MACROECONOMICS

How to cite this paper: Mkrtchyan, T., Vardanyan, K., Avagyan, G., Petrosyan, G., Papinyan, M. (2025). Quantitative and Qualitative Aspects of Armenia's Economic Growth. *Messenger of ASUE, 2*(80), 5-29.
DOI:10.52174/1829-0280_2025.2-5
Received: 18.11.2025. ***Revision:*** 24.11.2025. ***Accepted:*** 22.12.2025.

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QUANTITATIVE AND QUALITATIVE ASPECTS OF ARMENIA'S ECONOMIC GROWTH[1]

The diversity of economic practices, the decisions made by regulatory bodies of different countries over time, and the rapid development of science and technology force economists to understand that the drivers of the economy change over time, and consequently, the factors that determine and influence economic growth. The economic

[1] The article was prepared within the framework of a research project funded by the Amberd Research Center of ASUE on the topic "The quality of economic growth in the Republic of Armenia and public policy aimed at ensuring it".

growth observed in the Republic of Armenia in recent decades has often been unstable, due to both external stimuli (geopolitical changes, the COVID-19 pandemic, the Russian-Ukrainian war) and internal structural challenges. According to data published by the Statistical Committee of the Republic of Armenia, the Central Bank of the Republic of Armenia, the IMF, and the World Bank, the Armenian economy has grown actively, but the nature of this growth has not always been stable and effective in the long term. A certain economic structure has developed in the Republic of Armenia that negatively affects the country's development and the well-being of the population, in particular, in the form of a disproportion between available resources and the results of their use, inequality in the processes of income formation and distribution, disruption of the functioning of economic mechanisms, and other similar manifestations.

To assess the quantitative and qualitative aspects of economic growth in the Republic of Armenia, the sectoral structure of the Armenian economy and the territorial distribution of economic growth were examined. The analysis enabled us to identify structural changes, highlight the features and patterns of economic development, and determine the main driving forces of growth.

Keywords: *quality of growth, development, inclusivity, structural productivity, poverty*
JEL: E61, O11, O43
DOI: 10.52174/1829-0280_2025.2-5

INTRODUCTION. Currently, the challenges facing national economies necessitate focusing not only on quantitative but also on qualitative changes in economic growth. The quality of economic growth is of great importance because it directly affects the quality of life of the population, ensuring social cohesion. It is important to note that the quality of economic growth, due to its intangible nature and long-term perspective, has proven less attractive to politicians compared to more obvious and quickly achievable economic goals. The quality of economic growth and economic development often takes a back seat, giving way to the quantitative side of economic growth, and in some cases, are even sacrificed for high rates of economic growth. In this case, the economic growth achieved may provide the country with significant progress over a certain period of time, but it will not be sustainable if it does not encompass all sectors and industries of the economy. Ensuring this condition is extremely important for any body implementing economic policy. This issue is relevant for almost all countries in the world, including Armenia, since the country is in a middle-income trap and there is a need to develop new approaches to economic growth and development. Ensuring rapid economic growth at the expense of long-term resources also jeopardizes social stability.

The purpose of this article is to identify opportunities to improve the quality of economic growth in the Republic of Armenia by interpreting the economic growth model of the last decade and identifying distortions in the sectoral and territorial structure of the Armenian economy, which is an

important basis for developing comprehensive measures to improve the quality of economic growth.

The main drivers of growth are services and trade. Over the past decade, there has been an increase in the level of sectoral concentration in the formation of production, employment, and average monthly wages, the main reason for which is the growth of the service sector at the expense of other sectors (especially agriculture). The employed are also mainly concentrated in the service sector. Especially in the context of the high rates of economic growth in recent years, this does not provide the necessary inclusivity. Growth is mainly focused on re-exports, where the value created does not stimulate the development of the domestic economy, and the economic benefits remain in the hands of a few companies and a narrow circle of individuals. The foregoing proves that the quantitative and qualitative aspects of Armenia's economic growth require regular study and research, which underscores the relevance and importance of the issues addressed in the article.

LITERATURE REVIEW. The quantitative and qualitative aspects of economic growth have been and continue to be an important topic of discussion among many economists. In addition to GDP growth rates, the concept of "quality of economic growth" includes such important components as improvements in the economic structure, inclusiveness, sustainability of economic growth, and the well-being of the population. Guided by this logic, research conducted in Armenian academic circles was examined and commented on, particularly in the area of assessing the quality of economic growth, rather than the factors of economic growth or the quality of the economy.

A group of economists (Markosyan & Matevosyan, 2020), guided by the logic of assessing the progressiveness of the new economic structure and the potential for creating new added value in the economy, analyzed structural changes in Armenia's GDP since the 1990s. The authors note a shift in the structure of the economy toward the service sector, while the role of industry and agriculture is declining. Based on their analysis, the authors conclude that the share of wages in GDP has declined, in contrast to gross profit and gross mixed income, indicating an undervaluation of labor in Armenia. Such shifts are typical of developing or transition economies, but it is also important to understand whether these changes contribute to qualitative economic development. The authors emphasize that these structural changes must be accompanied by stable market institutions and increased labor productivity; otherwise, growth will remain superficial.

Among the studies conducted, an attempt to assess the quality of growth is noteworthy (Mkrtchyan & Navasardyan, 2024). The central argument of their study is that economic growth cannot be considered qualitative unless it is based on large-scale, socially inclusive, environmentally responsible, and structural transformations. The authors constructed an index of the quality of Armenia's

economic growth based on national development priorities and relevant local indicators. A time-series analysis of this index clearly demonstrates a growing gap between the quantity and quality of growth. High growth rates recorded in individual years did not coincide with increased labor market formalization, equitable income distribution, or environmental sustainability. This finding supports the authors' broader argument that Armenia's growth trajectory remains fragile and insufficiently transformative. The study is a fundamental step in rethinking Armenia's economic development strategy, as the authors shift national discourse from a narrow focus on growth rates to a more comprehensive and forward-looking approach, offering a practical basis for policy intervention.

Another noteworthy study (LUYS Foundation, 2023) provides a comprehensive assessment of structural changes in the Armenian economy over recent decades. The authors first analyzed the current state and development dynamics of the Republic of Armenia, highlighting the most significant changes that have occurred in recent years and their likely impact on economic growth. Specifically, they emphasized that the Armenian economy has gone through distinct stages of transformation, during which the main challenges included declining labor productivity and the unbalanced development of the "export" and "non-export" sectors of the economy. The ability of each GDP component to generate added value has also changed. The influence of the external economic environment, particularly global market dynamics and regional political factors determining Armenia's development prospects, was also taken into account. The authors conclude that quantitative indicators of Armenia's economic growth have shown some positive dynamics; however, qualitative aspects such as human capital development, technological advancement, and structural improvements in productivity remain challenging. The study's findings emphasize the importance of economic diversification and fostering innovation to ensure sustainable economic growth and lasting structural change.

Another study (Nersisyan, 2018) presents the structure of Armenia's GDP by sector and addressed the issue of employment. The results indicate that the service sector is the driving force of the Armenian economy, but it is problematic, particularly in terms of declining production potential and export opportunities. This analysis is particularly important for assessing the qualitative aspect of economic growth, as it highlights structural imbalances as a significant obstacle to sustainable development. It is also noted that the development of various economic sectors is constrained by institutional and market-operational problems, limiting improvements in the qualitative component of economic growth.

The research by Shirinyan and Papoyan (2020) analyzes the differences in economic growth between regions and provinces of Armenia using cluster and regression analysis. The study aimed to identify the key factors promoting or counteracting territorial economic inequality, taking into account both

socioeconomic and institutional factors. Cluster analysis allowed for grouping Armenian regions by regional GDP per capita and the most significant factors influencing it. Regression analysis was used to generate a short-term scenario forecast for regional GDP per capita. The study's results demonstrate that territorial stratification of economic growth in Armenia is largely determined by investment concentration, the level of infrastructure development, and varying levels of human capital. It is noted that these inequalities can become an obstacle to balanced economic development, which, in turn, impacts the country's economic stability and social harmony.

To assess the quality of economic growth, which characterizes the true value of economic growth, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, 2016) has established a set of criteria, aligning them with the highly relevant Sustainable Development Goals, which combine productivity with economic sustainability and inclusiveness. Chinese models (Zhang et al., 2020) prioritize environmental efficiency GML or structural upgrading through innovation and finance HQD (Zhang et al., 2023), while the GPI (Global Peace Index) redefines quality as an economic value based on well-being. A key feature of these studies is that they all use specific approaches to weighting and aggregating indicators to obtain a single indicator for assessing the quality of economic growth. HQD (China) stands out by combining index construction with econometric models to establish causal relationships, while GML separates growth into the effects of efficiency and innovation.

The quality of economic growth encompasses not only GDP growth but also technological innovation, coordinated development, environmental protection, openness, and social security. Building on the ideas of Wang et al. (Xi & Wang, 2023), as well as Lin and Zhou (Lin & Zhou, 2022), in another large-scale study, Zhang et al. developed the High Quality Development Index, based on five dimensions: innovation, coordination, greening, openness, and sharing, to assess the quality of economic growth in China. This index, in turn, has become one of the quantitative indicators that has become a tangible tool for evidence-based assessment of the quality of economic growth.

Thus, the reviewed studies confirm that traditional measures of economic growth cannot reflect whether economic growth has contributed to development, improved social well-being, ensured economic stability, strengthened institutions, etc. As a result, researchers and numerous international organizations have developed composite indices, statistical models, and alternative welfare measures to assess the quality of economic growth. Each researcher attempts to interpret the quality of economic growth in their own way, identifying the component of growth quality considered most relevant to their study.

RESEARCH METHODOLOGY. The methodological basis of the study is based on methods, principles, and categories widely used in international practice.

During the analysis, various indicators assessing the state of the economy as a whole were considered as targets. Specifically, the broadest possible information base characterizing the socioeconomic development of the Republic of Armenia was developed. Indicators characterizing the structure of the Armenian economy, productivity indicators of the main sectors of the real sector, and indicators characterizing the commodity and geographic structure of exports were analyzed. In accordance with the objective of the study, various methods were used, including comparative and dynamic analysis, which allowed us to evaluate data dynamics over time and study the behavior of indicators in the context of the impact of various events. The use of statistical methods allowed us to process the data, transform it, and identify cause-and-effect relationships between indicators. To visualize changes in indicators, the data were presented in tables and graphs. Descriptive statistical analysis was used to evaluate average and relative indicators and to study structural shifts.

Economic activities in Armenia are grouped into primary, secondary, and tertiary sectors. To assess the degree of structural shifts in the Armenian economy from 2012 to 2024, the Absolute Value Norm[2] and the Modified Lilien Index[3] were used. The formulas are presented below:

$$NAV_{s,t} = 0.5 \sum_{i=1}^{n} \left| x_{i,s} - x_{i,t} \right| , \qquad MLI_{s,t} = \sqrt{\sum_{i=1}^{n} x_{i,s}\, x_{i,t} \left(\ln \frac{x_{i,s}}{x_{i,t}} \right)^2 },$$

where

$x_{i,s}$ is the share of sector i in GDP in year s,

$x_{i,t}$ is the share in the previous year.

The NAV and MLP were calculated for five economic sectors: agriculture, mining, manufacturing, construction, and services, which grouped economic activities. The indices used to assess territorial structural distortions of the Armenian economy were also calculated to assess distortions by region. The Herfindahl index was used to assess the degree of concentration in the Armenian economy. It was calculated for various classifications of economic structure, by five main sectors, and by type of economic activity.

When assessing the quality of economic growth, it is important to determine the proportionality of the results of economic growth among different segments of society. High economic growth rates accompanied by high inequality cannot reflect real social progress and improved well-being.

The proportionality of distribution is assessed using several indicators: the Gini coefficient, the ratio of "polar" quintiles (the ratio of the income or

[2] NAV is an indicator that characterizes the level of structural shifts, which takes values in the range [0-1] and if it is close to 0, then there is no structural shift, and vice versa.

[3] MLI is an indicator that characterizes the rate of structural change. It also fluctuates within the range [0–1], and the closer it is to 0, the slower the rate of structural change, and vice versa.

expenditure of the top 20% of the population to the income or expenditure of the bottom 20%), and the ratio of "polar" deciles (the ratio of the income or expenditure of the top 10% to the income or expenditure of the bottom 10%). Households typically do not disclose their income, so consumer expenditure indicators are more reliable than income indicators. The conducted analyses and assessments are based on statistical databases, reports, presentations of the Statistical Committee of the Republic of Armenia, the Central Bank of the Republic of Armenia, the Government of the Republic of Armenia, the Ministry of Economy of the Republic of Armenia, individual studies, and published reports of Armenian and foreign organizations and experts on economic growth.

ANALYSIS. Given the same rate of economic growth, the potential for poverty reduction, increased employment, and human development varies depending on the country's economic structure, economic and institutional conditions, and the economic policies pursued.

Between 2000 and 2024, Armenia's economic growth went through several stages, including periods of rapid growth, recessions, and recovery, demonstrating the economy's vulnerability to internal and external shocks.

From 2000 to 2008, the GDP grew by an average of 10-12% per year, driven by foreign investment and the active development of construction and services. In 2009, as a result of the global financial crisis, the real GDP declined by 14.1%, with the construction sector declining by 41.3% and the export sector declining by 32.5%. A recovery was observed in subsequent years, but the growth rate slowed significantly. Growth of 7.2%, recorded in 2012, was the highest since the crisis, but from 2013 to 2015 it remained at an average of 3-3.5%. During these years, the share of the services sector increased, while construction and agriculture showed a downward trend.

In 2016, GDP growth was only 0.2%, due to the impact of sanctions against Russia and the currency crisis. In 2017, buoyant domestic demand drove growth of 7.5%, the highest in the past decade, but in 2018 it declined to 5.2% due to political reforms and weakening external factors. In 2019, economic growth reached 7.6%, primarily driven by trade and services, while agriculture continued to decline.

In 2020, the pandemic and military action led to an economic contraction of 7.2%, one of the deepest among post-Soviet countries. Trade and services contracted by 9.2%, while the financial and insurance sectors grew by approximately 8.9%, driven by the expansion of digital banking services. The economy began to gradually recover in 2021, but in 2022–2023, it faces new challenges related to the Russian-Ukrainian war and regional tensions.

In 2022, economic growth amounted to 12.6%, driven by the influx of Russian capital and migrants, as well as a recovery in domestic consumption and services in finance, information technology, transportation, hospitality, and catering. However, the share of industry declined.

At the beginning of 2024, the economy remained highly active, but construction, industry, and services remained the main drivers of economic growth. However, the growth structure continues to reflect a combination of short-term positive impulses and deep structural vulnerabilities.

Armenia's economic activity dynamics in 2024 were primarily determined by the gradual neutralization of the factors that had driven high growth rates in previous years. In 2024, the impact of external factors, particularly the declining role of re-exports, led to a slowdown in economic growth[4], reducing it by approximately 2.4 percentage points.

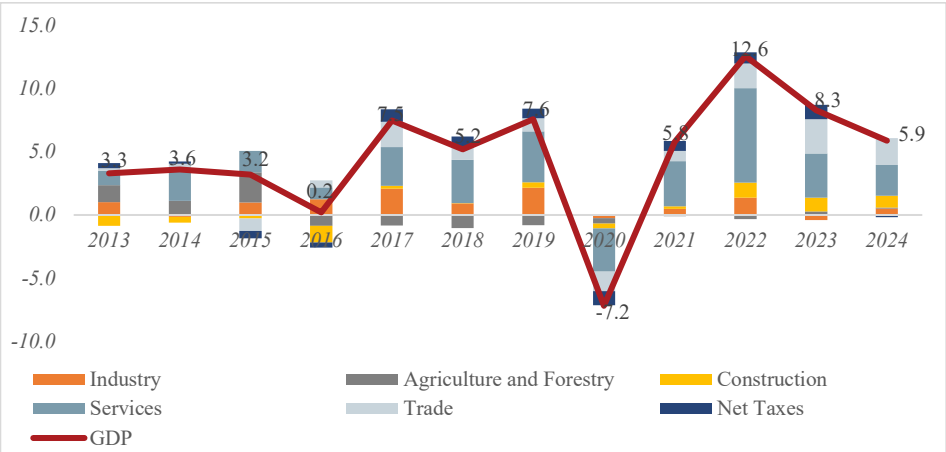

Figure 1. ***Armenia's economic growth and contribution to the growth, 2013-2024, %***[5]

If we examine data for 2013–2024, the contribution of various sectors to Armenia's economic growth was relatively balanced until 2019. However, starting in 2019, the service sector began to develop dynamically, and the impact of retail and wholesale trade on the economy increased significantly. Since then, the contribution of these sectors to GDP growth has rapidly increased, becoming one of the main drivers of economic development.

[4] The website of the Ministry of Finance of the Republic of Armenia "2025 Budgetary Message-Explanatory Memorandum of the Government of the Republic of Armenia" Source: https://minfin.am/hy/page/petakan_byuje_2025t

[5] The calculations were made by the authors using data published by the Statistical Committee of the Republic of Armenia. Source: https://www.armstat.am/am/?nid=202

Table 1

Structure of GDP of Armenia by sectors, 2022-2024, (%)[6]

	2022	*2023*	*2024*
GDP (at market prices)	**100.00**	**100.00**	100.00
Taxes on products (net of subsidies)	10.39	10.70	9.90
Value added (at basic prices)	89.61	89.30	90.10
Primary sector	14.15	11.10	10.80
Agriculture, forestry and fishing	10.37	8.10	7.80
Mining industry and open-pit mining	3.78	3.00	3.00
Secondary sector	21.50	19.90	20.00
Manufacturing	11.31	10.20	10.20
Supply of electricity, gas, steam, and good quality air	3.00	2.40	2.40
Water supply, sewage, waste management, and recycling	0.39	0.40	0.30
Construction	6.81	6.90	7.11
Tertiary sector	53.96	58.30	59.30
Wholesale and retail trade: repair of motor vehicles and motorcycles	11.59	13.70	13.90
Transportation and warehousing	3.74	3.60	3.40
Accommodation and catering	1.94	2.20	2.40
Information and contact	4.54	5.40	5.50
Financial and insurance activities	8.01	7.80	9.10
Real estate-related activities	7.91	8.70	9.60
Professional, scientific, and technical activities	1.19	1.60	1.70
Administrative and support activities	0.72	0.90	1.00
Public administration and defense: compulsory social insurance	4.74	5.30	4.00
Education	2.46	2.40	2.50
Healthcare and social services for the population	5.49	5.50	5.10
Culture, entertainment, and leisure	2.55	2.70	3.10
Other maintenance services	0.64	0.60	0.60
Activities of households as employers: production of undifferentiated goods and services by households for own consumption	0.04	0.00	0.00
Financial intermediation services indirectly measured (FISIM)	-1.59	-2.10	-2.60

Statistical data show that over the past ten years, no significant structural shifts have been recorded in the shares of economic subsectors with particularly small contributions to Armenia's GDP. However, significant shifts have been observed, primarily due to changes in the shares of agriculture, construction, finance and insurance, information and communications. The primary sector's share of GDP has declined, driven not so much by significant changes in production volumes within the primary sector, but by the significant growth of the tertiary sector. Regarding the secondary sector, a downward trend in its share has been observed, while the tertiary sector's share has gradually increased due to the growth of four or five sectors.

[6] The Statistical Committee of the Republic of Armenia, Databases, Other databases, Macroeconomic indicators and national accounts, SNA 2008, Annual indicators, GDP production, GDP, Source: https://armstat.am/am/?nid=202

In recent years, the accommodation and catering sector has particularly stood out among the tertiary sectors for its growth in GDP share. The "culture, entertainment, and recreation" subsector also experienced high rates of growth in its share of GDP, particularly until 2020-2021. In 2024, the "Wholesale and retail trade: repair of motor vehicles and motorcycles" sector accounted for the largest share of GDP, at 13.9%. Although this figure remained unchanged from 2012 to 2023, the subsector's output doubled. The shares of the "Public administration and defense: compulsory social insurance" and "Healthcare and social services" sectors in GDP also increased. The shares of the "Information and communications" and "Financial and insurance activities" subsectors also went up. The "Education" sector's share of GDP, despite significant growth over the period under review, increased only slightly and has even declined in recent years.

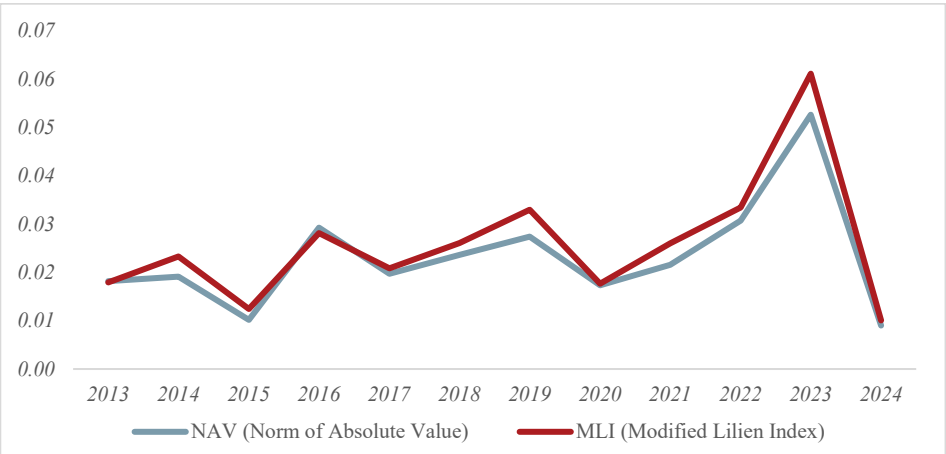

Figure 2. ***The absolute value norm and the modified Lilien index characterizing structural shifts in the Armenian economy in 2013-2024***[7]

It should be noted that both indicators are significantly less than one during the period under review, indicating a virtually insignificant change in the economic structure. However, in recent years, except for 2024, these indicators have shown a trend of a slow growth.

The results of the Hirschman-Herfindahl index indicate a high level of concentration during the period under review, driven by an increase in the share of services and a decline in the share of agriculture and construction, which has grown steadily since 2022.

We also calculated this index for more specific sectors. The picture is significantly different, as the services sector, in particular, and it is more fragmented.

[7] The Statistical Committee of the Republic of Armenia, Databases, Other databases, Macroeconomic indicators and national accounts, SNA 2008, Annual indicators, GDP production, GDP, Source: https://armstat.am/am/?nid=202

Table 2

Hirschman-Herfindahl Index for the Armenian Economy 2012-2024

Year	*Herfindahl Index for five major sectors*	*Herfindahl Index by economic activity*
2012	3269,13	857,61
2013	3320,44	853,77
2014	3469,13	822,59
2015	3508,13,	785,10
2016	3623,39	747,47
2017	3693,74	719,77
2018	3896,97	709,02
2019	4072,20	670,81
2020	3929,64	685,27
2021	3911,72	662,04
2022	4171,47	672,09
2023	4933,26	678,48
2024	5088,78	708,01

Armenia's economy is also characterized by demand distortions. The most notable feature in this regard is the high share of household final consumption expenditure. Despite a slight decline in recent years, this figure remains high, exceeding 80% of GDP in some years. The share of government final consumption expenditure has been on the rise. Gross fixed capital formation has increased in recent years, although it remains below the 2012 level.

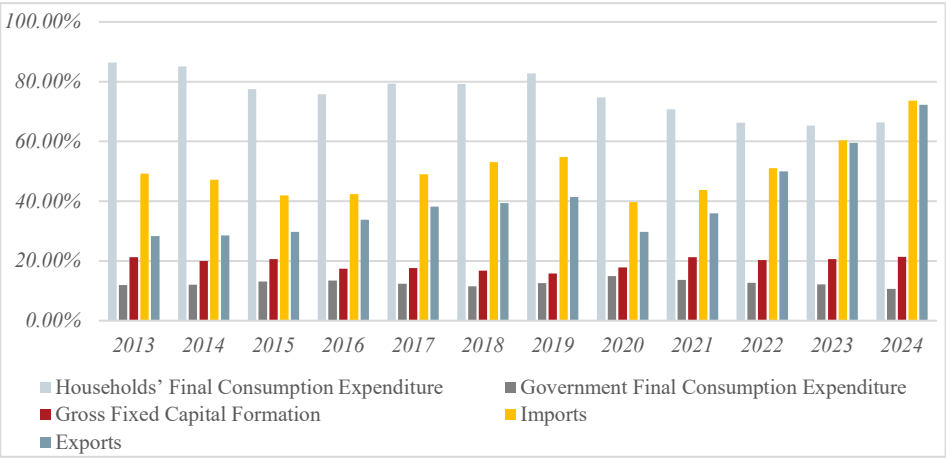

Figure 3. ***Dynamics of changes in the structure of GDP use in the Republic of Armenia (by main components of expenditure) in 2013-2024, (%)***[8]

The share of exports and imports also increased, declining slightly only due to the impact of the crisis. Export growth is expected to be particularly strong in 2022–2023, primarily due to growth in services exports and accelerated re-export growth. In 2022–2023, export growth was driven primarily by significant growth and positive contributions from the product groups "precious and semi-precious stones, precious metals, and articles thereof" (contribution in 2022:

[8] The Central Bank of Armenia, Statistics, Real sector statistics, Statistical data, Annual data, Components of GDP calculated by the use of income method, Source: https://www.cba.am/am/SitePages/statrealsector.aspx

22,000), "machinery, equipment, and mechanisms" (contribution in 2022: 21,200), and "land, air, and water transport" (contribution in 2022: 9,400). Comprehensive monitoring of export and import volume dynamics reveals that the aforementioned commodity groups demonstrated significant re-export volumes in 2022–2023.

In the context of economic distortions, studying the share of wages, gross profit, and gross income in GDP has become crucial.

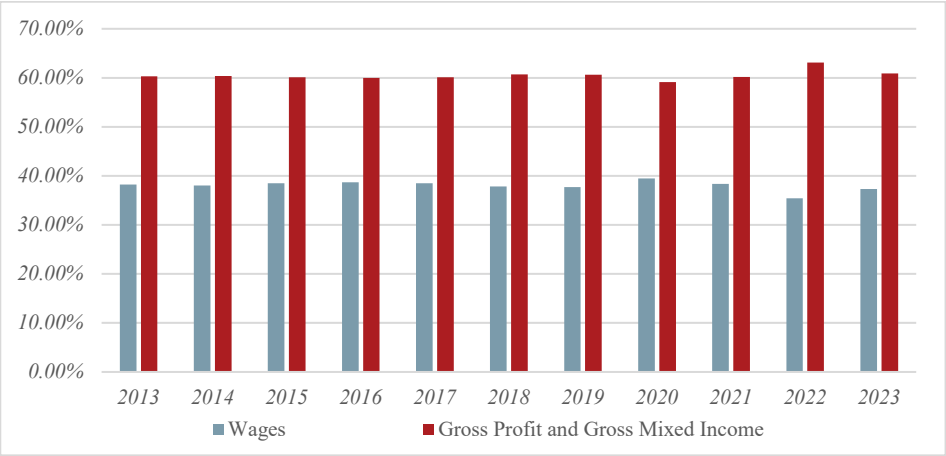

Figure 4. ***Dynamics of the Shares of Wages, Gross Profit, and Gross Mixed Income in 2013–2023 (%)***[9]

The share of employee wages fluctuates between 37% and 40%, while the share of gross profit and gross income exceeds the share of wages by approximately one-third. While economic growth is concentrated in a few sectors, its distribution across regions and the city of Yerevan is also noteworthy.

Economic activity is always concentrated in places with competitive advantages. And competitive advantages, as Nobel Prize-winning theorist of "new economic geography" Peter Krugman notes, are created by "first-nature" factors–the availability of natural resources, a favorable geographic location–and "second-nature" factors–agglomeration effects, high human capital, a favorable institutional environment, and developed infrastructure.

Trends in the spatial concentration of economies operate everywhere, regardless of the country's level of development, with one difference: in developed countries, competitive advantages are formed by "second-nature" factors, resulting from social activity, while in developing countries, they are formed by "first-nature" factors.

The imbalance in regional development in the Republic of Armenia has deep roots, conditioned by historical, economic, and administrative factors. The

[9] The Statistical Committee of the Republic of Armenia, Databases, Other databases, Macroeconomic indicators and national accounts, HBS 2008, Annual indicators, GDP by income formation method, Source: https://armstat.am/am/?nid=202

trend toward the concentration of economic activity in Yerevan is steadily increasing, indicating not only uneven economic development but also its structural deformation. More than half of the country's GDP is generated in Yerevan, and this figure has grown particularly over the past five years, reaching nearly 60%. This not only negatively impacts the quality of the economy but also leads to serious social, demographic, and security-related problems.

Spatial inequality in the Republic of Armenia is significant. Substantial differences in access to public services, particularly in healthcare and education, also exist, negatively impacting the well-being of the population. Significant structural differences also exist at the local level between Yerevan and other territories, between urban and rural settlements, between mountainous and lowland areas, and between border and remote areas. Decentralization, with its extremely limited functional and financial-economic reach (extensive state participation and budgetary influence), continually hinders communities from implementing local development policies.

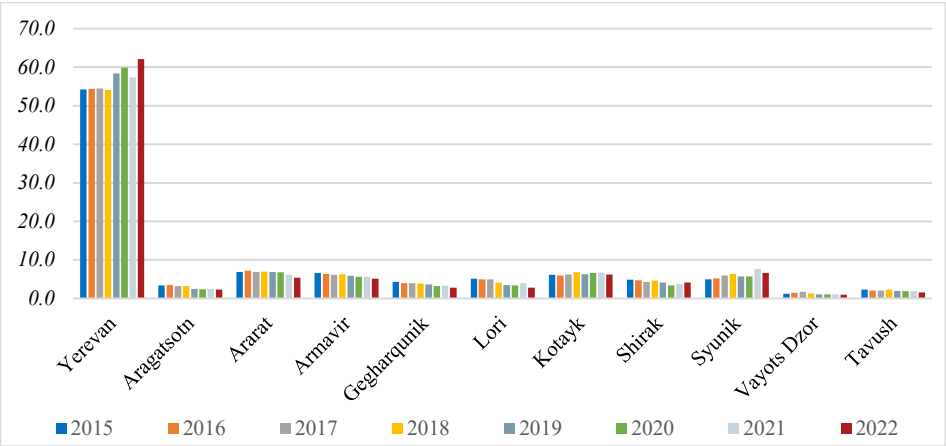

Figure 5. ***Shares of Armenia's regions and Yerevan in GDP, 2015-2022, %***[10]

In 2015, the capital Yerevan's share of Armenia's gross domestic product was approximately 54.2%[11]. However, by 2022, this figure had increased, reaching 62.1%[12]. This growth trend indicates a continuing increase in concentration in the capital: a significant portion of newly created economic value is generated in Yerevan itself.

The contribution of Yerevan's economy to the gross domestic product (GDP) is steadily increasing, while some regions, including Lori, Aragatsotn, and Gegharkunik, have recorded a significant decline in their share of the GDP.

[10] The Marzes of the Republic of Armenia and Yerevan city in figures, reports, Source: https://armstat.am/am/?nid=82&id=2696

[11] The Statistical Committee of the Republic of Armenia, *Yerevan in Figures*, 2018 Report, National Accounts Source: https://armstat.am/am/?nid=727

[12] The Statistical Committee of the Republic of Armenia, *Yerevan in Figures*, 2024 Report, p. 26 Source: https://armstat.am/am/?nid=976

Over the period under review, these regions' shares of GDP decreased almost by half.

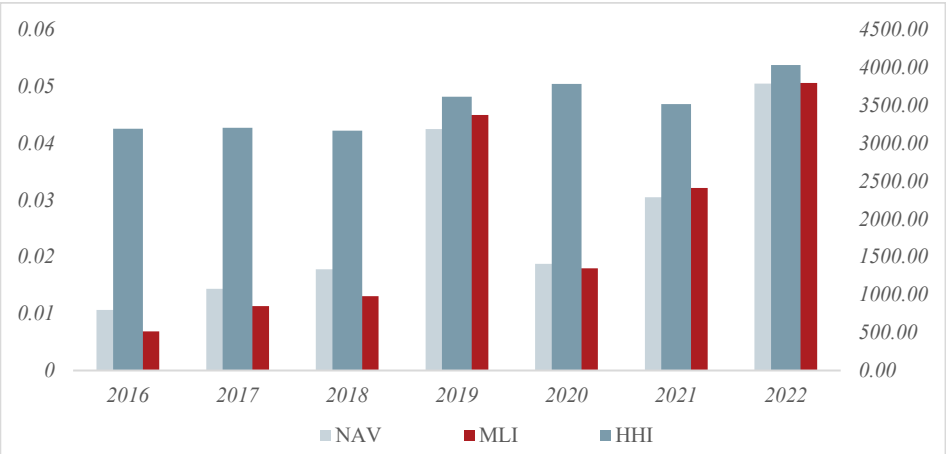

Figure 6. ***The absolute value norm, modified Lilien index (left axis), and Herfindahl-Hirschman index (right axis) calculated for GDP by regions of Armenia for 2016-2022.***

In Figure 6, the absolute norm and the modified Lilien index are close to zero, indicating no significant changes in the economic structure. However, the indicators, albeit minor, are trending upward. In 2019-2020 and 2021-2022, the increase in the Herfindahl index was driven by Yerevan's share of approximately 60%.

Structural shifts are observed in the industry, less pronounced in agriculture, especially in recent years, and practically nonexistent in services, particularly in some years.

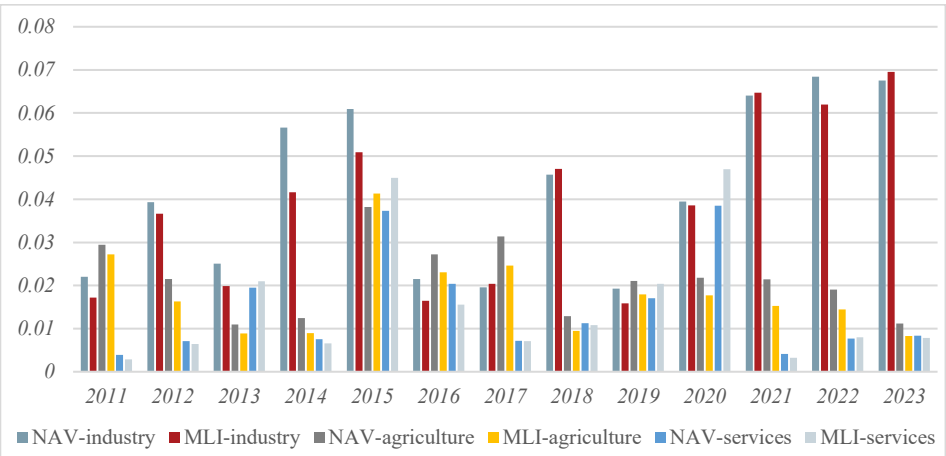

Figure 7. ***Absolute value norm and modified Lilien index calculated for the industrial, agricultural, and service sectors by regions of the Republic of Armenia, 2011-2023***

Armenia's economic development in recent years has demonstrated significant growth in GDP per capita, but this growth has exacerbated existing

territorial disparities. The national average grew by approximately 73% between 2015 and 2022, but this figure masks sharp regional differences.

As a consistent leader, Yerevan has confirmed its dominant position. While in 2015, the capital's GDP per capita exceeded the national average by approximately 52%, in 2022, this difference has already reached 66%. In this context, the most striking evidence of territorial disparities is the rather modest growth rates in a number of regions. Specifically, in the regions of Tavush, Gegharkunik, Shirak, and Lori, the GDP per capita grew more slowly than in other regions between 2015 and 2022. In Lori, the growth was only 0.9%. In the remaining regions, the growth did not exceed the threshold of 7-18%.

Table 3

GDP per worker in the regions of Armenia and Yerevan, thousand drams, 2017-2022 [13]

	2017	*2018*	*2019*	*2020*	*2021*	*2022*
Armenia	**5500,1**	**5738,7**	**6073,3**	**5874,1**	**6424,5**	**7491,6**
Yerevan	10711,6	11104,9	11199,2	12038,7	13421,5	13451,9
Aragatsotn	3613,0	3802,4	3822,2	3041,8	3121,2	3295,7
Ararat	3350,8	3493,2	4057,4	3973,8	3982,9	4297,8
Armavir	2903,7	3028,0	2989,8	2753,6	2976,3	3078,0
Gegharkunik	2939,0	3071,8	3414,4	2789,7	2988,3	2843,3
Lori	2869,8	3019,7	2855,5	2341,8	2905,2	3417,0
Kotayk	4209,3	4383,9	4093,8	3989,3	4534,8	6096,6
Shirak	3169,1	3338,0	3005,0	2557,5	2902,5	4824,3
Syunik	6758,8	7055,6	6535,7	6039,8	8482,1	8606,0
Vayots Dzor	4903,4	5186,1	4834,2	4012,1	3967,6	4694,4
Tavush	2387,5	2504,0	3180,7	2666,9	2978,5	3427,2

Comparing absolute indicators, it is clear that the per capita gross domestic product in these regions in 2022 lags significantly behind the national average for the Republic of Armenia, falling by approximately 30–45%, and in some cases, the deviation is even more pronounced.

Economic growth, its quality, and the dynamics of the average monthly nominal wage are closely linked. Stable and high-quality economic growth, based on increased labor productivity and inclusive development, leads to growth in real wages and improved living standards. Furthermore, wage dynamics (especially real wage growth) are an important factor in stimulating and stabilizing economic growth.

Since 2014, the average monthly nominal wage has been steadily increasing. In 2024, the increase compared to 2014 was 1.8 times, and compared to 2018, it was almost 1.7 times. The highest growth rate during the period under review was observed in 2022–2023, averaging 15%. Tracking the dynamics of the real wage index, we see that the average monthly real wage also grew steadily, indicating an improvement in the standard of living of the

[13] The Marzes of the Republic of Armenia and Yerevan city in figures, reports, Source: https://armstat.am/am/?nid=82&id=2696

working population. Comparing the growth rate of the average monthly nominal wage with the growth rate of nominal GDP, we note that in six of the 11 years analyzed–2017–2019, 2021–2022, and 2024–the growth rate of nominal GDP exceeded the growth rate of the average monthly nominal wage. A similar pattern is observed for the rate of economic growth and the average monthly real wage index, which lagged behind the economic growth rate in five of the 11 years of the analyzed period. The analysis suggests that the growth of aggregate income in some years did not have an adequate impact on labor income.

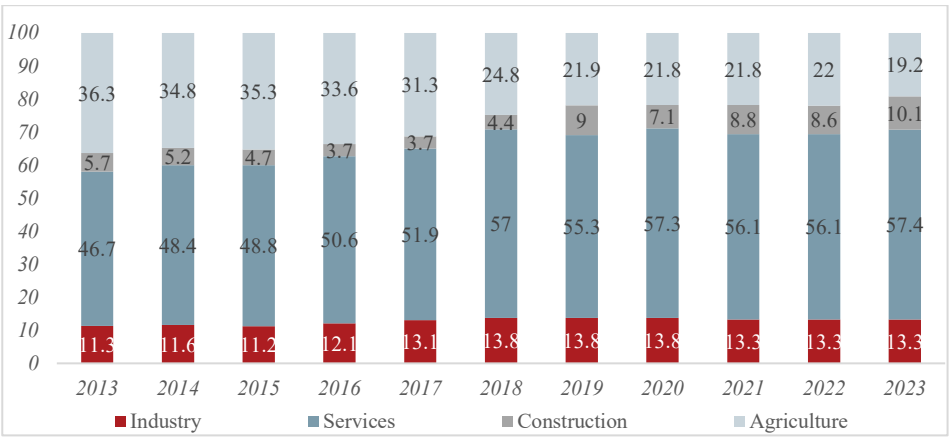

Figure 8. ***Structure of Employment of the Republic of Armenia 2013-2023***[14]

This indicates a decline in the quality of economic growth during these years. In 2023–2024, the comparison of these indicators is more positive. In key economic sectors–agriculture, industry, construction, and services–the average monthly nominal wage increased over the period considered. However, its annual growth rate lagged behind the physical production index in the sector in almost all years.

Over the past decade, significant changes have been observed in the employment structure of the Armenian economy, including continuous growth in the service sector. The average employment rate was as follows[15]: services - 53.4%, agriculture - 27.5%, industry - 12.8%, construction - 6.5%. While 46.7% of the workforce was employed in the sector in 2013, this figure was expected to be 57.4% in 2023. A steady decline in the agricultural sector is observed. In 2013, 36.3% of the workforce was employed, while in 2023, it was 19.2%, which is due to increased mechanization of agriculture, a decline in the rural population, and a preference for working in urban areas. Overall, highly productive sectors of the Armenian economy are concentrated in non-export sectors with high levels of foreign capital involvement. The labor force is

[14] The Statistical Committee of the Republic of Armenia, Yearbooks 2013–2024, Labour Market and Employment, https://armstat.am/en/?nid=586&year=2025, authors' calculations.

[15] The Statistical Committee of the Republic of Armenia, Yearbooks 2013–2024, Labour Market and Employment, Share of Informal Employment in Total Employment, by Sector and by Sex, https://armstat.am/en/?nid=586&year=2025

inefficiently distributed within the economy. The three most productive sectors–financial intermediation, mining, and construction–have a relatively small share of the overall employment index, accounting for 9% of jobs. More than half of the workforce is employed in low-productivity sectors–food service, hospitality, agriculture, and education. This disproportionate distribution limits economic diversification and leads to uneven income distribution. This structure could reduce the country's long-term competitiveness.

In the Republic of Armenia, the average annual growth rate of labor productivity (8.1%) from 2000 to 2024 exceeded the average annual growth rate of GDP per capita (6.7%). The average annual growth rate of real labor productivity from 2014 to 2024 was 4.5%, second only to mining, transportation, and finance[16].

In 2021, the labor productivity index in Armenia was approximately $6 per person per hour, and in 2024, it increased by approximately $5, reaching $10.9. According to the World Bank, from 2013 to 2023, labor productivity per worker in Armenia was comparable to that of upper-middle-income countries. It was, on average, twice as high as those in Georgia, Azerbaijan, and Kyrgyzstan, and lagged behind those of the Russian Federation and Turkey, at a third to half of the latter's level.

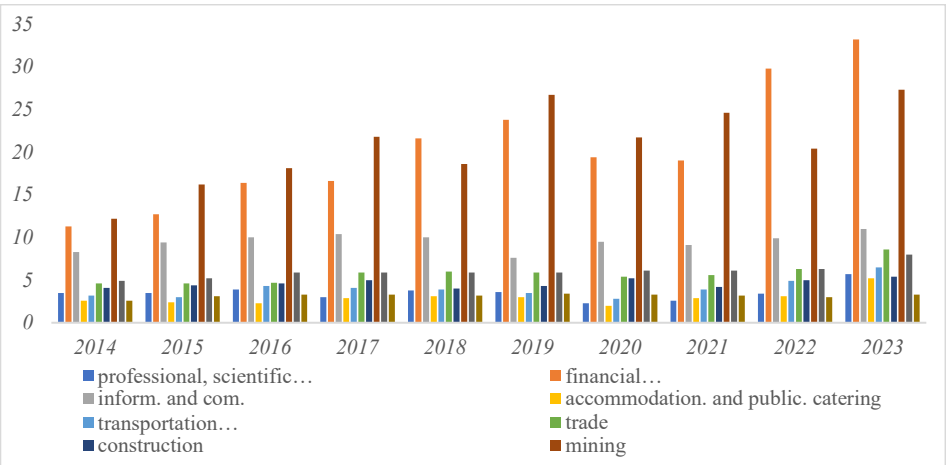

Figure 9. ***Real productivity[17] per employee by type of activity, million drams[18]***

[16] The calculations were performed by the authors.

[17] Real productivity was calculated by dividing the sectoral GDP by the number of employees in the sector, and adjusting the obtained result by dividing it by the GDP deflator of the respective year.

[18] The Authors' calculations based on data from the Statistical Committee. The Statistical Committee of the Republic of Armenia, Statistical Yearbook, Labour Market, https://armstat.am/file/doc/99552423.pdf, p. 104-105,
The Statistical Committee of the Republic of Armenia, Databases, Other Databases, Macroeconomic Indicators and National Accounts, SNA 2008, Annual Indicators, GDP Production, GDP, https://armstat.am/am/?nid=202
Strategic Programme for Employment for 2025–2031. https://www.e-gov.am/u_files/file/decrees/ka r /GVAB-CCC9-B9BB-9A7C/2083.1.pdf, p. 23

The diagram shows that real employment per worker is traditionally highest in the financial and mining sectors, while it is lowest in agriculture and professional, scientific, and technical activities. Notably, since 2014, real productivity per worker grew steadily in all sectors under consideration, albeit with minor fluctuations, and in 2023, compared to the previous year, real productivity in all sectors increased significantly.

The quality of economic growth is also assessed by the extent to which it contributed to improving poverty indicators. Compared to 2012, GDP growth was 25.15%, and the poverty rate decreased by 27.47 percentage points over the same period.

Table 4

Income inequality indicators

	2014	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*
Gini coefficient by income[19]	0.373	0.374	0.375	0.359	0.360	0.381	0.363	0.364	0.352	0.348
Gini coefficient by consumption[20]	0.277	0.279	0.286	0.289	0.298	0.279*	0.221*	0.232*	0.239*	0.223*
Ratio of income and expenditure of the 20% wealthiest and 20% poorest population, by monetary income /times/[21]	8.8	8.4	9.4	8.5	8.3	8.2	7.7	7.8	7.1	7.0
Ratio of income and expenditure of the 20% richest and 20% poorest population, by consumption expenditure /times/[22]	5.6	5.6	5.4	5.9	5.6	5.7	5.3	5.3	4.8	4.7
Ratio of income and expenditure of the 10% wealthiest and 10% poorest population, by	15.0	16.6	16.4	17.5	16.8	17.4	14.7	14.3	13.2	12.4

[19] The Statistical Committee of the Republic of Armenia, Statistical Yearbook, Living Conditions, 2019, https://www.armstat.am/file/doc/99516748.pdf, p. 115
The Statistical Committee of the Republic of Armenia, Statistical Yearbook, Living Conditions, 2024, https://www.armstat.am/file/doc/99552493.pdf, p. 158

[20] The Statistical Committee of the Republic of Armenia, Poverty situation in Armenia 2020-2023, https://www.armstat.am/file/article/poverty_2024_a_2.pdf, p. 47
The Statistical Committee of the Republic of Armenia, Armenia: Non-Material Poverty, 2020, https://www.armstat.am/file/article/poverty_2020_a_4.pdf, p. 84, p. 96.
* The data for 2019–2023 are not comparable with those of previous years due to changes in the methodology of consumption assessment.

[21] The Statistical Committee of the Republic of Armenia [https://www.armstat.am/file/article/poverty_2022_a_3.pdf] p. 85, The Statistical Committee of the Republic of Armenia, Armenia: Household Income, Expenditures and Basic Food Consumption, 2020-2023, https://www.armstat.am/file/article/poverty_2024_a_3.pdf, p. 89,
The Statistical Committee of the Republic of Armenia, Armenia: Household Income, Expenditures and Basic Food Consumption, https://www.armstat.am/file/article/poverty_2019_a_3.pdf, p. 130.

[22] The Statistical Committee of the Republic of Armenia [https://www.armstat.am/file/article/poverty_2022_a_3.pdf] p. 85, Statistical Committee of the Republic of Armenia, Armenia: Household Income, Expenditures and Basic Food Consumption, 2020-2023, https://www.armstat.am/file/article/poverty_2024_a_3.pdf, p. 89,
The Statistical Committee of the Republic of Armenia, Armenia: Household Income, Expenditures and Basic Food Consumption, https://www.armstat.am/file/article/poverty_2019_a_3.pdf, p. 130.

monetary income /times/[23]										
Ratio of income and expenditure of the 10% richest and 10% poorest population, by consumption expenditure /times/[24]	9.1	9.0	8.3	9.8	9.4	9.3	8.5	8.4	7.4	7.3

The Gini coefficient for total consumption in 2023 decreased significantly compared to 2019, from 0.279 to 0.223. Although data for 2014 are not comparable with 2023 data due to a change in the consumption assessment methodology in 2019, we can see that even in this case, the Gini coefficient in 2023 decreased compared to 2014. In 2023, the ratio of cash incomes of the top 20% to the bottom 20% of the population decreased compared to 2014, from 8.8 to 7 times, and for consumer expenditures, from 5.6 to 4.7 times. The ratio of "polar" deciles of income or expenditure of the population in 2023 was 7.3 times for consumer expenditures and 12.4 times for cash income of the population. These indicators also improved compared to 2014 (by 9.1 times and 15 times, respectively).

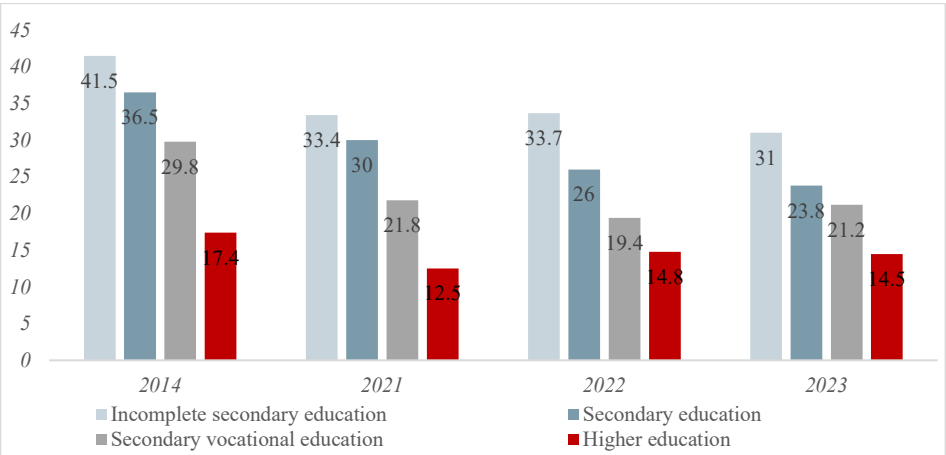

Figure 10. ***Poverty by education level, %***[25]

Since 2014, the poverty rate gradually decreased across all education levels. The chart shows that the higher the level of education, the lower the

[23] The Statistical Committee of the Republic of Armenia [https://www.armstat.am/file/article/poverty_2022_a_3.pdf] p. 85, The Statistical Committee of the Republic of Armenia, Armenia: Household Income, Expenditures and Basic Food Consumption, 2020-2023, https://www.armstat.am/file/article/poverty_2024_a_3.pdf, p. 89,
The Statistical Committee of the Republic of Armenia, Armenia: Household Income, Expenditures and Basic Food Consumption, https://www.armstat.am/file/article/poverty_2019_a_3.pdf, p. 130.

[24] The Statistical Committee of the Republic of Armenia, Statistical Yearbook, Living Conditions, 2015, https://www.armstat.am/file/doc/99493608.pdf, p. 108,
The Statistical Committee of the Republic of Armenia, Statistical Yearbook, Living Conditions, 2024, https://www.armstat.am/file/doc/99552493.pdf, p. 164.

[25] The Statistical Committee of the Republic of Armenia, Poverty situation in Armenia 2008-2018, https://www.armstat.am/file/article/poverty_2019_a_2.pdf, p. 58.
The Statistical Committee of the Republic of Armenia, Poverty situation in Armenia 2020-2023, https://www.armstat.am/file/article/poverty_2024_a_2.pdf, p. 45.

poverty rate. However, over the past decade, the poverty rate has decreased by approximately 10 percentage points among those with less than a high school education, by 13 percentage points among those with a secondary education, by 8 percentage points among those with a secondary vocational education, and by only 3 percentage points among those with a higher education. This may be due to several possible explanations, including the fact that those with higher education are relatively well-off, and the number of poor people in this group is relatively small. With a small base, numerical changes occur more slowly, even if real improvements are observed. Another reason is that a person may have a higher education but work in low-paying sectors, have a profession that is not in demand with a higher education, or live in a place where employment opportunities given their education are limited.

From the perspective of assessing the quality of economic growth, it is crucial to determine the dynamics of poverty indicators among the employed population over the past decade. Among the population aged 15–75, 21.6% of the republic's labor force, 20.7% of employed people, and 19.4% of wage earners were considered poor in 2023: In Yerevan, the figures were 15.5%, 16.8%, and 16.2%, respectively; in other cities, the figures were 23.5%, 22.4%, and 21.1%, respectively; and in rural areas, the figures were 23.4%, 22.9%, and 21.6%[26].

From the perspective of assessing the quality of growth, it is also important to understand relative poverty, that is, inequality within the population.

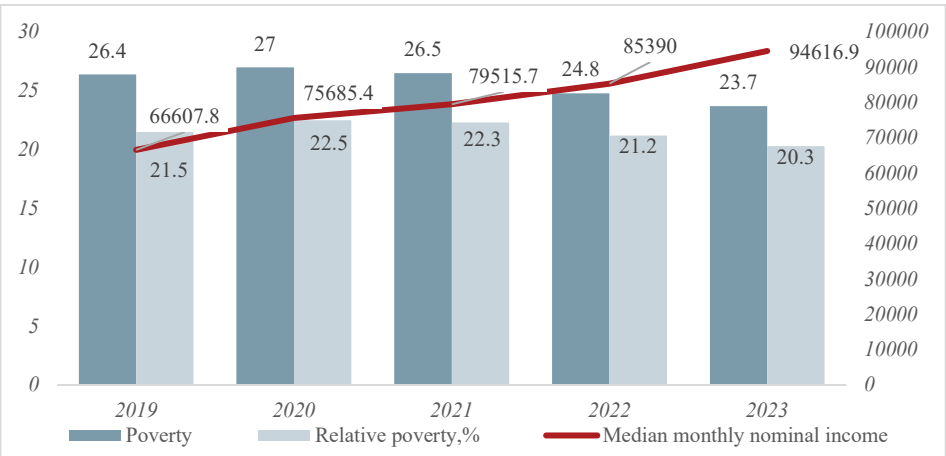

Figure 11. ***Poverty rate, median monthly nominal income, and relative poverty calculated at 60% of the median income***[27]

It is also important to consider changes in the poverty rate in Armenia according to the international poverty line. According to the latter, which is

[26] The Statistical Committee of the Republic of Armenia, Poverty situation in Armenia 2020-2023, https://www.armstat.am/file/article/poverty_2024_a_2.pdf, p. 50.

[27] The Statistical Committee of the Republic of Armenia, Statistical Committee of the Republic of Armenia, Poverty situation in Armenia 2020-2023, https://www.armstat.am/file/article/poverty_2024_a_2.pdf, p. 52-53.

US$2.15 per adult per day, the poverty rate in Armenia (in this case, extreme poverty) decreased from 1.4% in 2014 to 0.6% in 2023. According to the poverty line calculated for lower-middle-income countries (US$3.65 per adult per day), the poverty rate decreased from 11.4% in 2014 to 8.4% in 2023, and according to the poverty line calculated for upper-middle-income countries (US$6.85 per adult per day), the poverty rate was 51.1% in 2014, 53.5% in 2020, and 52% in 2023[28]. In conclusion, a slight improvement in this indicator is observed among the low-income group, which may be the result of significant economic growth–an average of 10.5% in 2022–2023–and low inflation–2%, while changes in well-being among wealthier households are insignificant.

The quality of economic growth is also assessed by its impact on reducing multidimensional poverty. A study of data calculated by the Central Bureau of Statistics of the Republic of Armenia using World Bank methodology shows that in 2020, multidimensional poverty in the Republic of Armenia was 19.1%, in Yerevan–16.4%, in other urban areas–16.0%, and in rural areas–23.2%. In 2023, the corresponding figures were: 17.3%, 13.3%, 17.8%, and 19.9%. The analysis shows that each percentage point of economic growth in the Republic of Armenia from 2020 to 2023 reduced multidimensional poverty in 2023 compared to 2020 by 0.035 percentage points in the Republic of Armenia, by 0.06 percentage points in Yerevan, and by 0.063 percentage points in rural areas. Over this period, other urban areas saw a 1.8 percentage point increase in multidimensional poverty.

CONCLUSIONS. The long-term structure of Armenia's economic growth demonstrates that, despite notable episodes of rapid expansion, structural transformations in the economy have not translated into a larger share of high–value added sectors or productivity growth. Agriculture remains vulnerable due to climatic risks, inadequate infrastructure, and persistently low labor productivity. The industrial sector has undergone unfavorable qualitative shifts, manifested in declining diversification and the reduction of technologically advanced industries. Manufacturing remains particularly fragile, as it relies heavily on low-tech food production, while the limited penetration of modern technologies continues to restrict productivity improvements. Significant discrepancies between production and export volumes in sectors such as electronics, base metals, and motor vehicles reveal the substantial role of re-exports, which contributes little to domestic value creation.

The current pattern of economic growth, therefore, remains insufficiently inclusive. Growth is largely driven by re-export activities whose benefits are concentrated within a narrow circle and do not stimulate broad-based economic development or employment. This model makes the economy more susceptible

[28] The Statistical Committee of the Republic of Armenia, Statistical Committee of the Republic of Armenia, Poverty situation in Armenia 2020-2023, https://www.armstat.am/file/article/poverty_2024_a_2.pdf, p. 52-53.

to external shocks, especially against a backdrop of global crises, geopolitical tensions, and domestic uncertainties. Although certain segments of manufacturing have shown signs of recovery, recent trends in construction, employment, and investment goods imports indicate that structural vulnerabilities persist and that expansion of productive capacity remains limited.

Armenia's growth continues to be predominantly demand-driven, fueled by household consumption, transfers, and government spending. Consumption accounts for nearly 80 percent of the GDP, while investment remains inadequate for fostering long-term structural change. Remittances, instead of supporting productive investment, largely feed consumption. Fiscal policy in recent years has been oriented toward short-term welfare measures rather than productivity-enhancing reforms. Persistent imbalances in income distribution confirm that aggregate demand is driven more by profits than by wages.

The structure of employment further illustrates these challenges: the majority of the workforce remains concentrated in low-productivity sectors such as agriculture, education, and public administration, while high-productivity sectors employ only a small share of workers. These structural distortions hinder economic diversification, reinforce inequality, and limit improvements in living standards. Even with improved macroeconomic indicators and recent reductions in poverty, the gains remain uneven across regions and socioeconomic groups.

Taking these dynamics into account, Armenia's future growth strategy requires a shift toward a more productive, diversified, and resilient economic model. The findings of the study suggest the need for targeted technological modernization and industrial upgrading to stimulate productivity, as well as more effective policies to increase investment and reduce the economy's excessive reliance on consumption and re-exports. Strengthening the agriculture sector through climate-resilient technologies and infrastructure modernization, coupled with improved rural economic opportunities, is essential for reducing territorial disparities. At the same time, enhancing the regional distribution of economic activity, improving labor-market efficiency, and aligning human capital development with labor-market needs can help distribute growth more evenly across the population. A reorientation of fiscal policy toward productivity-enhancing expenditures–such as innovation, industrial infrastructure, and skills development–would further reinforce the sustainability of growth.

In sum, Armenia's economic trajectory requires not only continued monitoring of quantitative indicators but also a comprehensive transformation aimed at strengthening high-value sectors, expanding productive capacity, and building an inclusive foundation for long-term development. Only through such a strategic reconfiguration can economic growth evolve from a largely demand-driven and consumption-based pattern toward one that is sustainable, resilient, and capable of improving the living standards and well-being of the population.

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