

# ALGORITHMS FOR IDENTIFICATION OF LINEAR DYNAMIC CONTROL OBJECTS BASED ON THE PSEUDO-CONCEPT CONCEPT

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***Abstract**---Regularized algorithms for identifying linear dynamic control objects based on the concept of pseudoinversion are given. The equation of the control object is focused on solving a number of applied problems and is selected in the form of a multidimensional dynamic regression equation. To solve the equation in question, we use differentiation formulas for quadratic functionals with respect to matrix variables and regularized algorithms based on non-orthogonal factorizations and pseudoinversions of square matrices. The obtained regular algorithms contribute to increasing the accuracy of estimating the parameters of the class of dynamic control objects under consideration.*

***Keywords**---linear dynamic control objects, identification algorithms, regular estimation, matrix pseudoinverse*

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## I. RELEVANCE OF THE RESEARCH TOPIC

In the conditions of the formation and deepening of market relations, the ultimate goal of economic reforms is to increase incomes and increase the welfare of the population. The need to constantly improve the standard of living of the population requires the socialization of the economy.

“Deep imbalances in people’s opportunities and choices stem from inequalities in income but also in education, health, voice, access to technology and exposure to shocks. Human development gaps reflect unequal opportunity in access to education, health, employment, credit and natural resources due to gender, group identity, income disparities and location.” [1, 14]

Improving the living standards of the population in the context of deepening market relations will create increased demand for the national economy, the formation of the private sector, the middle class and social stability of the society through the development of the private sector. Deepening economic reforms provides for an increase in income and population structure, a qualitative change in the cost of living and an increase in the investment attractiveness of households. The need to strengthen the targeting of social protection systems with the equitable distribution of limited resources of the state increases the relevance of studying problems related to the living standards of the population.

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The above cases require the study of theoretical and practical aspects of the development of living standards, sources and development factors at the stage of economic liberalization.

## II. LEVEL OF STUDY OF THE PROBLEM

The scientific foundations of the theory of welfare were studied in the works of famous economists A. Smith [2], L. Walras [3], V. Pareto [4], A. Pigou [5]. Quantitative and qualitative aspects of living standards in the CIS countries, needs system, Zherebin V.M., Romanov A.N. [6], Volgin N.A., Odegov Yu.G. [7], Denisova I.P., Klinovenko L.R. [8], Meyer V.F. [9], Raitsin V.Ya. [10] V.M. Rutgaser, P. Shpilko [11]. Some theoretical and practical aspects of the standard of living and state regulation in Uzbekistan Abulkosimov Kh.P. [12], Abdurakhmanov QH [13], Vakhobov A.V. [14] Ulmasov A. [15], Saidov KS, Seymuratov R.A., Aslomova D.K. [16], Shodmonov Sh. Sh., Alimov R.Kh., Dzhuraev T.T. [17] Allakulov H. [18] Alibekova S. [19], Hasanov R.R. [20] Yuldasheva U. [21], Dzhumanova R.F. As analyzed [22, 25-27] and others.

The economic literature examines some aspects of the standard of living of the population, income generation, consumption patterns, differences in the standard of living of the population and the problems of their reduction. Nevertheless, no comprehensive, comprehensive study was conducted to determine the standard of living system at the stage of economic liberalization, structural changes associated with the introduction of market mechanisms for generating and consuming incomes, strategies and priorities for improving living standards. These aspects indicate the relevance, importance and inadequate research of a scientific problem and provide the basis for the topic to be chosen as the research topic.

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## III. PURPOSE OF THE STUDY

Development of scientific proposals and practical recommendations aimed at creating a conceptual basis for improving living standards in the context of economic liberalization.

The objectives of the study were as follows:

- identification of changing conceptual foundations and needs of the system of living standards of the population;
- The study of indicators of the standard of living of the population.
- identification of trends in the formation of incomes of the population, changes in its structure and factors affecting it;
- determination of directions for increasing the efficiency of the economic mechanism for regulating the standard of living of the population by the state;
- study the best world practices of state regulation of living standards and develop practical recommendations for their creative use;

- identification of the structure of consumption of the population and trends;
- Providing scientific conclusions and practical recommendations on the priorities and prospects of the strategy to improve living standards.

### **Object and subject of research**

Various social groups of the population of Uzbekistan are identified as an **object** of study. The subject of the study is economic relations arising in the process of living standards of the population.

## **IV. RESEARCH METHODS**

The study used statistical, mathematical, economic analysis, comparative comparison, a systematic approach, generalization, grouping, series of dynamic growth and scientific abstractions.

### **Key points of the study**

- Studied the author's descriptions of the concepts of "standard of living", "quality of life", "cost of living", "minimum consumer budget", "consumer basket" and methods for their calculation;
- a comprehensive study of the UN, Swedish and French models, which are considered an integral part and concept of the standard of living of the population, indicators of living standards, quantitative and qualitative indicators and their determining factors;
- by analyzing the formation, factors, structure of the population's income, trends in the development of the standard of living of the population, factors that influence the mechanism of the relationship between the income of the population and the standard of living of the population have been identified;
- by analyzing the causes, types and indicators of differentiation of the population by income, and it is justified that the regional differentiation of income of the population is largely determined by economic development;
- the criteria for differentiating the incomes of the population and the characteristics of the formation of middle-class owners in our country are defined;
- the experience of introducing state regulation of income through the minimum wage at the stage of economic liberalization was studied and features of the continental, Anglo-Saxon, Scandinavian and South European models of social protection by the state were identified;
- determined the direction of demographic status and sustainable economic growth of the population;
- The need for calculating the integral indicator of improving the social welfare of the population has been developed and the priorities of the strategy for improving living standards have been developed.

### **Scientific novelty of the research:**

- Conceptual bases of living standards, system of needs are studied and grouped;
- The mechanism of correlation between income and living standards is determined by a number of factors;
- The causes, factors, indicators, regional aspects of poverty and the effective ways to reduce it are identified;
- the current state, trends and future directions of the HDI are identified;
- the objective necessity and practical importance of determining the integral indices of social welfare improvement are justified;
- the concept, priorities and implementation tools of the Strategy for improving living standards were developed.

### **Scientific and practical significance of the research results**

The scientific conclusions and practical recommendations with the scientific significance of the research work can be used as an important source in future specific research work, which is devoted to in-depth study of the fundamental and conceptual foundations of improving living standards in the country. The practical significance of the research is that the scientific recommendations and practical recommendations obtained in the research can be used to improve the legal framework for improving living standards of the country, to develop strategies for improving living standards, and to develop targeted social programs.

### **The main content of the study**

Improving living standards is one of the ultimate goals of the market economy and one of the priorities of state social policy. As a means of achieving this goal, it is to improve the GDP growth, macro- and micro-distribution mechanisms. Improving living standards is not only a result of economic growth, but also an important factor in GDP growth.

The terms 'well-being', 'living conditions', 'lifestyle', 'quality of life' are used to describe the standard of living. The well-being category reflects the basic needs of the population, the main environment in life: the ways and conditions of their satisfaction in work, consumption, social and political life.

In the economic literature, living conditions are defined as the immediate objective conditions of the living: employment, wages and income, forms of migration, the nature of housing, the family welfare, the development of the social welfare system and the social sector.

The notion of 'quality of life', on the one hand, describes the subject's social life and human needs, and on the other, it reflects the living conditions, comforts and conditions.

The relationship between lifestyle, quality, level and well-being can be summarized as follows: "if the standard of living reflects the complexity and character of human activities in the consumer sector, then the lifestyle is the human activity in all areas; and the well-being of the population is a synthesis of these concepts..."[6]. Thus, the well-being of the population is reflected in the application of human needs, the development of which is used in the main spheres of life: labor, consumption, culture, social and political life. The standard of living is defined as the level of its provision with essential commodities and services, the level of consumption and the needs of the population, which can be viewed in two ways: a) in the narrowest sense - by the level of human development (health, opportunities for meeting the needs of the population) and living conditions (environment and safety of the population).

Incomes and social welfare of the population, the level of consumption of material goods and services, living conditions, recreation, etc. are components of the standard of living.

The standard of living of the population can be divided into:

- abundance (the use of benefits that ensure human development);
- normal level (scientifically rational level of rational consumption, ensuring reproduction of the physical and intellectual abilities of a person);
- poverty (the use of material goods within the lower limits of the reproduction of labor);
- beggary (minimal use of material goods according to biological criteria).

The concept of living standards is complex and multifaceted, and there are different definitions in the economic literature.

In the economic literature, views on the consumption of the population at the stage of economic liberalization have come to the fore, and views on the standard of living - on the standard of living. The priority of consumption in assessing

the standard of living is proposed by I. I. Eliseeva [23, 65], V. M. Erebin, A. N. Romanov [6]. In particular, according to I.I. Eliseev, "the basis of living standards is a high level of satisfaction of the population with necessary material goods and services, as well as satisfaction with various rational consumption."

The standard of living is reflected in the structure of consumption of the population and indirectly in its income. Accurate calculations are made in terms of income, price index and consumption.

According to B.K. Goyibnazarova, "the standard of living is a socio-economic category, including material, cultural, domestic needs and improving social conditions" [24, 5].

The definition of "standard of living" is given by quantitative and qualitative indicators of consumption in the definition of P. Khoshimov [25], K.Kh. According to Alibekova [19], on the one hand, the level of population development and the level of opportunities for the development of this consumption, on the other hand, the quantity and quality of goods and services used to satisfy them are considered. In our opinion, it is advisable to include per capita GDP, which is one of the indicators of human development, which is one of the indicators of human development in order to better reflect the standard of living of the population.

V.N. Salin, E.P. Shpakovskaya [26], MG Nazarov [27] stated that the standard of living is a complex and multifaceted category, which is, first of all, the totality of real socio-economic conditions of people's lives. is an important characteristic of social development. This definition provides only a one-sided explanation of the standard of living.

Based on the foregoing, in our opinion, the "standard of living" is the level of satisfaction of the population with the material and spiritual goods necessary for life, functioning, the level of their consumption and satisfaction with the consumption of these products, as well as the level of socio-economic development of the country. determined. The standard of living is also determined by the economic activity of people, the efficiency of the economy, the level of national wealth, the distribution of social wealth and the socio-demographic structure of the population.

Naturally, countries with developed market economies and economies are able to provide their citizens with a higher standard of living and social guarantees than in developing countries and countries with economies in transition. When studying the standard of living, it is important to disclose the content of indicators used in the standard of living [28, 15], [29, 213]:

1. Human health is characterized by his condition, life expectancy, mortality rate, disease severity, as well as physical and mental abilities.
2. Food consumption: timely nutrition, calories in content, quality and environmental cleanliness.
3. Education: the duration and degree of the educational process, the level of academic knowledge, the level of cultural knowledge and the level of access to libraries.
4. Employment and working conditions: working conditions and characteristics, their effectiveness, compliance with personality trends and abilities, freedom of choice of profession, duration, annual leave, etc.
5. Living conditions: living space and its accessibility, amenities, a range of utilities in the village, environmental status.
6. Social security: social equality, employment guarantees temporary disability, the level of support and benefits for families with children, pensions, subsidies, benefits.
7. Clothing: quality, choice, durability and variety of clothes and shoes.
8. Recreation and leisure: the choice of free time, access to sports and entertainment facilities.
9. Human rights: opportunities for human rights, security, protection from epidemics and victims.

Based on the analysis of economic literature, three concepts can be distinguished regarding the concept and structure of the standard of living [30], [31, 254], [8]. Table 1 presents the components of living standards based on the UN, the Swedish model and the French system of standards of living.

Table 1. Living Standards Components

UN Concept	The Swedish model	French model
1. Health	1. Employment and working conditions	1. The size and composition of the population, labor resources and working conditions
2. Food Consumption	2. Economic Opportunities	2. Distribution and use of income
3. Education	3. Political opportunities	3. Activity conditions
4. Employment and working conditions	4. School education	4. Social aspects of living standards
5. Housing conditions	5. Health and medical care	
6. Social security	6. Social Opportunities	
7. Clothes	7. Housing	
8. Leisure and leisure time	8. Consumption	
9. Human rights	9. Free time and leisure	

According to the UN concept, first of all, human health and nutrition are of paramount importance. Western scientists have shown in their research that there is a link between the standard of living, the consumption of good food, and the effectiveness of human labor. The ability of a particular person depends on the timely reimbursement of energy costs incurred by the body in the course of its labor activity. Lack of food directly affects labor productivity.

In general, the purpose of the UN Living Standards Concept is to link all the components and to bring the concept of living standard to the maximum. In our view, it is advisable to prioritize the health of the nation (the UN concept) in prioritizing the quality of life and its regulation.

The main problem of needs analysis is its composition, hierarchy, boundaries, level of satisfaction and capabilities. The standard of living of the population is reflected in the level of consumption or satisfaction. The economic literature examines various views on the system of needs, and the classification of needs, including physiological, existential, social, intellectual, meta and political needs, is perfect. We have proposed a comprehensive description of the needs of the individual on the basis of the needs classification scheme. The first two levels of needs are included in the physiological and existential needs. Economic literature sets minimum, normal, and high levels of living standards.

The minimum living standards are wide and these elements of the system of social security are the basis for the differentiation and calculation of wages, pensions and benefits. It is used in most calculations related to pensions, various subsidies and benefits. As the subsistence minimum applies to the majority of the population, care must be taken for its calculation and application.

One of the major factors determining the standard of living is the income of the population. The income of the population depends on the level of consumer prices. The consumer price index in Uzbekistan was 28.2% in 2000 and 14.3% in 2018 [32]. The increase in the consumer price index will lead to an increase in the cost of living, while also reducing the purchasing power of the final income of the population.

Table-2. Human Development Index and its components in 2017 (Central Asian countries) [1,20-24]

H DI rank 2017	Central Asian countries	Human Development Index (HDI)	Life expectancy at birth (years)	Mean years of schooling (years)	Gross national income (GNI) per capita (2011 PPP \$)	HDI rank 2016
58	Kazakhstan	0,800	70,0	11,8	22 626	60
10 5	Uzbekistan	0,710	71,4	11,5	6 470	107
10 8	Turkmenistan	0,706	68,0	9,8	15 594	106
12 2	Kyrgyzstan	0,672	71,1	10,9	3 255	121
12 7	Tajikistan	0,650	71,2	10,4	3 317	127
16 8	Afghanistan	0,498	64,0	3,8	1 824	168

One of the most important indicators of the quality and standard of living of the population is the Human Development Index (HDI), which provides the basis for studying three possibilities: life expectancy and human health, education and education, and adequate income levels. According to the UNDP, 58 out of 189 countries have the highest HDI, 54 countries with high human development, and the other 38 countries with medium human development. human development). In 2017, the HDI ranked four countries, with the highest HDI ranking from 0.8 to 1.0: Norway, Sweden, Australia, Canada, the Netherlands, Belgium, USA and Japan. Kazakhstan finished the group with 58 points. The 54 countries with a high HDI range from 0.700 to 0.799 include Iran, Turkey, Georgia, Mexico, Armenia, China, Ukraine, Uzbekistan, and Turkmenistan. The average development level is 39 countries with an index of 0.556 to 0.699: Egypt, Vietnam, Kyrgyzstan, Tajikistan, India, and Pakistan. The countries with low human development include 38 countries with an HDI of 0.354 to 0.555: Nigeria, Senegal, Afghanistan, Chad [1,20-24], [33].

One of the major factors determining the standard of living is the income of the population. The role of income in human activities is directly influenced by the composition and level of consumption. The income structure of the population varies according to the state of production and the development of market relations. In the structure of the population's income, income, dividends, business income, and individual income from household activities are growing steadily. Their composition is multifaceted.

**Table- 3.** Structure of total income of the population of the Republic of Uzbekistan [34](in %)

№	The name of indicators	2013	2014	2015	2016	2017	2018
	<b>Total income, total</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>
	<i>including:</i>						
<b>I.</b>	<b>Primary income</b>	<b>73,0</b>	<b>75,6</b>	<b>79,7</b>	<b>84,0</b>	<b>79,1</b>	<b>76,3</b>
	<i>of them:</i>						

1.	Income from production	70,3	73,2	76,9	80,9	75,8	73,3
2.	Income from property	2,8	2,4	2,8	3,1	3,4	3,0
<b>II.</b>	<b>Income from transfers</b>	27,0	24,4	20,3	16,0	20,9	23,7

Structural changes in the total income of the population are due to an increase in primary income (income from production and property income) in the share of paid income (from 73.0% in 2013 to 76.3% in 2018) and a proportional reduction in the share of income from transfers (27.0% to 23.7%). This reflects the development of market relations in the process of generating income. In recent years, there has been a positive dynamics of wage growth in the structure of cash incomes of the population compared to other sources of income.

The existence of hidden income in every society is due to the imperfection of the economic system and the economic mechanism. Of course, there are both objective and subjective reasons for obtaining such income. Although illegal income is considered a negative phenomenon in society, the degree of its existence depends on the economic policy pursued by the state. [35]

In the economic literature, classified income is not considered official income of entities. Illegal income is consumed and affects the standard of living and material well-being of the population. At the stage of economic liberalization, there has been an increase in household incomes compared to consumer spending.

The impact of changes in income on living standards depends on:

1. Recognizing the business opportunities of people to effectively use available resources in the market and engage in effective business.
2. The status of the property, the amount of property and the degree of involvement of the existing property in production.
3. Providing business entities with freedom to fully realize their potential.
4. Ensure proper coordination between market and state mechanisms in order to regulate the economy and prioritize the market mechanism of social protection of the population.
5. A sharp increase in the role of personality factors in production.
6. A sufficient level of benefits and preferences to attract foreign investment in the development of the national economy.
7. The presence of market forms, their level of development and normal functioning.

Minimum wages play an important role in improving living standards and providing social guarantees. If this indicator is low, the share of private incomes will be relatively low, the solvency of the population will decrease, and the basic needs of the population will not be met, and the established wages will not stimulate people to work effectively. As market relations develop, the minimum wage should be determined based on the level of economic development of the country and the consumer basket, determined by the standard of living. In the context of economic liberalization, the minimum wage in our country is not based on the consumer basket.

Society has its own mechanism for generating income and expenses, which is determined by the level of development and the economic condition of the country's productive forces.



Excess population income indicates the wealth of society, and dissatisfaction with consumption indicates a low standard of living. In the first case, political and social stability indicates a higher share of the middle class and a better standard of living, while in the second case, a high share of the poor indicates that social differences are exacerbated.

The market mechanism also contributes to material inequality and social stratification with the welfare of the population. However, this inequality should not exceed social inequality and negatively affect social stability in society. This applies, first of all, to the difference between the lowest and highest incomes, that is, the income of the rich and the poor. As the gap widens, social risks increase. On the contrary, if this difference decreases, there is a tendency to social balance. Inequality is based on the decile coefficient, which is usually calculated as the ratio of the income of 10% of the rich to 10% of the poor. According to international standards of economic security, this ratio should be (13-15: 1). According to UN experts, an excess of this indicator indicates that the country is in a poverty zone. In EU countries, this figure is stricter and is 7 times.

Uzbekistan has deliberately pursued a policy of preventing a high level of income differentiation. According to official estimates, the Gini coefficient for the period 2000-2017. decreased from 0.39 to 0.26 (at the threshold recommended by the UN of 0.35–0.37 and the optimal level of 0.25–0.26). [36]

The results of the measures taken contributed to a consistent decrease and stabilization at the optimal level of differentiation of population incomes: the ratio of incomes of 10% of the most and least well-off strata of the population (decile ratio) decreased from 53.3 times in 2000 to 6 times in 2017 (expected in 2018 6.3 times). Another indicator of differentiation of household incomes - the quintile coefficient - decreased from 16.7 times to 4 times, in 2018 it is expected to 4.3 times.

A comparison of Uzbekistan with other foreign countries and threshold values of income differentiation shows that the current level of the Gini coefficient (0.26) is optimal.

The relationship between GDP and the Gini coefficient (CG) in socially oriented economies should be inversely proportional. GDP growth will lead to a decrease in the Gini coefficient, which is an indicator of income concentration. If GDP does not fall with GDP growth, this new liberal model is typical of countries with economies in transition that form market relations.

The Gini coefficient is accepted in the world as 0.37, and the deviation of the real coefficient indicates a decrease in the social efficiency of society. If CG approaches zero, competition for the economic development of society will be lost. QOL convergence together with (1) leads to an increase in the level of passivity in society. In Russia, in 2006, CG was 0.48, and in 1991, CG was 0.26. [37] These data show that social stratification of the population has intensified. The balance of the social structure of society is one of the qualitative indicators of the stage of economic transformation in a transition economy.

In developed countries with a market economy, the share of the middle class in the population should exceed 50%. In the civilized population of the country, the middle class is 60-70%. An analysis of world practice shows that the social composition of countries with a transition period is CG - 0.37, the share of the middle class in the economy is more than 50%; the unemployment rate is 4-5% of the economic population; savings rate exceeds 10% of GDP; The competitiveness rating in the global economy should be at least 20, and GDP per capita at least 20.

In economics, there is a law according to which the growth of per capita income requires an appropriate balance between the level of production and the rate of growth. Per capita income will depend on output and population. To increase per capita income, production growth should grow faster than population growth.

In world practice, in the first twenty years of the XXI century, two factors related to the differentiation of household incomes changed: if earlier economic growth was aimed at reducing state social security programs and reducing differences in wages, now the difference in wages has stimulated economic growth. reductions have little impact on economic growth. The impact of the first factor is reflected in developed countries, and the second - to cover the impact. In countries with low per capita GDP, the influence of the second factor is significant and contributes to a significant increase in Gini's correlation with economic growth.

At the stage of economic liberalization, the relationship between economic growth and, above all, income inequality is determined by the expansion of access to human capital - medical care, general and vocational education, and advanced technologies. This naturally leads to a negative correlation between the Gini coefficient and per capita GDP growth. The knowledge and skills acquired by people will be returned to their full ability and good wages. An analysis of international economic forums shows that the Gini coefficient often correlates with the quality of secondary schools and the number of scientists and engineers in the country [38].

In countries with large investments in human capital, these investments are expected to return, and in developing countries it is important to increase human capital. State participation in social policy should be aimed at maximizing human capital, ensuring equal access to modern technology, education and medical services.

One of the key areas for improving living standards is poverty reduction. According data the World Bank, poverty rates in Central Asia continue to decline overall, the pace of poverty reduction is slowing.

High levels of poverty remain in pockets of rural and remote areas, which also suffer from lack of employment opportunities, says new Poverty Outlooks for Central Asian countries.

Since the 2000s, all Central Asian countries have made significant progress in reducing poverty, but most of this progress occurred in the first few years of that decade. In the eight years from 2002 to 2009, the poverty rate dropped an average of seven percentage points per year in both Tajikistan and the Kyrgyz Republic – down from nearly 70 percent to 25 percent in Tajikistan and to 20 percent in the Kyrgyz Republic. Since then, however, poverty rates have fallen much more slowly: by only one percentage point per year on average in Tajikistan (from 25 percent to a projected 15 percent in 2019), and by nearly zero in the Kyrgyz Republic, stalling at about 20 percent from 2009 through to today.

Poverty in Kazakhstan was already lower in the early 2000s and declined at a rate of four percentage points per year from 2002 to 2009, at which point the country had almost eliminated poverty, as measured by the low-middle-income indicator of \$3.20 per day. However, when measured by the upper-middle-income indicator of \$5.50 per day, the poverty rate in Kazakhstan reached its lowest point in 2013, at about 6 percent, and since then has remained stuck above 7 percent.

The slowing rate of poverty reduction in Central Asian countries reflects several economic challenges, as well as difficulties securing jobs with decent incomes for vulnerable groups of the population.

Youth and women in the region are most likely to struggle with unemployment or low incomes. In Uzbekistan, World Bank data shows that over 25 percent of women aged 15-24 were unemployed in 2018, compared to 13 percent of men in the same age group. In the Kyrgyz Republic, 15 percent of women aged 15-28 were unemployed at that time, compared to only 9 percent of men in the same age group [39].

In the poverty maps for Central Asian countries reveal that many of the remaining poverty hotspots in the region are in rural areas that lack close integration with urban growth centers. This is especially pertinent for parts of Tajikistan and the Kyrgyz Republic, where poverty rates are above 40 percent in the most remote districts.

The analysis also finds that the middle-class in Central Asia is almost entirely concentrated in and around a handful of big cities: Nur-Sultan, Almaty, Tashkent, and to a lesser extent, in Dushanbe and Bishkek. One of the main challenges faced by all countries in the region is ensuring that people are not excluded from these dynamic labor markets.

The World Bank recommends policies that provide greater employment opportunities for people, expanding the availability of affordable housing in growing and prosperous cities, encouraging faster wage growth, and supporting vulnerable groups so they can be more competitive in the labor market [40].

Our analysis shows that poverty in Uzbekistan is caused by the following factors:

- family structure and the number of dependents, primarily with children;
- level of education of the head of the family;
- the level of employment of the head of the family and its able-bodied members;
- employment in low paid sectors.

Microfinance is a promising, important way to reduce poverty. Microfinancing of the most disadvantaged segments of the population is necessary to ensure a stable level of savings, to invest in own enterprises or at home, to protect against high risks and solve problems associated with high costs.

Implementing strategies to improve living standards is currently vital. This comprehensive strategy can be achieved by changing the characteristics of economic growth, accelerating employment, including the development of the food industry, food industry, light industry, localization of production of spare parts and components for small machine-building industries, services and home-based labor. expansion policy, as well as redistribution by increasing public investment in socio-economic infrastructure, including in rural areas, provides for a number of strategic steps that will help strengthen its reputation.

Further poverty reduction is associated with high economic growth rates that will ensure the effective employment of the poor, reducing inequalities between the urban and rural sectors.

Achievement of the goals of social policy in Uzbekistan is achieved with the help of indicators, which include the process of implementing the relevant targeted programs. For example, the introduction of the indicator of gas supply and water supply to the population reflects the process of implementing the program for supplying the rural population with natural gas and drinking water. The introduction of indicators of the education system indicates the development of a national training program. The implementation of social policy requires a set of indicators and an integrated indicator to show that each region, city and district program is designed for systematic social monitoring.

The study proposes the inclusion of an integrated social security index. When calculating the Integrated Welfare Index, a three-level system is used to assess the specifics, demography, availability of natural resources, economic potential, development of social infrastructure and their impact on the living standards of each region:

- indicators of the resource potential of the region, characterizing the differences in the reserves of mineral raw materials, water and labor resources;
- indicators of economic potential;
- socio-demographic indicators.

The calculation of the Integrated Welfare Index at the regional level is carried out as follows:

- for each system unit, for each region, the estimate is calculated based on the selected base values, regional indicators are calculated as the average for the country;
- summation of scores on the sum of all the basic indicators and, thus, the determination of the total average score;

- The calculation of the average score is obtained by dividing the average total score for each region by the average for the country;

- The resulting integrated index of social well-being is determined by the arithmetic average of two indicators: the resource economic potential and the index of socio-demographic development.

Each individual district is assigned a color (place) according to the Integrated Welfare Index.

The development of a welfare index and systematic social monitoring in all regions will allow:

- assessment of the results of government decisions at the regional level and the effectiveness of the use of available resources;

- identifying the causes of inefficiency of individual regions and determining the main priorities in their development.

A systematic approach to the development of inefficient territories will become possible thanks to the Comprehensive Program for the Socio-Economic Development of Regions.

An important strategic task at the macro level for Uzbekistan is to improve the quality of economic growth, technological modernization, international competitiveness, diversification of the economy and turning the country into a technologically advanced producer of complex goods and services. This will expand employment opportunities, increase incomes and improve living standards.

The goal of the Strategy for ensuring the living standards of the population of the Republic of Uzbekistan is to create a modernized and diversified economy that ensures competitiveness in the world market, comprehensive development of all regions of the country, fair distribution of income and improving the quality of services in the field of education, healthcare and other social sectors. improve the standard of living of the population.

## V. CONCLUSION

The following **conclusions** were drawn from the study of the living standards of the population:

1. Determining the standard of living, living conditions, well-being of the population, “safety of life”, “lifestyle”, “quality of life”, “human development index” and human development index used to assess and evaluate living standards. The role of the category was appreciated. The objective necessity, the economic essence of the concept of living standards are clarified and a system of indicators is defined.

2. The welfare of the population is reflected in the level of consumption or satisfaction. Different views on the needs system were studied and grouped in the economic literature, and classification needs, including physiological, existential, social, intellectual, meta and political needs, were carefully analyzed during the analysis of classification. Based on the classification scheme of needs, a comprehensive description of the needs of the person was proposed.

3. The liberalization of the economy is based on a number of factors.

4. The balance of income and expenditure of the population plays an important role in living standards. Quantitative aspects of the impact of consumer price levels on income were investigated using the Laspeyres and Paasche indices.

5. The main indicators of living standards are: the number and structure of incomes of the population, the distribution of income between different segments of the population, the HDI and the cost of the consumer basket.

6. In determining the nature of the categorization of income, it is important to consider differences in wages by sectors of the national economy. The analysis shows that the process and pace of economic reforms have led to sectoral and regional differentiation of wages due to differences in different sectors. The level of wages depends on the ratio of supply and demand for labor.

7. The mechanism of correlation of incomes and living standards of the population is determined by the level of employment in industry, industrial structure, entrepreneurial activity of the population and its change. Factors of changes in household incomes and the structure of market incomes of the population vary depending on the forms of business and ownership.

8. Different levels and factors of income of the population differ in income from the use of property, different and more efficient use of savings, different skills acquired in the process of training and study; number of dependents per population. Two factors strongly affect income differentiation. First, the agricultural sector plays an important role in the national economy, and 50.6% of the population lives in rural areas. Secondly, the presence of large families in the population. These circumstances exacerbate the impact of economic and demographic conditions on income stratification.

9. The standard of living of the population is determined by state social policy. The main objective of social policy is the formation of targeted social protection of the population by supporting the poor, ensuring the right to work and regulating employment.

10. Reasons, absolute and relative manifestations of poverty in countries with economies in transition and definition of indicators. To measure it, we used indicators of the share of the poor in the total population, the income characterizing poverty, and the intensity of poverty.

11. In determining the level of poverty, each country has its own specific goals and objectives based on the level of development of the national economy, the subsistence level, the protection of the poor and poverty standards. It has been established that the structure of the economy and the development of the manufacturing sector have a strong impact on poverty and are factors contributing to poverty. World practice shows that economically developed countries seek to avoid a deeper stratification between the middle and poorest segments of the population in order to overcome social tensions, while in developing countries poverty is associated with a policy of maintaining a minimum standard of living.

12. The analysis shows that the poverty level in our country is determined by the following factors: family structure and the number of dependents; level of education of the head of the family; level of employment of the head of the family and his able-bodied members; the presence of a low-paying job.

The study developed the following practical recommendations: improving living standards and reducing poverty:

1. Develop a strategy for sustainable economic development and improving the welfare of the population of Uzbekistan and implement the following programs: - ensure sustainable economic growth in the country; expansion of areas of work; expansion of entrepreneurship, self-employment and forms of self-employment; organization of community jobs, continuous growth in average incomes and poverty reduction.

2. It is necessary to ensure sustainable economic growth in order to achieve a decent standard of living for all segments of the population, and also to ensure that various segments of the population have access to sustainable growth opportunities through employment, land, loans and other productive resources.

3. Uzbekistan should pursue a policy of further improving the Integrated Welfare Index in terms of improving living standards.

4. When calculating the Integrated Social Security Index, we used indicators of each region, demographic status, availability of natural resources, economic potential, development of social infrastructure and their impact on living standards.

5. Amendments and additions to the current legislation that clearly define the categories of unemployed and needing employment in the regions.

6. Reducing the tax burden will lead to a rapid increase in purchasing power through the effective use of funds left at the disposal of taxpayers, an increase in income and employment.

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