

## Article

# Industrial-Innovative Paradigm of Social Sustainability: Modeling the Assessment of Demoethical, Demographic, Democratic, and Demoeconomic Factors

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**Abstract:** The article presents an analysis of tools for influencing the sustainable development of regions, considering their industry specifics, as well as ways to influence socioeconomic growth. The purpose of the article is to model the assessment of demoetic, demographic, democratic, and demoeconomical factors as the basis of the industrial and innovative paradigm of social sustainability. Achieving sustainability is possible only along the vector of harmony through the systemic combination  $4D = “D + 3D”$ , namely, demoethics and demography, democracy, demoeconomy. Analysis of the existing processes of development and harmonization of society is implemented in the example of Kazakhstan. Research methods include integral analysis for ranking regions and correlation and regression modeling to assess the impact of factors on the process of sustainable development of society in a particular territory. The article hypothesizes that the creation of conditions for the development of the main regional industry will stimulate its sustainable and harmonious socioeconomic growth and provide the necessary level for the process of social harmonization. The findings show that the proposed approach made it possible to identify harmonious and disharmonious factors in the development of the region and to identify tools for influencing the process of sustainable development of society to increase the level of harmonious socioeconomic development of a particular region.

**Keywords:** sustainable development; harmonization of society; socioeconomic development; demotics; demography; democracy; demoeconomics



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## 1. Introduction

The article presents an analysis of tools, influencing the sustainable development of regions, considering their industry specifics and ways to influence socioeconomic growth. The purpose of the article is to model the assessment of demoethic, demographic, democratic, and demoeconomical factors as the basis of the industrial and innovative paradigm of social sustainability. Demoethics is the basis since spirituality and morality are basic for the association of demography, democracy, and demoeconomics. Ethical issues related to the relationship between what should be and what is, which directly relates to the behavior of groups that carry out state and public administration, and the perception and assessment of this behavior by citizens. The modern concept of the development of society suggests that spirituality is the basis of a new scenario for the development of society and its relationship with nature, and the integration of demographic and economic components in system-wide modeling [1–3].

Modern realities make it possible to expand the conceptual apparatus of economic research. Therefore, in the context of the humanization of society, it is suggested to conduct studies of dynamic changes regarding the relations of subjects, in the performance

of their socioeconomic functions. We need to consider the influence of external and internal factors on the principles of stability and harmonious integrity as two paradigms of society development.

Sustainability and harmony are complementary characteristics of the proposed assessment of the development of society and the territory as a whole [4,5]. Sustainable development and harmonization of society are complementary and interdependent categories [6,7].

The category of “sustainable development” is the subject of many scientists’ research. Related concepts that reveal this category are “stability”, “efficiency”, and “balanced socio-natural development”. The concept of sustainable development should be considered in parallel with the concept of the harmonious development of society and economy based on a systematic combination of four “D + 3D”: demoethics, demography, democracy, and demoeconomy. Sustainable development should lead to the socioeconomic harmonization of society. The unstable nature of the development of social relations results in disharmony in all areas of “D + 3D”.

We are based on studies of sustainable development and its economy along the harmony vector through the systematic combination of all “D + 3D” (demoethics, demography, democracy, and demoeconomy) based on spirituality and morality, where each D should be a harmonious component. The significance of this issue is shown based on the ideas of the interrelation of the four spheres of social life, functioning synchronously and contributing to the approximation of society and its economy to social harmony [8]: “D + 3D”—spirituality, demography, democratization, and economic activity, we introduce new concepts of “demoethics” and “demoeconomy”. Let us reveal their essence: “demoethics” is the moral and ethical state of society (the population of the territory and the people as a whole at the state level), and “demoeconomy” is a socially oriented economy that allows the reproduction of the fundamental values of society (the population of the territory and the people as a whole at the state level).

Economic growth is a measure of state economic policy. All countries strive to increase and step up the rate of economic growth by any means, which sometimes leads to disharmony in the development of society and economy. The state policy aimed at the sustainable development of society should be formed based on the harmonious development of society. The state policy should consider the tools of influence as the fundamental paradigm of the quality of life in the framework of the components (demoethics, demography, democracy, demoeconomy) affecting the efficient use and combination of economic, scientific, technical, social, and environmental components.

The analysis of the categories “sustainable and harmonious development of society”, considering the new features of demoethics, demography, democracy, and demoeconomy is justified by the problem of social inequality and fair distribution of resources in market conditions to attain a prosperity of the population and meet social needs. Modeling the assessment of the “D + 3D” factors’ influence on the process of sustainable development of society allows for solving the most important socioeconomic issues of regional development, considering their peculiarities, and specifics.

Analysis of the development and harmonization of society is implemented in the example of Kazakhstan. In 2019, the Address of the Head of the State K. Zh. Tokayev to the people of Kazakhstan, the section “A new stage of social modernization” noted that the country’s budget should be focused on sustainable economic development and solving social problems [9]. A new economy is being formed, i.e., industries with a high share of intangibles, human capital, information, communication technologies, education, science, and intellectual services (consulting) [10–12]. The synergetic relationship between technology, business practices, and economic policy leads to a rapid increase in productivity, and income, a decrease in unemployment, and moderate inflation [13]. The distinctive features of the new economy are dynamics, innovations, network economy [14], science, and mass customization. The nature of the upcoming changes is comprehensive [15]. Despite this fact, a sustainable economy is an ideal that countries aspire to. These circumstances determine

the significance of this study, which addresses the issues of sustainable development and harmonization of society.

This article aims to study society with the definition of the process of harmonization of all its four “D” spheres. To solve this problem, it is proposed to analyze the state of socioeconomic development of society and provide a justification for the relationship “D + 3D”. We examined in detail the area of influence of each component of the four Ds in different regions of Kazakhstan. Thus, we determine the way and the real possibility of the harmonious development of society both socially and economically. In this natural way, disharmony itself is displaced, being replaced by harmony and prosperity for the whole society and each individual as well.

## 2. Literature Review

Sustainable development affects the process of social harmonization, as it is oriented to overcome human activity in disharmony with nature. In this regard, research in the field of “green economy” [16–18], ecological culture [19–21] and economic culture [22–24], and rational consumption of resources [25–27] are of particular importance.

The economic development of the region and economic growth are not always able to harmonize society. As a rule, the economic policy of the regions, accompanied by economic growth, does not conform to the laws of social harmonious development. Economic, social, and environmental components should form the concept of the sustainable and harmonious development of society. Finding the “golden mean” between the harmonization of society and the level of economic development is a significant and urgent problem.

Today, sustainable development is significant according to the laws of conservation and self-regulation of the biosphere. This requirement is consistent with the opinion of Kh.A. Barlybayev, who considers the philosophical issues of sustainable development [28,29] and defined sustainability as “the life of mankind as an integral part of the life of the biosphere, creates a worldview of harmonizing human relations with nature” [30].

The issues of sustainable development of society are considered at all levels of government. State policy should be primarily aimed at the sustainable development of society, as well as the sustainable development of all sectors of the national economy, socioeconomic development, increasing GDP, achieving full employment of the population, and raising its standard of living, rational use of resources and provision of public goods to the population.

Currently, the term “sustainable development” is mostly used in the socioeconomic aspect of public relations development and the purposeful process of managing socioeconomic systems. These systems ensure the stability of ties, elements, and structure of the system in increasing the quality of life, considering the rational use of resources. These issues highlighted the relevance of the theory of sustainable development and harmony between society and the economy [30].

Stable social evolution in the direction of harmony is aimed at saving modern civilization from degradation. We proceed from the assumption that the main conditions for stable social evolution are the spiritual and moral foundations, the synthesis of spiritual and scientific knowledge. However, the fulfillment of these conditions without appropriate research is problematic.

The ideas of sustainable development found their development in the countries of Western Europe in the 17th century. At that time, industrial production was actively beginning to develop and the issues of rational use of resources and the increasing needs of society were of particular relevance. The English philosopher John Evelyn pointed out that forests in England are disappearing and they need to be restored [31]. Hans Karl von Karlowitz put forward the idea of sustainable development in the work “Forest Economy” and argumentatively showed the need for a “sustainable” type of forest management: people should not cut more wood than they grow [32]. These ideas of resource conservation, their reasonable use, conservation, and care for them are raised in several modern studies [33–35].

The category of “sustainable development” became widespread in 1987 through the prism of environmental impact, when the report of the UN World Commission on Environment and Development “Our Common Future”, known as the Brundtland Report, was published.

Sustainable development is the subject of scientific research and political discussions. The current sustainability rules are based on political, social, and scientific interactions. However, time and social processes adjust this interaction and pose challenges to the concept of sustainability [36–38]. This investigation is based on the definition of sustainability proposed by the International Commission on Environment and Development: “Sustainable development is the development that meets the needs of society, the present without compromising the ability of future generations to meet their own needs” [39]. The concept of “sustainable development” officially gained acceptance in the scientific world in 1992 at the Summit of Heads of State and the UN Conference on Environment and Development, held in Rio de Janeiro. The representatives of 179 countries recognized that the world is in an unstable state.

The Vice President of the Russian Academy of Sciences, academician V.A. Koptug, gives the following definition: sustainable development is a model of the social development in which the basic vital needs of both the current and all subsequent generations are met [40].

L.I. Abalkin [41] considers the sustainability of the national economic system in its security, stability, and ability to constantly update and improve itself. N.A. Potekhin [42] believes that the sustainable development of the entire population of a country and civilization is possible based on innovative socioeconomic formation. This formation involves the use of a qualitatively new scientific, methodological basis, and theory of personnel training, principles of creating tools, means of production, products, food, and services. Innovative socioeconomic formation based on qualitatively new systems and technological modules—kinetronic super technologies (KST). The new technology provides multiple growths in social labor productivity and reduction in costs per unit of production, environmentally friendly production, a high level of quality of life, and comfortable living conditions for all members of society during working and free time [42].

A.D. Ursul studied the informatization of society in unity with the socioeconomic and environmental problems of mankind on the way to a model of civilized development. Within the framework of this study, A.D. Ursul considered sustainable development as “a guided systemically balanced socio-natural development which does not destroy the environment and ensures survival and safe, indefinitely long existence of mankind” [43]. Nobel laureate in Economics (2009), Elinor Ostrom, investigated the public regulation of property for sustainable development of the territory. Elinor Ostrom highlights the principles that contribute to successful cooperation in resource management, which are aimed primarily at the collective management of effective and conflict-free economic entities of collective communities—ranging from communes and villages to small towns and cooperatives [44]. Ostrom considers sustainable economic development, not in the globalization of the world economy, but human survival and improving the quality of life in harmony with nature, and the development of direct communication between participants in the distribution of shared resources in the process of self-organization.

Recently, international researchers of sustainable development have been developing tendencies to “anthropologize” the characteristics of the economic activity of an enterprise and a person living according to high spiritual and moral laws. This tendency allows bearing social responsibility in society, which makes it possible to determine the socioeconomic vector of sustainable harmonious development about future generations.

In 2012, L.M. Semashko and 75 co-authors from 26 countries published the book “The ABC of Harmony: for World Peace, Harmonious Civilization and Tetratet Thinking” [45]. Nonetheless, this book does not contemplate the economic laws of harmony. Harmony and social well-being are interrelated concepts that characterize both the economic well-being of individuals and their social well-being [46–48].

The following studies are the closest to this study since they regard harmony and disharmony in a particular structure from different points of view. A. Bryman in the article “Leadership and Corporate Culture: Harmony and Disharmony” cites the results of research focused on the study of management, where the idea of “leadership” holds an important place, a connection with various performance indicators [49]. D. Ori recognized harmony and disharmony as key factors in building coordinated and uncoordinated relationships in an organization, between businesses. D. Ori believes that the state between these two factors can be considered either by its presence (the so-called alignment) or by its absence or deficiencies (the so-called misalignment). Most studies of alignment deal with achieving alignment, while the problems of misalignment (detection, analysis, and correction) are underestimated in the literature [50]. A. Bryman and D. Ori highlighted the problems at the local level since the results of the analysis of foreign studies revealed a limited approach to the topics of “leadership and corporate culture”, and “building relationships between organizations”. The topic is presented in more detail by Sang Youn Lee, Yong June Kim, and Ju Won Kim considered how benevolent leadership and moral leadership have a positive impact on knowledge sharing, group culture, and company development culture [51].

Klaus Schwab argues that the management of the modern enterprise must serve all multi-stakeholders, acting as their trustee charged with achieving the long-term sustainable growth and prosperity of the company [52]. The issue of humanity’s existence in disharmony with nature occurs when society ceases to practice sustainable consumption of resources within the limits established by ecological capacity [53,54]. The increased awareness of this problem by the population in general and decision-makers is the key to minimizing undesirable consequences for sustainable development in predicting a particular “bottleneck”.

The key modern concept is regional harmony, recognized as a qualitatively higher level of balance, which meets socially desirable development standards [55,56]. This concept is leading to dividing territories by types of regional development. The results show that from the aspect of the residents’ distribution, relatively harmonious relations prevail, whereas from a purely territorial point of view they are mostly disharmonious. The obtained knowledge corresponds to the hypothesis about the positive impact of the regional harmony of the business and social environment on the long-term sustainability of development [55]. This circumstance leads to necessary investments in improving the level of knowledge of the population, media education, innovation, and organization are of great importance [57–59]. This policy has a positive impact on the productivity and efficiency of enterprises, the regulation of labor relations, prevention of potential critical social situations [60–62].

“Theory of cooperation” by V.M. Polterovich is one of the first works in the field of analysis of harmonious relations [63]. In the terminology of the author himself, on the philosophy of cooperation between people and social groups. The creator of the theory of cooperation considers three main mechanisms of interaction of subjects, namely, competition, power, and cooperation. The evolution of society is the result of interdependent changes in culture, institutions, technological progress, and the level of well-being of the population. This means that the evolution of society assumes that there is a certain type of relationship of forces such as competition, power, and cooperation. At the same time, the types of their development are distinguished, namely, catching up and advancing. That is, a factor of the rate of formation of these three mechanisms is introduced, which is determined by the graphical factor.

The direction of scientists’ research in which regional development is considered primarily from the point of view of ecology and territorial components is of interest. This very direction in the scientists’ works on the problem of social harmony is currently most understudied. Chua, Ro Y.J. have strong evidence that the ambient cultural disharmony decreases the individuals’ effectiveness at connecting ideas from disparate cultures [64]. We partially agree with Chua, Roy Y.J. to substantiate the incompatibility of the relationship between ambient cultural disharmony and creativity. We suggest an alternative mechanism



for such a structure that would apply to the conditions of harmony. Overcoming disharmony is linked to the development of education for sustainability [65–67], and everyday cultural practices [68–70].

Of great interest are the works of E.V. Balatsky [71], where the polycasual general theory of social development is considered, in which economic growth depends on four groups of factors: technology, institutions, culture, and welfare. For this purpose, the consistency principle is introduced, according to which the rates of economic growth positively are affected by high consistency in the development of the listed four groups of factors [72]. Thus, the fundamental principles of sustainability necessarily involve discussion of educational issues for sustainability [73–75]. Diverse forms of formation of a responsible and critically thinking citizen are the priorities of modern education [76,77]. The concept of sustainability assumes that state institutions and people have the foresight of the consequences of their actions and systems of production and consumption. The economic, environmental, and social consequences of current actions are key to the lives of near and future generations.

### 3. Materials and Methods

This article is based on the statistical research methods. The sociological method of content analysis [58,59] is most applicable to the study of the harmonious development of society. Considering the proposed novelty of the research, content analysis was addressed as a method of processing primary research information related to the perception in the scientific environment of the issues of studying the harmonious development of society.

We conducted a content analysis [58,59] to determine the list of factors that have the greatest impact on the sustainable and harmonious development of society. The content analysis method allows identifying the most frequently mentioned factors (trends, events) in scientific sources devoted to the subject area we are studying. The study was carried out on the example of Kazakhstan. We have built a content analysis matrix in which the factors noted in the sources are presented vertically, and scientific literary sources are presented horizontally. The fact of certain factors present in the corresponding source is also marked in the cells. Table 1 shows a summary matrix of content analysis to identify factors affecting the harmonious development of society.

**Table 1.** Matrix of content analysis of factors affecting sustainable harmonious development of society.

N	Factors	Authors with the Source						Total Number of Mentions
		A. Sen [78]	S.A. Ayvazyan [79]	A.I. Subetto [80]	V. Tupchiyenko [81]	N.E. Soboleva [82]	O.V. Kuznetsova [83]	
1	Life expectancy, education and per capita income	+				+		2
2	The quality of the population, the welfare of the population, social security (or the quality of the social sector)		+	+				2
3	Material, sociocultural, spiritual, demographic and environmental components of life			+	+		+	3

Table 1. Cont.

N	Factors	Authors with the Source						Total Number of Mentions
		A. Sen [78]	S.A. Ayvazyan [79]	A.I. Subetto [80]	V. Tupchiyenko [81]	N.E. Soboleva [82]	O.V. Kuznetsova [83]	
4	GDP per capita; the level of real incomes of the population; indicators of the distribution of the population by the level of average per capita income; the total level of consumption of material goods and services, etc.		+		+			2
5	Material well-being, the quality and range of goods consumed, equality of educational opportunities, social security		+	+	+			3
6	Job satisfaction, life satisfaction	+				+		2
7	Developed infrastructure, creativity of the population, etc.	+					+	2

Based on the information obtained because of the content analysis, it is meaningful to combine the factors identified by the authors into appropriate homogeneous groups. We have applied a method [58,59] that allows identifying the most important and significant factors for the sustainable development of society and indicators of development of society harmonization. Thus, the following groups of factors remain in the study:

*D+-demoethics* is a group of factors that form the basis and purpose of society's life; these are the factors that spiritually enrich individuals, contribute to satisfying the needs necessary for a harmonious and spiritual life in society, social needs, for persons with disabilities as well;

*D1-demography* is a group of factors that determine the dynamics of the population living in the region, including the results of state policy in the field of demography, which affect life expectancy, morbidity, and mortality, the level of migration of the population, the number of populations by age groups and by place of residence (city, rural area);

*D2-democracy* is a group of factors that show the level of organization of society, taking into account the real participation of the population in various spheres of public and political life, the implementation by the population of direct and indirect forms of democracy, including the participation of the population in the election campaigns of the authorities;

*D3-demoeconomy*. This grouping acts as the initial basis for the formation of a cross-factor model of the influence of the identified factors on the harmonious development of society, considering the impact of state support measures.

The choice of factors included in the model is conditioned by two main provisions: (1) the capabilities of the modern statistical apparatus of the national statistics service, which emphasizes the validity of studying the processes of sustainable development;

(2) the orientation of indicators to reveal the processes of harmonization of society, moral and ethical characteristics of the condition of people living in this territory. The selected indicators may have different dimensions since in further calculations we will convert them into stability coefficients ( $S_{ij}$ ).

For maximum verification of the cross-factor scoring model (close to real values), the following conditions must be met:

(1) Generalization of demoethical factors explaining that the preservation and sustainable development of civilization is effectively realized in harmonious societies (the demoethical component of the harmonious development of society in the region);

(2) Analysis of demographic factors, explaining that the expanded reproduction as a result of sufficient fertility, reduction in morbidity and mortality, as well as the absence of artificial termination of pregnancy, rare migration processes possible due to natural and climatic, family-related reasons (the demographic component of the harmonious development of society in the region);

(3) Involvement in the analysis of the democratic factor that reveals political processes in the context of the development of true spirituality, the harmonious combination of freedoms and responsibilities of citizens, permissible and forbidden, interethnic and inter-faith harmony, political modernization, strong institutions of civil society (the democratic component of the harmonious development of society in the region);

(4) Generalization of demoeconomic factors, the meaning of which is that a certain region should have an opportunity to allocate resources for the harmonious development of society, which entails significant financial, investment, infrastructure, and other types of support, including state one (the demoeconomic component of the sustainable and harmonious development of society in the region).

Thus, the resulting indicator of assessing the level of the sustainable and harmonious development of society in the region, depending on the affecting factors, will be the integral indicator  $I_{SHD}$ . Therefore, a cross-factor scoring model for assessing the impact of the identified factors on the harmonization of society in the region will have the following form:

$$I_{SHD} = k_1 \times (D+) + k_2 \times D_1 + k_3 \times D_2 + k_4 \times D_3, \quad (1)$$

where  $I_{SHD}$  is an integral indicator of sustainable and harmonious development of society in the region;

$D+$ -demoethical component of the sustainable and harmonious development of society in the region;

$D_1$ -demographic component of the sustainable and harmonious development of society in the region;

$D_2$ -democratic component of the sustainable and harmonious development of society in the region;

$D_3$ -demoeconomic component of the sustainable and harmonious development of society in the region;

$k_1, k_2, k_3, k_4$  are the weight coefficients under the relevant indices.

Table 2 shows that the calculation of the components involves the estimation of a synthetic index by standardizing the specific indicators included in each component. It should be noted that the initial data for the formation of a list of specific indicators are the results of previous content analysis with their corresponding adaptation to similar indicators of the Committee on Statistics of the Ministry of National Economy (KSMNE). Thus, each of the presented components should be described by a certain set of indicators:

$D+$ -demoethical component  $\{x_1 - x_{11}\}$ ;

$D_1$ -demographic component  $\{x_{12} - x_{21}\}$ ;

$D_2$ -democratic component  $\{x_{22} - x_{31}\}$ ;

$D_3$ -demoeconomic component  $\{x_{32} - x_{41}\}$ .



**Table 2.** Specific indicators for calculating the impact of a component (factor) on sustainable development and harmonization of society.

N	Component of Development of Society Harmonization	Indicators
1	«D+»-demoethics	$x_1$ —the number of students of higher and vocational educational institutions per thousand people $x_2$ —availability of kindergartens and schools $x_3$ —availability of healthcare facilities and doctors $x_4$ —crime rate $x_5$ —provision of the population with comfortable housing $x_6$ —availability of cultural institutions for the possibility of self-realization and talent development $x_7$ —availability of institutions for the education of a harmoniously developed and socially responsible personality based on the moral values of peoples, historical and national-cultural traditions $x_8$ —the total share of education enrollment of the population aged 6–24 years. $x_9$ —comfortable and safe living environment (provision with comfortable urban environment facilities) $x_{10}$ —availability of public infrastructure facilities for people with disabilities $x_{11}$ —the share of households that have improved housing conditions in the total number of households
2	«D1»-demography	$x_{12}$ —infant mortality $x_{13}$ —maternal mortality $x_{14}$ —natural population growth $x_{15}$ —natural population decline $x_{16}$ —total fertility rate (per 1 woman) $x_{17}$ —average life expectancy of the population $x_{18}$ —the level of population migration $x_{19}$ —ratio of marriages to divorces $x_{20}$ —incidence of tuberculosis, oncological diseases, cardiovascular diseases, coronavirus $x_{21}$ —the ratio of urban and rural population
3	«D2»-democracy	$x_{22}$ —the share of those satisfied with the democracy processes in society $x_{23}$ —the share of the real number of voters who came to the polling stations (including absentee ballots) $x_{24}$ —electoral activity (from the number of voters) $x_{25}$ —the share of valid ballots in the total number of ballots in the ballot boxes $x_{26}$ —the share of public associations and organizations in the region $x_{27}$ —the share of independent media $x_{28}$ —assessment of the loyalty of population to authorities (from the number of the surveyed population) $x_{29}$ —digital maturity of authorities and transparency of their activities (from the number of the surveyed population) $x_{30}$ —the level of corruption violations $x_{31}$ —trends in social mood, stock of patience and protest potential (from the number of the surveyed population)
4	«D3»-demoeconomy	$x_{32}$ —gross regional product per capita $x_{33}$ —consumer expenditure $x_{34}$ —subsistence minimum $x_{35}$ —employment rate $x_{36}$ —unemployment rate $x_{37}$ —poverty rate (the share of citizens with income below the subsistence minimum) $x_{38}$ —growth rate of per capita income $x_{39}$ —growth rate of real average monthly wages $x_{40}$ —the share of the number of people employed in the sphere of small and medium-sized entrepreneurship in the total number of people employed in the economy $x_{41}$ —growth rate of investments in the economy of the region

The obtained based on this approach synthetic (integral) indicator  $I_{SHD}$  is a positive value and is in the range from 0 to 1. Its economic interpretation is as follows: the positive influence of that component on the sustainable and harmonious development of society, the value of which is closest to one, will be stronger. Formula (1) shows the weight coefficients for research and model calculation. These coefficients are determined based on the importance of each component in the harmonious development of society. At the same time, we use an algorithm for a priori ranking of factors (ARF) based on expert assessments.

The indicators included in each component are of different dimensions, therefore, a simple algebraic summation of them to obtain a single total value is impossible in this case. V. Pluta's method allows standardizing of a set of multi-dimensional parameters [84]. As a result, we can compile the entire set of multi-dimensional parameters into a single synthetic index. The multi-dimensional analysis method of V. Pluta has proven itself since the mid-70s of the 20th century. In the conditions of information overload contained in the financial reports of the studied objects, it is problematic to find the most significant relationships. This method makes it possible to identify cumulative factors, as well as dominant trends that are shown in a set of heterogeneous features. The advantage of this approach is also the possibility of comparing heterogeneous indicators by combining them into synthetic values that combine all the features.

The final value for each component  $D_i$  is calculated using the formula:

$$D_i = \frac{\sum S_{ij}}{n} \quad (2)$$

where

$i$ —the number of the component;

$j$ —the number of the factor  $x$  (in total 41 factors);

$S_{ij}$ —the stability coefficient of the  $j$ -th factor in the  $i$ -component.

In turn, each stability coefficient is determined considering the desired trend of the dynamics of the studied factor. If the desired trend is to increase the indicator value (for example, availability of kindergartens; average life expectancy; share of independent media; employment rate), then  $S_{ij}$  is determined by the formula:

$$S_{ij} = \frac{\text{The value of the } j \text{ indicator – factor in group } i \text{ in the reporting period}}{\text{The value of the } j \text{ indicator – factor in group } i \text{ in the base – period}} \quad (3)$$

If the desired trend is decreasing the indicator value (for example, crime rate; infant mortality; level of corruption violations; unemployment rate), then  $S_{ij}$  is determined by the formula:

$$S_{ij} = \frac{\text{The value of the } j \text{ indicator – factor in group } i \text{ in the base – period}}{\text{The value of the } j \text{ indicator – factor in group } i \text{ in the reporting period}} \quad (4)$$

This methodology is employed in assessing the effectiveness of state programs of the Russian Federation. This practice has a regulatory justification and scientific research based on it [85,86].

#### 4. Results

If we substitute the obtained indices into formula 1, a cross-factor scoring model for assessing the impact of the identified factors on the harmonization of society in the region is the following:

$$I_{SHD} = 0.30 \times (D+) + 0.24 \times D_1 + 0.18 \times D_2 + 0.28 \times D_3, \quad (5)$$

The weight of the coefficients is determined based on expert assessments and public opinion polls, which are published quarterly in the information and analytical bulletin "The effectiveness of public administration in the estimates of the population". Monitoring of

public opinion has been carried out by the staff of “Vologda Scientific Center of the Russian Academy of Sciences” under the supervision of Corresponding Member of the Russian Academy of Sciences, doctor of economic sciences, professor V.I. Ilyin since 1996 [87].

Based on expert assessments and public opinion polls on the values of the indices obtained, it can be concluded that demoethical factors have the greatest influence on the level of the harmonious development of society, a combination of demoeconomic factors is in the second place, demographic has the third place, democratic is in the fourth place.

As in any study, the proposed model is not a dogma, but a flexible formula that can be used under changing conditions supplemented and refined by specific indicators or new components. The calculation of the quantitative values of the components and their introduction into the cross-factor scoring model will help diagnose the conditions of the harmonious development of society in the regions. The integral indicator of the level of the sustainable and harmonious development of society obtained using the model (2), depending on the identified factors, can be in the following range:

$0.70 \leq I_{SHD} \leq 1$ —favorable conditions for the sustainable and harmonious development of society;

$0.40 \leq I_{SHD} \leq 0.69$ —average level for the sustainable and harmonious development of society;

$0.10 \leq I_{SHD} \leq 0.39$ —low level for the sustainable and harmonious development of society;

$0.0 \leq I_{SHD} \leq 0.09$ —unfavorable conditions for the sustainable and harmonious development of society.

The development of public policy directions and measures of targeted support for the industry needs to consider the needs of a certain territory. Therefore, favorable conditions for the development of society are necessary for studying. This factor is key in ranking the harmonization of society, regions, and subjects. Moreover, model (2) makes it possible to systematically monitor the development of regions, contingent upon the changes in the identified factors, including the state support measures.

It is advisable to test the developed model on the example of real indicators of the sustainable and harmonious development of society in such territories as Atyrau, Mangystau, North Kazakhstan regions, and Nur-Sultan city. The input data for constructing a cross-factor scoring model (2) are the values of the indicators from Table 2 in the context of the regions presented above for 2018. The calculation of indices according to model 2 needs to aggregate the entire set of multi-dimensional input parameters  $x_1$ – $x_{41}$  into single synthetic components (demoethical, demographic, democratic, and demoeconomic, respectively) based on multi-dimensional integral analysis. Table 3 shows the results of calculations by an estimate of the conditions of the harmonious development of society under the influence of demoethical, demographic and democratic, demoeconomic factors.

**Table 3.** Assessment of conditions for sustainable and harmonious development of society in the region.

N	Region	$D_0$ Demoethical	$D_1$ Demographic	$D_2$ Democratic	$D_3$ Demoeconomic	$I_{SHD}$ Integrated Index	Conditions for the Development of Harmonious Society according to the Favorability Level
1	Atyrau	0.13	0.03	0.71	0.13	0.210	low level
2	Mangystau	0.02	0.29	0.68	0.05	0.212	low level
3	Turkestan	0.03	0.11	0.84	0.02	0.192	low level
4	North Kazakhstan	0.18	0.02	0.79	0.01	0.204	low level
5	Nur-Sultan city	0.17	0.06	0.68	0.09	0.213	low level

Note: Demoethical indicators have been confirmed by previous studies, which evaluated demoethical indicators based on expert assessment, and additionally compared other demoethical indicators to strengthen the above-mentioned indicators.

Table 3 shows the data, which concluded that currently, all analyzed regions correspond to a low level of development of society. This circumstance determines the need to develop tools to influence the sustainable and harmonious development of society in the regions, depending on the affecting factors (Table 4).

**Table 4.** Tools for influence on the sustainable and harmonious development of society in the regions, depending on the affecting factors.

N	Region	Factors Affecting the Harmonious Development of Society	Nature of the Factors Influence on the Level of Society Harmonization	Tools for Influence on Harmonious Development of Society
1	Atyrau region	Demoethical	Disharmony «D»	<ul style="list-style-type: none"> <li>- The number of students of higher and vocational educational institutions per thousand people;</li> <li>- Availability of kindergartens and schools;</li> <li>- Availability of healthcare facilities and doctors;</li> <li>- Availability of public infrastructure facilities for people with disabilities;</li> <li>- The share of households that have improved housing conditions in the total number of households;</li> <li>- The total share of education enrollment of the population aged 6–24 years.</li> </ul>
			Harmony «H»	crime rate indicator
		Demographic	Harmony «H»	ratio of marriages to divorces
		Democratic	Harmony «H»	more than half of population are satisfied with the democracy development in the country
		Demoeconomic	Harmony «H»	share of GDP, growth rate of per capita nominal monetary income, subsistence minimum
2	Mangystau region		Harmony «H»	crime rate indicator
		Demoethical	Disharmony «D»	<ul style="list-style-type: none"> <li>- The number of students of higher and vocational educational institutions;</li> <li>- Availability of kindergartens and schools;</li> <li>- Availability of healthcare facilities and doctors;</li> <li>- Comfortable and safe living environment (provision with comfortable urban environment facilities);</li> <li>- Provision of the population with comfortable housing;</li> <li>- Availability of cultural institutions for the possibility of self-realization and talent development;</li> <li>- The total share of education enrollment of the population aged 6–24 years.</li> </ul>
		Demographic	Harmony «H»	natural population growth; marriage rates; high birth rate
		Democratic	Harmony «H»	high share of public associations and organizations in the region
			Disharmony «D»	low share of the population who are satisfied with the processes of democracy in society
		Demoeconomic	Harmony «H»	share of gdp; growth rate of per capita nominal cash income, growth rate of the subsistence minimum
			Disharmony «D»	employment rate

Table 4. Cont.

N	Region	Factors Affecting the Harmonious Development of Society	Nature of the Factors Influence on the Level of Society Harmonization	Tools for Influence on Harmonious Development of Society
3	Turkestan region	Demoethical	Disharmony «D»	<ul style="list-style-type: none"> <li>- Availability of healthcare facilities and doctors;</li> <li>- The number of students of higher and vocational educational institutions per thousand people;</li> <li>- Comfortable and safe living environment (provision with comfortable urban environment facilities);</li> <li>- Availability of cultural institutions for the possibility of self-realization and talent development;</li> <li>- The total share of education enrollment of the population aged 6–24 years.</li> </ul>
		Demographic	Disharmony «D»	high maternal mortality; intensive migration of the population
			Harmony «H»	high birth rate
		Democratic	Harmony «H»	more than half of the population (50.3%) positively assess the development of democracy in the country
		Demoeconomic	Disharmony «D»	growth rate of per capita nominal cash income, growth rate of the subsistence minimum, poverty rate, employment rate
4	North Kazakhstan	Demoethical	Disharmony «D»	<ul style="list-style-type: none"> <li>- The number of students of higher and vocational educational institutions per thousand people;</li> <li>- Availability of kindergartens and schools;</li> <li>- Availability of healthcare facilities and doctors;</li> <li>- Comfortable and safe living environment (provision with comfortable urban environment facilities);</li> <li>- Availability of public infrastructure facilities for people with disabilities;</li> <li>- The share of households that have improved housing conditions in the total number of households;</li> <li>- The total share of education enrollment of the population aged 6–24 years.</li> </ul>
		Demographic	Disharmony «D»	infant mortality; marriage rate, divorce rate; low birth rate
			Harmony «H»	maternal mortality
		Democratic	Harmony «H»	more than half of the population (50.3%) positively assess the development of democracy in the country
		Demoeconomic	Disharmony «D»	<ul style="list-style-type: none"> <li>- The growth rate of the subsistence minimum, the share of GDP; poverty rate</li> </ul>
			Harmony «H»	employment rate



Table 4. Cont.

N	Region	Factors Affecting the Harmonious Development of Society	Nature of the Factors Influence on the Level of Society Harmonization	Tools for Influence on Harmonious Development of Society
5	Nur-Sultan city	Demoethical	Harmony «H»	provision with comfortable housing
			Disharmony «D»	- The total share of education enrollment of the population aged 6–24 years; crime rate, availability of healthcare facilities and doctors
		Demographic	Harmony «H»	infant mortality; natural population growth; average life expectancy; ratio of marriages to divorces
		Democratic	Harmony «H»	high share of public associations and organizations in the region; digital maturity of authorities
		Demoeconomic	Disharmony «D»	low share of the population satisfied with the democracy processes in the society
			Harmony «H»	share of GDP; growth rate of per capita nominal monetary income, subsistence minimum, poverty rate; employment rate; unemployment rate
			Disharmony «D»	the growth rate of consumer expenditure, the growth rate of the subsistence minimum, the low growth rate of real average monthly wages

Among the set of the analyzed regions in the Turkestan region, low values of indicators were recorded for the demoethical and demoeconomic component of the level of the harmonious development of society, which shapes its last position in the ranking. Consequently, in this area, demoethical and demoeconomic factors are disharmonious, which requires the priority attention of state bodies. For Nur-Sultan city, despite the relatively low values of the demographic component, democratic and demoethical factors have become harmonious. We guided by the above logic, as well as dividing the selected factors into harmony and disharmony. These ideas allow systematizing the instruments of influence on the harmonious development of society in the regions. The influence is estimated based on the comparative value of the integral index of each component of the cross-factor model. The instruments were selected based on the contribution of a specific indicator to the final integral index of each structural cross-factor model (for harmonious factors (harmony “H”), the support policy, and disharmony (disharmony “D”)—the policy of reducing their negative impact on the process of harmonization of society is necessary (Table 4).

Let us review some of the demoethical factors of sustainable development and harmonization of society for 1999–2019 according to the following indicators:

- The number of students of higher and vocational educational institutions per thousand people population;
- The total share of education enrollment of the population aged 6–24 years;
- Availability of kindergartens;
- Availability of healthcare facilities and doctors;
- Crime rate;
- Provision of population with comfortable housing.

The total share of education enrollment of the population aged 6–24 years. Dynamics: for 2017—546.68 people per 10 thousand population; 1999–2009—significant growth 86%; 2009–2017—decrease by 28% in all regions and primarily in Almaty, Nur-Sultan, and Mangystau region. One of the objective reasons is the decline in the birth rate in the 1990s.

*Availability of kindergartens.* In 2018, its value was 105.9 children per 100 places; in 2000–2009—growth by 22.1%; in 2018—it by 21.6%, with the most availability in Almaty, and the least in Aktobe and Kostanay regions [88].

*Availability of doctors.* In 2017, there were 72,134 doctors in the republic. The best indicator for 10 thousand people in Nur-Sultan and Almaty is almost 2 times more than the national average. The lowest availability of doctors is in Almaty, Kostanay, Atyrau, and Zhambyl regions.

The provision of housing for the period 1999–2017 increased from 16.4 sq.m per person to 22, i.e., by 34%. In 2017, relatively high indicators were found in Karaganda, Aktobe regions, Nur-Sultan, and Almaty, relatively low ones—in Zhambyl and Almaty regions. Despite the emphasis on the problem, the population's housing supply does not yet exceed 21.6 sq. m. per 1 person, which is lower than in many CIS and Eastern European countries [89].

*Crime rate.* 118 crimes per 10 thousand population were registered in the Kazakhstan in 2018. By region, the crime rate is high in Almaty, Nur-Sultan, and Kostanay regions, low in Pavlodar, Mangystau, Zhambyl, Atyrau, and East Kazakhstan regions. Thus, significant elements of disharmony in territorial development require deliberate attention from the state. The current crisis caused by the pandemic has revealed how linked the economies of different countries have become. Its consequences will also affect Kazakhstan. Specifically, the state of the economy will depend on the speed of the fight against the pandemic, as well as the situation in the commodity markets [90].

*Demography:* analysis of demographic factors of harmonization of the society of the population for 1999–2019. Key indicators include the following:

- Infant mortality;
- Maternal mortality;
- Natural population growth;
- Average life expectancy of the population;
- Migratory behavior of the population;
- The ratio of marriages to divorces.

According to the Statistics Committee, the population of the Kazakhstan as of 1 August 2019, was 18,528.9 thousand people, urban—58.3%, rural—42.7%. In 2018, the largest size was in Turkestan, Almaty regions, and Almaty, the smallest was in North Kazakhstan, Atyrau, and West Kazakhstan. In 2018, the share of the male population was 48.4%, female—51.6%. During the period 1999–2018, in general, there was a population growth of 3202.2 thousand people. The population density in 2018 was 6.7 people per 1 sq. m.

Demographic processes significantly affect socioeconomic harmony. In 2018, the birth rate in the republic increased markedly and amounted to 21.77%. The birth rate is high in Mangystau, Turkestan, and Nur-Sultan, low—in the North Kazakhstan and Kostanay regions. In the period 1999 to 2018, mortality rates decreased by 2.66%.

Infant mortality is one of the basic statistical indicators of demography in the integral estimation of a harmonious society. In 2018, its highest value was noted in the North Kazakhstan region. The lowest rates are in Pavlodar and Akmola regions and Nur-Sultan. Maternal mortality in 2017 in the Kazakhstan amounted to 49 cases, including 10 cases in the Turkestan region, and 6 in Almaty. Indicators of natural population growth in 2018 (14.6%) had risen by 10.2% since 1999. The largest increase was in the Mangystau region (25.2%) and Nur-Sultan (23.7%).

*Life expectancy (LE).* Mortality rates and life expectancy of the population are the main criteria for the level and quality of life. For the period 1999–2018 LE in the Kazakhstan increased from 65.7 to 73.1 years, having started to increase in 2001 but unevenly across regions. In general, from 1999 to 2018 the average annual growth rate of life expectancy was 0.3 years. In 2018 in cities, life expectancy has increased from 66.7 to 72.7 years; in rural areas life expectancy has increased from 65 to 73.1 years. The highest indicator of life expectancy is in Aktobe (73.4 years) and Almaty (73.4) regions and Nur-Sultan (76.2),

Almaty (75.5). The difference between the life expectancy of men and women in 2018 was 8.2 years (76.9 years for women, 68.7 years for men).

*Population migration.* In 2018, the negative balance of migration amounted to 29,121 people. Most of them left Turkestan and Almaty regions, and the largest quantity of arrivals was noted in the cities of Nur-Sultan and Almaty. In general, from 1999 to 2018 a positive trend was recorded: compared with 1999, in 2018 in the Kazakhstan, there were 94,506 fewer people left.

*Marriages and divorces.* In 2018, 137.8 thousand people registered for marriage. The marriage rate was 7.54 per 1000 people against 5.8 in 1999. In recent years, there has been a negative trend in family and marriage relations in the republic. The divorce rate was 3.0 per 1000 people in 2018 compared with 2.4 in 1999.

The incidence of tuberculosis. On a nationwide scale, from 1999 to 2017, it significantly decreased: in 1999—141 cases per 100 thousand population, in 2017—52.2.

*Coronavirus in Kazakhstan.* On 13 March 2020, the first cases of coronavirus infection were announced in the country. On 26 March, the first fatal outcome was registered. By the beginning of April, the coronavirus has been registered in all regions. So far, there are no effective therapeutic agents against coronavirus, except for vaccination. The main problems requiring attention are the followings: outflow of population, instability of marriages.

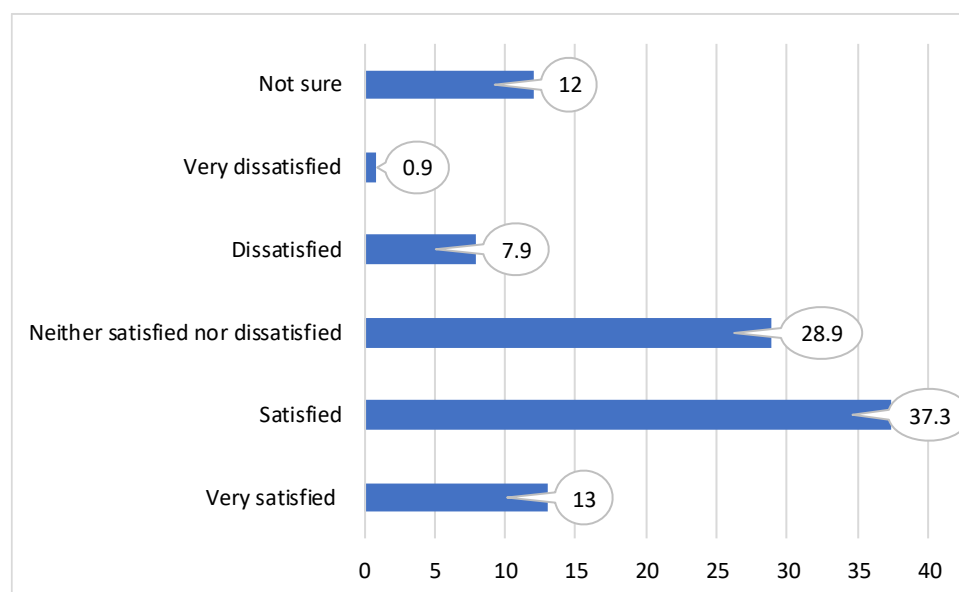
*Democracy.* No single possible, unified set of institutions and rules embodies democracy. Therefore, a specific form of democracy in a particular country depends on socio-economic conditions, the traditional structure of the state, political culture, and the perception of power that has developed in a society [91].

We based the data, presented in Figure 1. These data confirm the validity of the appeal of President Kassym-Jomart Tokayev emphasizing that Kazakhstanis are called upon to fulfill a historical mission—to show by their example how it is necessary and possible, through a constructive dialogue between the authorities and the people, to overcome any obstacles [92]. The level of satisfaction with the development of democracy in Kazakhstan is 37.3% of the respondents, and 13% of the population is very satisfied with the development of democratic processes. Nevertheless, 50% of the respondents expressed dissatisfaction or found it difficult to answer this question. Public authorities need to develop direct forms of self-governance by the population. Such forms are citizens' gatherings, public hearings, referendums, citizens' law-making initiatives, and other forms, to conduct an open dialogue with the population, showing the transparency of the authorities' activities through the media, the information space, transforming activities of public authorities through the digitalization of public services.

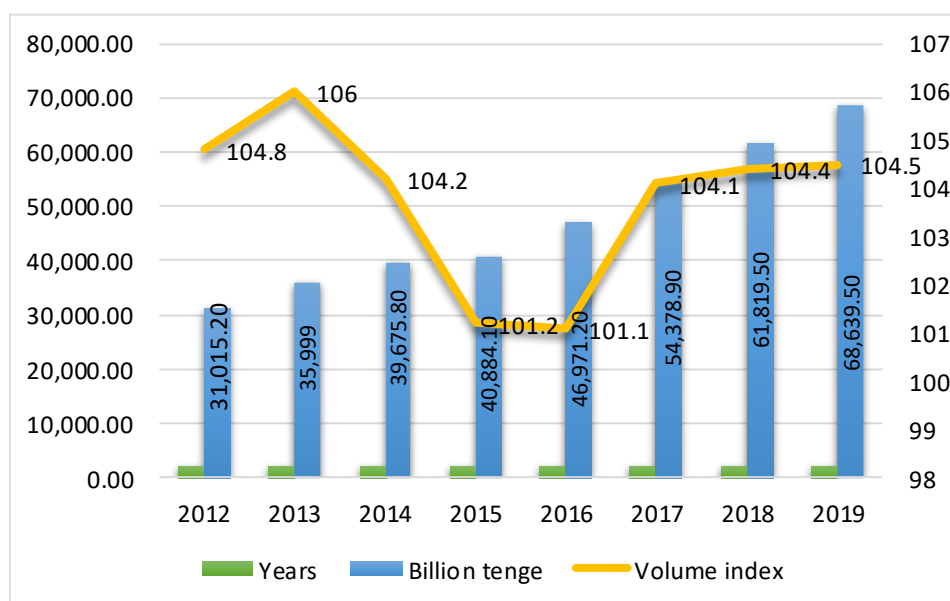
*Demoeconomy: analysis by region for 1999–2019.* The key points include the following:

- Gross regional product per capita;
- The share of short-term consumer expenditure in the total amount of consumer spending;
- The ratio of the average wage to the subsistence minimum;
- Employment;
- Unemployment and poverty reflect the influence of economic factors on the harmonization of society;
- Average monthly wage.

Figure 2 shows the dynamics of the main macroeconomic indicator of economic development, namely, the size of GDP from 2012 to 2019.

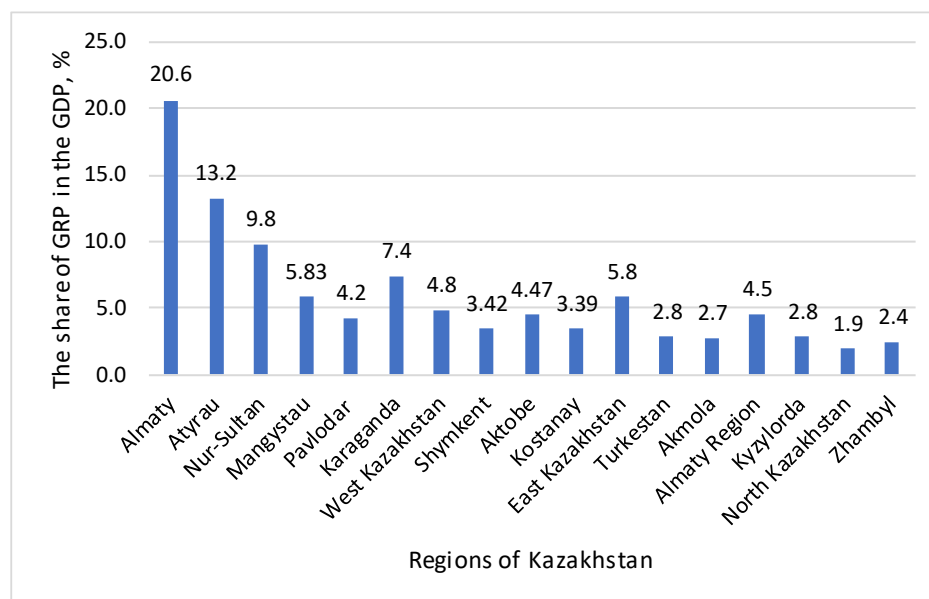


**Figure 1.** Distribution of answers to the question “Are you satisfied with the development of democracy in Kazakhstan?” (% of respondents).



**Figure 2.** Dynamics of GDP of the Kazakhstan. Note: In preparing the review, the data from the Committee on Statistics of the Ministry of National Economy (CSMNE), the National Bank of the Kazakhstan were used. Changes in the time series of data are possible as they are refined, recalculated by CS.

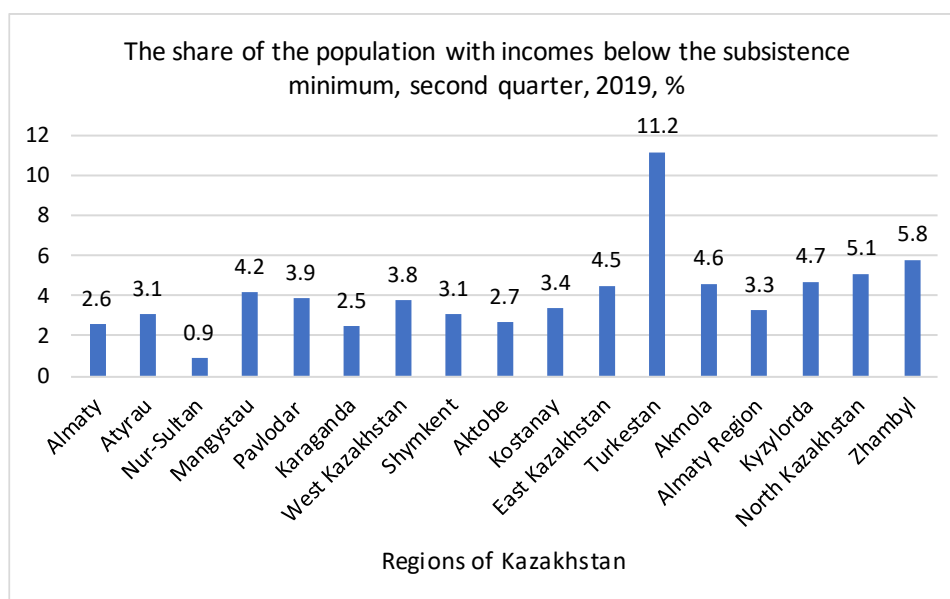
Figure 3 shows the assessment of each region’s contribution to the total GDP of Kazakhstan is conducted for determining the economic potential of the regions.



**Figure 3.** The share of GRP in the GDP of the Kazakhstan, (%). Note: In preparing the review, the data from the Committee on Statistics of the Ministry of National Economy (CSMNE), the National Bank of the Kazakhstan were used. Changes in the time series of data are possible as they are refined, recalculated by CS.

Analyzing GRP per capita in Kazakhstan, it is worth pointing out that over the period from 1999 to 2017, the indicator for the republic scaled up nineteen-fold—from 121,500 tenges in 1999 to 2,357,239 tenges in 2017.

The indicators of per capita nominal monetary income, the subsistence minimum from 1999 to 2018 increased thirtyfold. Figure 4 shows the per capita nominal monetary income of the population as of May 2019 amounted to a 97,924 tenges (preliminary data), which is 8.1% higher than in May 2018, real monetary income for the mentioned period went up by 2.7%.



**Figure 4.** Dynamics of the population of regions with incomes below the subsistence minimum, %.

Consumer expenditure on average per capita in the period 1999–2017 in the republic rose from 5432 tenges in 1999 to 48,618.5 tenges in 2017. Moreover, noticeably low shares of spending on education and healthcare attract attention. In education, 2.3% of expenditure



in 2001, a slight increase in 2006–2008 (4.3%); in 2018, a reduction to 2.1%. The share of healthcare expenditure is 1.8 [93].

*The subsistence minimum level (SML) on average per capita in the period from 1999 to 2018 escalated eightfold: from 3394 to 27,072 tenge. The highest indicators are in Mangystau, East Kazakhstan, Atyrau, and Almaty regions and the cities of Nur-Sultan and Almaty, and the lowest is in Turkestan, Zhambyl regions.*

According to the World Bank estimates, in Kazakhstan, the subsistence minimum level is 31,982 tenge. The citizens whose income falls under this amount per family member are those who live below the poverty line. There were 772,600 such people in the second quarter of 2019 or 4.2% of the population.

*The poverty rate in the Kazakhstan in 2017 amounted to 0.4% against 7.9% in 1999. The maximum indicator for 1999–2017 is in the Mangystau region and the minimum is in Almaty.*

*The employment rate of the population increased from 47.2% in 1999 to 50.1% in 2017. The number of economically active population from 1999 to 2017 grew from 7 million to 9 million people and the employed population—from 6.1 million to 8.5 million people. In 2017 the level of the economically active population was higher than the national average in Kostanay, Akmola, North Kazakhstan regions. The lowest values of this indicator from 1999 to 2017 were noted in Turkestan, Kyzylorda, and Mangystau regions.*

*High economic growth rates and the creation of permanent jobs contributed to a decrease in the unemployment rate by more than 2.7 times—from 13.5% in 1999 to 4.9% in 2018. In 2017, a high unemployment rate remained in the Turkestan region, and in Almaty, a low one was observed in Nur-Sultan (4.6%). The number of unemployed people, as of June 2019, was 442.7 thousand people.*

In the period 1999–2018, the number of employed people increased from 6105.0 thousand to 8695.0 thousand people. Among the regions, Turkestan and Almaty regions are traditionally the leaders in this indicator. The smallest number of employed people is recorded in Mangystau, Atyrau, West Kazakhstan, and North Kazakhstan regions.

*Average monthly nominal wage.* In all sectors of the economy from 1999 to 2018, there was a steady increase in this indicator: from 11,864 to 162,267 tenge. In 2017, for men, it amounted to 179,575 tenge, for women—121,793 (1.5 times less). The average monthly nominal wage of one employee, as of June 2019, was 177,963 tenge.

Thus, the key factors of the demoeconomy demonstrate that its development by region is uneven. Disharmony is evident in Mangystau, Turkestan, and Northern Kazakhstan regions. A completely different situation is traced in Nur-Sultan city and the Atyrau region.

## 5. Discussion

According to the studies of the harmonious sphere “D + 3D”, the elements of disharmony appear in the demoeconomic direction, namely, a decrease in the number of students in the field of education, and demographic direction. Namely, such phenomena are the outflow of population, a decrease in the number of marriages and an increase in the number of divorces, and a decrease in the ratio of marriages to divorces. The revealed facts of disharmony are interrelated.

In educational migration, the desire to obtain a quality education, to achieve a higher level of their competitiveness is at work rather than strictly economic factors [62,93,94]. According to a 2018 study, respondents were asked the questions: “If you had the opportunity to leave for another country or stay in your own country, which would you choose?” and “Are you ready to move to another region or country for an indefinite period?” [95]. Tables 5 and 6 show the following answers, %.

**Table 5.** Distribution of answers to the question: “If you had an opportunity to leave for another country or stay in your own country, what would you choose?”, %.

N	Answer Options	Answers, %
1	I would stay in my country	51.3
2	I would go to another country for a while, but I would like to live in my own country	33.8
3	I would like to move to another country permanently	11
4	Cannot say	3.8

**Table 6.** Distribution of answers to the question: “Are you ready to move to another region or country for an indefinite period?”, %.

N	Respondent's Answer	Are You Ready to Move to Another Region? (%)	Are You Ready to Move to Another Country? (%)
1	Yes	19.1	23.5
2	No	80.8	76.2
3	Cannot say	0.1	0.2

Kazakhstan is a part of the international community, and it is actively involved in international processes. As a result, the processes of globalization, and regionalization expose both latent and potential personnel and resource problems. Therefore, monitoring and modeling migration is proposed, especially since there is already a struggle for labor resources between the regions of Kazakhstan. Additionally, in the future, this process will increase.

Discussion of the whole complex of marriage and divorce problems is of great importance for sustainability [96–98]. As reported by the UN Statistics Division, the indicators are as follows: over 5 years, 733,606 marriages have been concluded in Kazakhstan and 268,504 divorces have been registered. At the same time, in 2018, the number of divorces registered was 0.3% more than in 2017. According to the Statistics Committee of the Ministry of National Economy of the Kazakhstan [99], people aged 30 to 34 years who have been married for more than 5 years most often file for divorce. Divorce is a serious socio-psychological problem that requires careful consideration.

Research in 2018 confirms that in catching up with the developed countries of the world, it is important for Kazakhstan not to lose its treasures, namely, unique national values inherited from previous generations [100]. It is essential to form a spiritual foundation first in the minds of people, and then in real economic activity, for example, to prevent an increase in divorces. As a result, the formation of harmony in the economy and society is accelerating, that corresponds [8,30].

Dividing the studied factors into harmonious and disharmonious, this study systematizes the tools of influence on the harmonious development of society in the regions and leads to drawing several fundamental ideas.

The social development of the republic is characterized by an average stable trend, where a strong differentiation of indicators of a stable and harmonious society by the regions is traced. The analysis of the studied regions has displayed that the development corresponds to a low level of social development. This circumstance determines the necessity to develop tools to influence the sustainable and harmonious development of society. The main problems requiring the focus of the state are the following: population migration, the decline in the number of students in the field of education in the regions, negative trends in family relations, and the level of development of people's satisfaction with the development of democracy.

This research shows the assessment of the impact of “D+3D” factors on the level of sustainable and harmonious socioeconomic development of society. The developed cross-

factor model enabled the building of a rating of territories and identifying harmonious and disharmonious factors, based on which to determine the tools of influence on the harmonization of society. This approach is adaptive since it allows diagnosing the level of the harmonious development of society in the regions by introducing indicators of new research.

For the sustainable and harmonious development of society, targeted practical measures are needed in all directions. To determine measures to reduce/eliminate the disharmony factors, the choice of research topic was caused by the development of a Digital index of social harmony is suggested. The digital transformation of society will undoubtedly affect the favorable modeling of the situation in the country and the spiritual and moral image of every citizen. Accordingly, disharmony in all spheres of “D + 3D” will decrease, and harmony will increase. Moreover, in critical situations, the digital index of factors of harmony and disharmony will serve to make correct and timely decisions. The harmonization of society will happen when the state has accurate data on the level of harmonization of society in general and the regions of the country.

## 6. Conclusions

The sustainable development of society now of time is one of the main areas of research set by the United Nations in the form of 17 goals of sustainable development. These goals are aimed at developing enterprises, businesses, and states to maintain the well-being of future generations. The contribution of the proposed study can be evaluated by comparing the proposed work with existing research. In the proposed scientific study, we consider the goals and individual aspects of sustainable development in their applied value. This article shows the possibility of creating, combining, and adding elements of sustainable development in the form of four large components, namely, demoetics, demography, democracy, and democracy. This concept is indicated by us as 4D = “D + 3D”, in which 4D together combines the concepts close by categories and makes it possible to evaluate and measure the influence of each set of components on the sustainable development of the studied object. The application of this study in practice revealed negative results, namely, the practical facts of the deterioration of some areas of 4D = “D + 3D”, which are confirmed by the events of early 2022 (protests and riots) in Kazakhstan. The January events of 2022 (protests and riots) in Kazakhstan and the global nature of the instability of the modern stage of socioeconomic development require a change in the accounting of various factors that affect the sustainable development of society both at the regional and state levels.

State policy should be formed based on the development of society, considering the tools of influence as a fundamental paradigm of the quality of life based on components such as demoetics, demography, democracy, and democracy. They affect the effective use and combination of economic, scientific, technical, social, and environmental components. Target consumers of the expected research results are useful for politicians, practitioners, and state and regional administrations, deciding on the development of strategic development goals. Medium and large businesses to find regions that are inherent in the sustainable nature of development. For sustainable development of society and operational decision-making, point practical measures are needed in all areas. To determine measures to reduce/get rid of disharmony factors, the topic of research has been chosen, which proposes the development of a methodology for sustainable development of society based on 4D = “D + 3D” (demoetics, demography, democracy, demoneconomics). This concept may be a new approach to assessing the effective system of sustainable development of society in the regional and national aspects.

Moreover, the results of the study provide the following effects. The social effect is the ability to build regions rating and support less sustainably developing regions. The economic effect is an increase in the investment attractiveness of regions that consider the effective use and combination of components of the economic, scientific, technical, social, and environmental components. Scientific and technical effect-expanding the possibilities

of economic and mathematical methods and methods of data analysis for predicting and evaluating the achievement of sustainable development of society. Thus, modeling the assessment of the influence of “D + 3D” factors on the process of sustainable development of society allows solving the most important socioeconomic issues of the development of the regions, considering their characteristics and specifics. This concept will ultimately develop an effective economic and social development strategy for the country at the regional and state levels.

Our further research will be carried out considering new conditions in the country, in connection with amendments and additions to the Constitution [101] and the “New referendum on 5 June 2022” aimed at the serious political transformation of our society. These changes mean the transition of Kazakhstan to a qualitatively new model of the formation and interaction of institutions of power, rooting a new political culture. In accordance with the new paradigm, the powers of the president are reduced, the role of parliament and maslikhats is significantly strengthened, the participation of citizens is significantly expanded, and the human rights sphere is systematically strengthened. In addition, the result of the study will be the creation of tools, and therefore the necessary methodology aimed at analyzing the situation based on and solving issues of the socioeconomic development of an individual region and the state in terms of such elements included in “D + 3D” (demoetics, demography, democracy, demoneconomics), as a gross national product; employment; living wage; migration; the incidence and other elements.

## 7. Limitations

This study systematizes the instruments of influence on the development of society in the regions. The concept of the influence of demographic, demographic, democratic, and demoeconomic factors as the basis of the industrial and innovative paradigm of social sustainability is presented. This idea corresponds to sustainable development concept. However, this article focuses on the disclosure of instruments of influence on the development of society in the example of Kazakhstan. Therefore, the fundamentally important conclusions of this article characterize the situation in Kazakhstan from 1999 to 2019. Thus, the fundamentally important conclusions of this article characterize the situation in Kazakhstan in recent decades. In 2022, transformations in the social, political, and economic spheres are taking place in Kazakhstan, which means changes in the model for the formation and interaction of government institutions in Kazakhstan, and the rooting of the formation of a new political culture. These circumstances will require further research in the field of implementing the principles of sustainable development.

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