of state economic policy parameters were identified. These determinants are as follows:

– The level of adequacy of existing healthcare infrastructure to societal needs ($x^{(2)}$);
– government expenditure on education as a percentage of GDP ($x^{(6)}$);
– total expenditure on research and development as a percentage of GDP ($x^{(7)}$);
– the level of favourable conditions for doing business ($x^{(10)}$);
– the level of political stability and absence of violence/terrorism ($x^{(17)}$);
– the level of government effectiveness ($x^{(18)}$);
– the level of control of corruption ($x^{(21)}$).

Second, the analysis successfully addressed the critical question of how the examination of the dynamics of Ukrainian SIQL and the factors influencing economic policy sheds light on the extent to which these SIQL are a source of concern. Furthermore, it helps to identify the key areas of economic policy that are vital for enhancing the values of these SIQL, thereby improving the overall effectiveness of Ukraine's economic policy. The results show that the effectiveness of Ukraine's economic policy can be significantly improved by focusing on the following priority areas:

– Improving the adequacy of existing healthcare infrastructure to societal needs;
– increasing government expenditure on education as a percentage of GDP;
– increasing total expenditure on research and development as a percentage of GDP;
– enhancing the level of favourable conditions for doing business;
– improving the effectiveness of government operations;
– strengthening control over corruption;
– enhancing political stability and the absence of violence/terrorism.

Promising areas for further research include the following:

– Extension of the parametric family of regression models. Currently, only linear regression models were used in this study. Future research will explore a broader parametric family that includes non-linear models to potentially capture more complex relationships in the data.
– Improvement of the analysed variables. The authors seek to expand the range of synthetic indicators of quality of life and parameters of state economic policy analysed in this research (as shown in Figure 1). Such an expansion will allow for a more comprehensive assessment of the factors affecting the quality of life.
– Increasing the data sample. To increase the reliability and applicability of the results, the authors plan to expand the data sample to include additional EU Member States that share basic characteristics with Ukraine, such as geographic location, resource base, and economic size.

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