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ANALYSIS OF THE LABOR MARKET OF ARMENIA IN THE CONTEXT OF CONTEMPORARY CHALLENGES: SOCIO-ECONOMIC AND PSYCHOLOGICAL ASPECTS

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Abstract: This article presents a multidimensional study of the labor market of the Republic of Armenia in the context of current global and regional challenges. The work integrates three analytical dimensions: a cross-country correlation analysis of macroeconomic and social indicators, a detailed characterization of the dynamics of the Armenian labor market in 2020-2024, and a sample-based psychological measurement of occupational stress among labor force participants.

A correlation analysis of 20 countries from the post-Soviet, Balkan, and Middle Eastern regions has revealed stable relationships between GDP per capita, the Human Development Index, the Knowledge Economy Index, and the Global Innovation Index. A characteristic gap for Armenia has been identified between a relatively high level of human potential and a comparatively lower degree of its economic realization within the middle-income group. The labor market analysis demonstrates positive employment dynamics while structural imbalances persist - gender inequality, a high level of chronic unemployment, and sectoral disproportionality. An empirical study of occupational stress (n = 234; 95% confidence level; confidence interval 6.5 percentage points) identified latent stress tendencies within the surveyed group rather than claiming direct generalization to the entire national workforce. The totality of the obtained results forms the basis for developing comprehensive recommendations in the field of state employment policy and the protection of workers' psychological health.

Key words: *labor market of Armenia; correlation analysis; Human Development Index; occupational stress; employment; unemployment; Global Innovation Index; human capital.*

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Introduction

The labor market is one of the key indicators of the state of the national economy and the social sphere of any country. For the Republic of Armenia, which is undergoing intensive structural transformations while simultaneously striving to integrate into the global economic space, the study of the regularities of labor market functioning acquires particular significance (Tiratsvyan, A. , 2025). The country has demonstrated steady economic growth over the past decade, but this growth has not yet led to a proportional improvement in working conditions and the well-being of the population. Understanding the reasons for this discrepancy requires a comprehensive, multi-level analytical approach.

The relevance of this research stems from several interrelated factors. First, Armenia, as a small open economy, is particularly vulnerable to external shocks – geopolitical instability, volatility in commodity markets, and migration flows. These factors directly affect the labor market situation, creating specific challenges for employment policy (Galstyan, A., 2025). Second, the structural transformation of the Armenian economy is accompanied by significant imbalances in labor supply and demand: high unemployment in cities coexists with a shortage of qualified personnel in a number of industries, indicating deep institutional problems (Kurginyan, R., Gasparyan, A., & Harutyunyan, A., 2025).

Third, the growing international attention to the psychological dimension of work necessitates the study of occupational stress not only as an individual problem of the worker but also as a systemic phenomenon that reduces aggregate labor productivity and the innovative potential of the economy (Managhi, S., & Piao, H., 2022, Graversen, B. K., et al., 2023). Research conducted in various countries convincingly demonstrates that ignoring psychological factors when forming employment policy significantly reduces its effectiveness (Abla, E., et al., 2021). Thus, the study of occupational stress among the Armenian population fits into the broad context of assessing the country's human capital.

This work pursues three main objectives. The first is to establish how Armenia's macroeconomic indicators compare with similar data from comparable countries and what these comparisons say about the country's position in the coordinate system "economic development – human potential". The second is to trace the dynamics of the main labor market indicators of Armenia in 2020–2024, identifying both positive trends and persistent structural problems. The third is to characterize the level and specifics of occupational stress among the labor force of Armenia based on the data of an original empirical study (Kulchitskaya, E. V., Hakobjanyan, A. O., Galstyan, A. R., & Kadura, E. V., 2026).

The theoretical basis of the research has been formed by the concept of human capital developed in the works of leading economists (Diebolt, C., & Hippe, R., 2018; López-Pueyo, C., Jiménez, G., & Sanau, J., 2014), as well as by modern psychological models of professional stress (Graversen, B. K., et al., 2023; Abla, E., et al., 2021). The empirical base includes data from the Statistical Committee of the Republic of Armenia (Armstat, 2025), the World Bank (World Bank, 2023, World Bank, 2024), UNDP (UNDP, 2024), WIPO (WIPO, 2024), as well as the results of an original survey conducted by the authors in January–March 2026[7]. The methodological novelty of the work consists in combining quantitative methods of cross-country comparison, statistical analysis of time series, and psychodiagnostic tools into a single analytical framework.

Literature Review

The literature on labor markets in small open economies emphasizes that employment dynamics are shaped not only by the number of available jobs, but also by the quality of human capital, institutional flexibility, migration flows, and the ability of education systems to match current demand for competencies. In this context, human capital theory treats education, health, and professional skills as resources that can increase labor productivity and support innovation, but only when institutional and organizational conditions allow these resources to be used effectively.

Studies of Armenia's labor market point to a combination of positive employment dynamics and persistent structural constraints. These include gender asymmetry in labor force participation, differences between urban and rural labor markets, chronic unemployment, and mismatch between the professional profile of job seekers and employer demand. These findings justify the use of both macroeconomic indicators and detailed labor-market statistics in the present study.

A separate group of studies examines occupational stress as a factor affecting productivity, absenteeism, turnover, quality of work, and the innovative behavior of employees. International research shows that work stress should be considered not only an individual psychological issue, but also an organizational and socio-economic problem. For this reason, the present article combines socio-economic analysis with a psychodiagnostic survey of occupational stress.

The research gap addressed by this article is the lack of an integrated assessment of Armenia's labor market that simultaneously considers macroeconomic position, labor-market dynamics, and the psychological condition of workers. This approach makes it possible to analyze not only quantitative employment indicators, but also the human and psychological factors that may influence the realization of labor potential.

Methodology

The study was designed as a mixed socio-economic and psychological analysis consisting of three complementary stages. First, a cross-country correlation analysis was conducted to identify relationships between economic welfare, human development, education, labor-market indicators, and innovation potential. Second, the dynamics of Armenia's labor market in 2020-2024 were analyzed using official statistical data. Third, an empirical survey was conducted to measure occupational stress among labor force participants in Armenia.

For the cross-country stage, the sample included 20 countries from the post-Soviet, Balkan, and Middle Eastern regions. Eleven indicators were used: GDP per capita, GNI per capita, HDI, HCI, Education Index, education expenditure as a percentage of GDP, employment rate, unemployment rate, Doing Business index, Knowledge Economy Index, and Global Innovation Index. The observation period was 2022-2024, and the data sources included the World Bank, UNDP, WIPO, UNESCO, and national statistical sources.

The analysis of Armenia's labor market dynamics was based on the official data of the Statistical Committee of the Republic of Armenia for 2020-2024. The study considered labor resources, labor force participation, employment and unemployment

rates, chronic unemployment, applicants per vacancy, job-seeker placement, and employment by type of economic activity.

The psychological part of the research was conducted in January-March 2026 by means of an online questionnaire distributed through social networks and professional communities in the Republic of Armenia. The inclusion criteria were: residence in Armenia, age of 18 years or older, participation in the labor force as an employed person or as a person seeking employment, and voluntary consent to participate in the survey. After screening and removal of incomplete responses, the final sample consisted of 234 respondents.

The sample size was evaluated with reference to the labor force of Armenia, which is approximately 1.32 million persons. For a 95% confidence level, the achieved sample size corresponds to a confidence interval of approximately 6.5 percentage points. The authors acknowledge that a 5% margin of error would require a larger sample; however, for an exploratory socio-psychological study, the 95% confidence level and 6.5-point interval are sufficient to identify stable tendencies. To additionally assess the applicability of the data to broader patterns, the authors carried out factor analysis and validation of the structure of the obtained results.

As an additional validation step, factor analysis was applied to the standardized psychodiagnostic indicators in order to verify whether the survey results formed interpretable latent dimensions of occupational stress. The validation focused on the consistency of the integrated stress indicator with the theoretically expected components of perceived stress, emotional-cognitive reactions, occupational symptoms, and behavioral manifestations. This procedure was used to support the application of the sample data for identifying broader tendencies, while avoiding direct overgeneralization to the entire national workforce.

Sample formation was controlled by four substantive criteria: gender, age, place of residence, and employment sphere/type of employment. These criteria were used to prevent concentration of responses in a single demographic or occupational subgroup and to make the empirical material comparable with the structure of the Armenian labor force. The sample should therefore be interpreted as sufficiently representative for identifying general tendencies, while all conclusions are formulated with caution and without overstating direct national generalization.

Table M1. **Sample description and grouping variables used in the psychological survey**

Criterion	Categories/values recorded in the survey	Purpose in analysis
Sample size	n = 234 respondents	Empirical base for occupational-stress analysis
Gender	Women: 130 respondents (55.6%); men: 104 respondents (44.4%)	Comparison of stress levels by gender
Age	18+; grouped into age cohorts including under 20, 20-30, 31-40, 41-50, 51-60, and over 60	Identification of age-specific stress patterns
Place of residence	Urban and rural respondents	Comparison of stress levels by locality

Employment status	Employed respondents and unemployed/job-seeking respondents	Assessment of stress associated with employment status
Type of employment/employer	Public sector, private sector, self-employed/other employment categories	Assessment of stress by job-related characteristics

Source: Developed by authors.

The psychodiagnostic block combined several validated tools: the Perceived Stress Scale (PSS-10), the LESS II Emotional Schemas method, the Shcherbatykh stress-diagnosis method, the Fontana Professional Stress Scale, and a point assessment of stress symptoms. The combination of these instruments was selected after a comparative analysis of 31 stress-diagnosis methods and was intended to capture subjective stress perception, emotional-cognitive patterns, behavioral manifestations, symptoms, and the specifically occupational component of stress.

The questionnaire consisted of the following blocks: (1) socio-demographic data; (2) employment and workplace characteristics; (3) PSS-10 items measured on a five-point Likert scale from 0 ("never") to 4 ("very often"); (4) LESS II statements measured on an agreement scale; (5) Shcherbatykh stress symptoms with dichotomous answers; (6) the Fontana scale with responses from 0 ("never") to 3 ("almost always"); and (7) a point assessment of basic stress symptoms. The questionnaire structure is presented in Appendix A.

Raw scores obtained from the different methods were standardized and converted into a unified integrated stress indicator according to the model $S = 11 + 1.8 \times Z_1$. The interpretation scale used in the article - low stress below 14 points, moderate stress from 15 to 22 points, and high stress above 22 points - is therefore not an arbitrary raw-score division of one questionnaire, but a standardized interpretation of the combined psychodiagnostic result.

Cross-Country Correlation Analysis

To identify systemic interdependencies between key indicators of economic and social development, a sample of 20 countries has been formed: Armenia, Georgia, Azerbaijan, Kazakhstan, Russia, Turkey, Belarus, Moldova, Ukraine, Kyrgyzstan, Uzbekistan, Tajikistan, Iran, Serbia, North Macedonia, Albania, Montenegro, Bulgaria, Romania, Croatia. This group of countries has comparable historical experience, belongs to similar income groups (mainly lower-middle and upper-middle categories according to the World Bank classification), and is geographically close, which makes the comparative analysis methodologically correct (World Bank, 2024).

Eleven indicators have been selected as variables for the correlation analysis: GDP per capita (USD, PPP), GNI per capita (PPP), Human Development Index (HDI), Human Capital Index (HCI), Education Index, education expenditure (% of GDP), employment rate (%), unemployment rate (%), Doing Business index, Knowledge Economy Index (KEI), and Global Innovation Index (GII). The data have been obtained from official sources: the World Bank (World Bank, 2024), UNDP (UNDP, 2024), WIPO (WIPO, 2024), UNESCO, and aggregated databases (gtmarket.ru). The observation period is 2022–2024.

Table 1. **Correlation matrix of macroeconomic and social indicators (n = 20 countries)**

	GDP/ cap	GNI/ cap	HDI	HCI	EducIdx	EdExp	Empl	Unempl	Doing Bus	KEI	GII
GDP/cap	1.000	**0.962**	**0.871**	0.580	0.555	-0.351	0.092	-0.170	0.508	**0.750**	**0.716**
GNI/cap	**0.962**	1.000	**0.878**	0.593	0.538	-0.312	0.108	-0.182	0.497	**0.767**	**0.794**
HDI	**0.871**	**0.878**	1.000	0.698	**0.735**	-0.426	0.074	-0.193	0.441	**0.813**	**0.810**
HCI	0.580	0.593	0.698	1.000	**0.827**	-0.285	0.061	-0.148	0.362	**0.810**	**0.742**
EducIdx	0.555	0.538	**0.735**	**0.827**	1.000	-0.219	0.082	-0.176	0.381	**0.827**	**0.745**
EdExp	-0.351	-0.312	-0.426	-0.285	-0.219	1.000	-0.118	0.204	-0.245	-0.318	-0.290
Empl	0.092	0.108	0.074	0.061	0.082	-0.118	1.000	-0.395	0.065	0.087	0.093
Unempl	-0.170	-0.182	-0.193	-0.148	-0.176	0.204	-0.395	1.000	-0.155	-0.198	-0.187
DoingBus	0.508	0.497	0.441	0.362	0.381	-0.245	0.065	-0.155	1.000	0.462	0.451
KEI	**0.750**	**0.767**	**0.813**	**0.810**	**0.827**	-0.318	0.087	-0.198	0.462	1.000	**0.828**
GII	**0.716**	**0.794**	**0.810**	**0.742**	**0.745**	-0.290	0.093	-0.187	0.451	**0.828**	1.000

Note: GDP/cap – GDP per capita; GNI/cap – GNI per capita PPP; HDI – Human Development Index; HCI – Human Capital Index; EducIdx – Education Index; EdExp – education expenditure, % of GDP; Empl – employment rate; Unempl – unemployment rate; DoingBus – Doing Business index; KEI – Knowledge Economy Index; GII – Global Innovation Index. Bold values indicate $|r| \geq 0.700$. Sources: World Bank (World Bank, 2024), UNDP (UNDP, 2024), WIPO (WIPO, 2024).

Analysis of the correlation matrix (Table 1) reveals several substantively meaningful clusters of relationships. The first and most powerful cluster is formed by indicators of economic welfare, human development, and innovation potential: GDP per capita, GNI per capita PPP, HDI, KEI, and GII show high pairwise correlations in the range r = 0.716–0.962. The relationship between GDP and GNI per capita PPP is almost linear (r = 0.962), reflecting the consistency of the two standard measures of economic living standards[17]. The correlations of GDP with HDI (r = 0.871) and with KEI (r = 0.750) confirm the theoretically sound thesis that economic growth and human development mutually reinforce each other, although the direction of the causal relationship remains a subject of debate in the academic literature (Diebolt, C., & Hippe, R. ,2018).

The second cluster is related to education and human capital. The Education Index and HCI show a high correlation with each other (r = 0.827), indicating their content proximity. Both indicators are also closely related to KEI (r = 0.827 and r = 0.810, respectively) – this confirms the hypothesis that the quality of a nation's educational potential is one of the key drivers of the knowledge economy (Shi, S., & Wang, S., 2024; Ngo, H. P. T.,2023). The relationship between HCI and GII (r = 0.742) is also noteworthy: countries with higher human capital naturally demonstrate higher innovative potential, which corresponds to standard models of endogenous growth.

The labor market indicators – employment rate and unemployment rate – deserve special attention. Both are practically unrelated to most macroeconomic variables: the correlation of GDP per capita with the employment rate is only r = 0.092, and with the unemployment rate r = −0.170. This result, while unexpected, is well documented in the literature: richer countries do not necessarily have higher employment or lower unemployment. Developed economies often experience structural unemployment driven by technological change. At the same time, the relationship between the employment rate and the unemployment rate is negative (r = −0.395), albeit moderate – this reflects

a partial, but not complete, interchangeability of these indicators in the context of the sample.

The most counter-intuitive result is the negative correlation of education expenditure (% of GDP) with HDI (r = −0.426) and with GDP per capita (r = −0.351). At first glance, this contradicts the established views on the role of public investment in education. However, this pattern is well explained from the perspective of comparative analysis: poorer countries in the sample spend a relatively larger share of GDP on education, seeking to compensate for the lag in human capital, while richer countries achieve a high HDI with a smaller share of educational expenditure in GDP – due to a fundamentally different quality of education systems and more efficient use of resources. Thus, it is not that investment in education is harmful, but that its effectiveness, not its volume, plays a decisive role (Ngo, H. P. T.,2023).

Table 2. **Indicators of Armenia in comparison with the sample averages (20 countries)**

Indicator	**Armenia**	**Sample average**	**Min in sample**	**Max in sample**
GDP per capita, USD	**8 501**	13 420	5 260	35 210
GNI per capita PPP, USD	**21 990**	24 350	10 420	54 780
HDI	**0,811**	0,772	0,640	0,902
Education Index	**0,749**	0,728	0,580	0,878
Education expenditure, % of GDP	**2,8**	3,9	2,1	6,2
Employment rate, %	**51,2**	56,8	46,4	72,1
Unemployment rate, %	**13,4**	8,6	3,1	18,2
Human Capital Index (HCI)	**0,58**	0,62	0,47	0,81
Knowledge Economy Index (KEI)	**4,21**	5,48	2,84	8,92
Global Innovation Index (GII)	**29,0**	35,2	19,8	64,4
Doing Business index	**74,5**	67,3	52,1	86,8

Sources: World Bank (World Bank, 2024), UNDP (UNDP,2024), WIPO (WIPO,2024), UNESCO.

Comparing Armenia's indicators with the sample averages (Table 2) allows us to characterize its position in the system of cross-country coordinates. The most pronounced contrast is observed between the HDI value (0.811 – above the sample average of 0.772) and GDP per capita (USD 8,501 – significantly below the sample average of USD 13,420, while Armenia remains a middle-income economy in the World Bank classification). This gap indicates that Armenia has accumulated a significant stock of human potential, which, however, does not find full embodiment in economic productivity. This phenomenon is characterized in the international analytical literature as a "middle-income trap" – a situation where a country has a sufficient level of education and health of the population to move to a new growth trajectory, but cannot implement this transition due to institutional and structural barriers (World Bank, 2023).

Accordingly, the expression "comparatively lower GDP per capita" in this article refers to Armenia's position inside the selected comparison group and does not imply classification of Armenia as a low-income economy. Armenia is treated as a middle-income country; the analytical emphasis is on the gap between accumulated human potential and its economic realization.

Armenia demonstrates a relatively high Education Index (0.749 vs. average 0.728), which confirms the preservation of the educational potential inherited from the Soviet period. At the same time, the HCI (0.58) turns out to be below the average (0.62). This discrepancy indicates that the formal educational achievements of the population are not fully converted into practical competencies demanded by the modern labor market. This problem is discussed in detail in the World Bank report "Armenia Human Capital Review" World Bank. (2023): the authors record a significant gap between the academic knowledge of graduates and their ability to apply this knowledge in production conditions.

Particular concern is caused by Armenia's position in the GII (29.0 vs. average 35.2). The lag in the innovation index by 6 points relative to the group average means that the country has not yet realized its educational and intellectual potential in the form of commercially significant innovations and technological solutions (WIPO, 2024). Low education expenditure (2.8% of GDP vs. average 3.9%), combined with insufficient linkage of educational outcomes to economic needs, forms a structural gap that must be overcome to ensure sustainable growth in labor productivity.

Armenia's unemployment rate (13.4%) significantly exceeds the sample average (8.6%), while the employment rate (51.2%) is significantly lower than the average (56.8%). Interestingly, Armenia's Doing Business index (74.5) is noticeably higher than the average (67.3), indicating a fairly favorable business climate. Thus, the employment problem in the country is not so much institutional (administrative-regulatory) as structural: there is a mismatch between the demand for labor from business and the professional-qualification structure of supply. The analysis of multidimensional deprivation of opportunities in the Armenian labor market (Grigoryan, A., & Khachatryan, K., 2023) confirms that barriers to employment are not random but systemic, and overcoming them requires comprehensive measures – from reforming vocational education to redistributing economic activity between regions of the country.

Dynamics of the Armenian Labor Market in 2020–2024

The analysis of the dynamics of the Armenian labor market in 2020–2024 has been carried out on the basis of data from the Statistical Committee of the Republic of Armenia (Statistical Committee of the Republic of Armenia (ARMSTAT), 2025). This period covers the recovery phase after the COVID-19 pandemic, the period of intensive influx of migrants from Russia, Ukraine, and Belarus in 2022, and the subsequent stabilization. The combination of these events has formed an extremely heterogeneous context for the development of the labor market, which complicates the unambiguous interpretation of the observed trends.

Table 3. **Main indicators of the labor market of the Republic of Armenia in 2020–2024**

Indicator	**2020**	**2021**	**2022**	**2023**	**2024**
Labor resources, thousand persons	2200,0	2227,1	2228,5	2223,2	2295,9
Labor force participation rate, %	58,5	57,8	58,8	60,3	59,1
– men	69,3	70,0	71,2	72,1	70,6
– women	49,4	47,8	48,2	50,0	49,0
– urban	58,4	56,2	56,7	58,5	57,7

– rural	58,6	60,2	62,6	63,6	61,8
Employment rate, %	47,8	48,9	50,9	52,8	51,2
– men	56,1	59,0	61,8	63,6	61,8
– women	40,9	40,5	41,5	43,4	42,0
– urban	45,4	44,8	47,1	49,7	48,4
– rural	51,5	54,9	57,6	58,4	56,5
Unemployment rate, %	18,2	15,5	13,5	12,4	13,4
– men	19,1	15,7	13,2	11,8	12,5
– women	17,2	15,2	13,8	13,2	14,4
– urban	22,3	20,3	17,0	15,1	16,1
– rural	12,1	8,8	8,0	8,0	8,6
Share of population outside labor force, %	41,5	42,2	41,2	39,7	40,9
– women	50,6	52,2	51,8	50,0	51,0

Source: Statistical Committee of the Republic of Armenia Statistical Committee of the Republic of Armenia (ARMSTAT), 2025).

As shown in Table 3, during the period under review, the number of labor resources increased from 2,200.0 to 2,295.9 thousand persons. This increase is due both to the natural increase of the working-age population and to the migration processes of 2022, when Armenia received a significant number of migrants from Russia and Ukraine (Nazaryan, G., & Vardanyan, T., 2022). Some of them have joined the Armenian labor market, creating additional demand both in the employment sphere and in the consumer services sector.

The labor force participation rate reached a maximum in 2023 (60.3%), after which it slightly decreased to 59.1% in 2024. This cycle correlates with the general economic situation: the rise of 2021–2023 was accompanied by active involvement of the population in economic activity, while the cooling of business activity in 2024 led to a partial exit of some of the labor force from the labor market. The gender gap in this indicator remains very significant: the participation rate of men is consistently around 70–72%, while for women it is only 47–50%[30]. Such a gap is typical for many post-Soviet economies with a persisting patriarchal employment structure.

The employment rate of the population shows a steady positive dynamic – from 47.8% in 2020 to 51.2% in 2024, which means an increase of more than 3 percentage points over the five-year period. This result is very significant given the shocks the country has faced: the consequences of the pandemic, the Nagorno-Karabakh conflict of 2020, and the economic turbulence of 2022. The employment rate among men (61.8% in 2024) significantly exceeds that of women (42.0%), which confirms the structural nature of gender inequality in the Armenian labor market. The gap between urban (48.4%) and rural (56.5%) employment reflects the high share of self-employment in the agricultural sector.

Unemployment has decreased over the studied period from 18.2% to 13.4%, which in itself is a significant achievement. At the same time, in 2024 there is a slight increase (from 12.4% to 13.4%), which may indicate some slowdown in the positive trend. The gender asymmetry of unemployment has changed its configuration: while in 2020–2022 male unemployment was higher than female, by 2024 the situation had reversed – female unemployment (14.4%) exceeded male (12.5%). Urban unemployment (16.1%) is

consistently twice as high as rural (8.6%), which is associated with the concentration of youth and qualified specialists in Yerevan with limited demand for their competencies from urban employers.

Table 4. **Structure of employment by type of economic activity in 2020–2024 (thousand persons)**

Type of economic activity	2020	2021	2022	2023	2024	Δ, %
Total employed	**1052,4**	**1088,3**	**1134,8**	**1174,4**	**1176,1**	**+11,8**
Agriculture, forestry, fishing	229,6	237,4	250,1	225,4	206,8	−9,9
Industry	145,7	144,8	151,3	155,9	151,8	+4,2
Construction	75,1	96,0	97,2	118,4	115,7	+54,1
Trade, HoReCa	154,3	157,7	170,5	184,9	205,8	+33,4
Transport, storage, communication	74,9	75,2	90,2	96,1	95,3	+27,2
Finance, real estate, professional activities	57,4	60,3	57,5	65,8	62,3	+8,5
Public administration, education, health	264,8	269,9	265,1	267,3	270,9	+2,3
Other services	50,6	47,0	52,9	60,0	67,3	+33,0

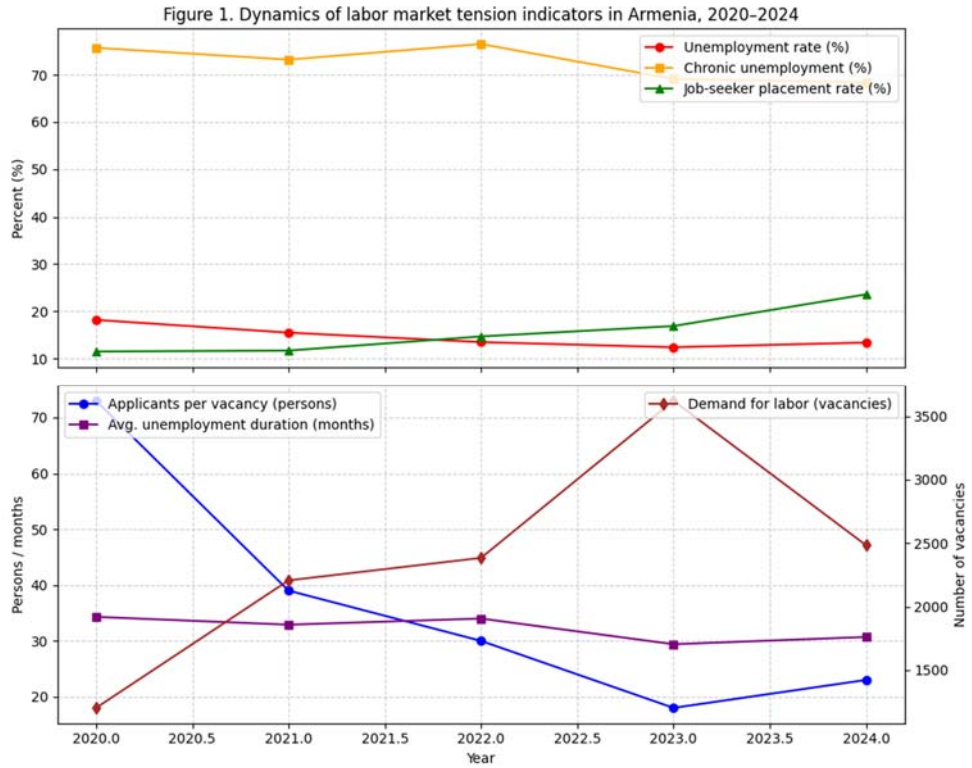
Source: Statistical Committee of the Republic of Armenia Statistical Committee of the Republic of Armenia (ARMSTAT),2025), Δ% calculated relative to 2020.

The sectoral structure of employment has undergone a significant transformation (Table 4). The total number of employed in the economy increased from 1,052.4 to 1,176.1 thousand persons, i.e. by 11.8%. The main drivers of this growth have been trade and HoReCa (+33.4%), construction (+54.1%), transport and communication (+27.2%), and other services (+33.0%). Such significant growth in construction is partly due to the influx of foreign investment, expansion of tourist infrastructure, and housing construction – especially in Yerevan and surrounding areas. The growth in trade and services reflects both the recovery of domestic consumption and a substantial increase in tourist flows.

Agriculture has shown an unexpected decline: after a temporary increase in 2021–2022, employment in the sector fell to 206.8 thousand persons in 2024, which is 9.9% below the baseline level of 2020. This phenomenon is typical for economies undergoing structural modernization: as urban incomes grow and opportunities in the service sector expand, part of the rural population reorients to non-agricultural types of employment. Industry, which employed 145.7 thousand persons in 2020, increased slightly by 2024 (151.8 thousand), but this growth is minimal compared to the service sectors, which may indicate a limited potential for industrialization as a driver of employment in Armenia in the near future (Galstyan, A., 2025).

The public sector (public administration, education, health) remains the largest employer in the country: 270.9 thousand employed in 2024. Its share in total employment, however, has decreased slightly – from 25.2% to 23.0% – due to the faster growth of private service industries. Finance and professional services show moderate growth (from 57.4 to 62.3 thousand persons), indicating the gradual development of the business services sector. Overall, there is a steady “servicisation” of Armenian employment, characteristic of middle-income economies at the stage of transition to a post-industrial structure.

Figure 1. **Dynamics of Labor Market Tension Indicators in the Republic of Armenia, 2020–2024**



Source: Statistical Committee of the Republic of Armenia (Statistical Committee of the Republic of Armenia (ARMSTAT), 2025).

The applicants per vacancy – one of the most visual indicators – decreased from 73 persons in 2020 to 18 persons in 2023, but then increased slightly to 23 in 2024. This means that competition among applicants has significantly weakened, although in absolute terms it remains noticeable. For comparison, in most developed economies this indicator is 2–5 persons per vacancy, which emphasizes the persistent structural imbalance of the Armenian labor market.

The demand for labor from employers increased from 1,203 vacancies in 2020 to 3,621 in 2023, after which it decreased to 2,484 in 2024. The decrease in the last period may be associated with a cooling of business expectations, including the gradual departure of some of the companies that migrated in 2022. The job-seeker placement rate improved more than twofold: from 11.5% to 23.6% – a positive signal indicating an increase in the efficiency of labor market intermediation mechanisms (Kurginyan, R., Gasparyan, A., & Harutyunyan, A., 2025).

The most acute problem remains chronic unemployment. Despite a decrease from 75.7% to 68.4%, this indicator remains extremely high and indicates that the majority of officially registered unemployed in Armenia have been out of work for a long time. The average duration of unemployment (30.7 months in 2024) means that a typical

unemployed person spends almost 2.5 years out of employment – a period sufficient for a significant devaluation of professional competencies and atrophy of work skills. The high level of chronic unemployment is a structural phenomenon: it reflects a mismatch between the professional-qualification profile of the unemployed and the current needs of employers, as well as regional disproportions in the location of productive forces.

Psychological Dimension: An Empirical Study of Occupational Stress

The psychological dimension is an integral component of a comprehensive analysis of the labor market. Occupational stress has a direct impact on labor productivity, innovative activity, absenteeism rates, and the quality of human capital – all those factors whose deficit has been recorded in the previous sections of this work (Managhi, S., & Piao, H., 2022; Graversen, B. K., et al., 2023). Modern research convincingly shows that the economic losses from professional stress are measured not in units, but in tens of percent of GDP per capita (Burdorf, A., & Rugulies, R., 2024; Abla, E., et al., 2021). Meanwhile, the psychological dimension of the labor market in post-Soviet economies remains an understudied field.

In January-March 2026, the authors conducted an empirical study of the level of occupational stress among Armenian labor force participants (n = 234 respondents; 95% confidence level; confidence interval 6.5 percentage points) (Kulchitskaya, E. V., Hakobjanyan, A. O., Galstyan, A. R., & Kadura, E. V., 2026). The following psychodiagnostic methods were used, as described in the Methodology section: the Perceived Stress Scale PSS-10, the Fontana Professional Stress Scale, the LESS II Emotional Schemas method, the Shcherbatykh method, and a point assessment of stress based on a set of symptoms. Based on the results of standardizing the "raw" scores, a linear model for converting them into standard indicators has been constructed: $S = 11 + 1.8 \times Z_1$. The interpretation scale, justified by the standardization procedure, was as follows: low stress level - less than 14 points, moderate - 15-22 points, high - more than 22 points.

The overall coefficient of occupational stress in the surveyed Armenian labor force sample was 11 points, which corresponds to a moderate level, shifted towards low. The distribution by levels is as follows: 21% of respondents – low stress, 59% – medium, 20% – high. Thus, the majority of respondents experience tension within moderate limits, although almost every fifth person experiences pronounced chronic stress that affects the quality of their work activity. The obtained data significantly refine the picture: behind the formally moderate average values lies a significant subgroup of respondents with pronounced stress symptoms.

To respond to the methodological requirement for a clearer description of the sample, the survey recorded gender, age group, place of residence, employment status, and type of employer/job-related characteristics. These variables were used as grouping variables for the stress-level comparisons below.

Table 5. **Available distribution of stress levels by respondent characteristics.**

Respondent characteristic	Low stress	Moderate stress	High stress	Interpretation
Total sample (n = 234)	21%	59%	20%	Overall distribution of the integrated stress indicator
Women (n = 130)	Detailed cross-tabulation	60%	Detailed cross-tabulation	Moderate stress is the dominant category

	retained in survey database		retained in survey database	
Men (n = 104)	Detailed cross-tabulation retained in survey database	60%	Detailed cross-tabulation retained in survey database	Moderate stress is the dominant category
Rural respondents	Detailed cross-tabulation retained in survey database	58%	Detailed cross-tabulation retained in survey database	Moderate stress is the dominant category
Urban respondents	Detailed cross-tabulation retained in survey database	64%	Detailed cross-tabulation retained in survey database	Moderate stress is the dominant category
Employed respondents	Low stress is more common than among unemployed respondents	Dominant category	Lower than among unemployed respondents	Employment status is associated with stress profile
Unemployed/job-seeking respondents	Detailed cross-tabulation retained in survey database	Dominant category	22%	High stress is more frequent than among employed respondents
Private-sector employees	24% with low stress	Detailed cross-tabulation retained in survey database	Detailed cross-tabulation retained in survey database	Higher stress risk than public sector
Public-sector employees	35% with low stress	Detailed cross-tabulation retained in survey database	Detailed cross-tabulation retained in survey database	Lower stress risk than private sector

Source: Developed by authors.

Gender analysis has not revealed statistically significant differences: 60% of women (out of 130 in the sample) and 60% of men (out of 104) demonstrate an average level of stress. This noticeably diverges from the results obtained in most Western European studies, where women typically show higher levels of perceived stress (Managhi, S., & Piao, H., 2022). Possible explanations are related to the specifics of the sample and socio-cultural characteristics: in Armenia, restraint in the manifestation of psychological discomfort is traditionally encouraged in both sexes, which may underestimate self-assessments of stress regardless of the actual state.

No statistically significant differences have been found by type of locality: 58% of rural residents and 64% of urban residents experience an average level of stress. At the same time, significant differences have been found by employment status: among employed respondents, moderate-to-low stress categories prevail, while among the unemployed/job-seeking respondents, a high level of stress was recorded in 22%, which is higher than among employed respondents. This corresponds to international research data indicating that unemployment is a powerful psychological stressor, exceeding many other life events in terms of negative impact (Graversen, B. K., et al., 2023; Morrisey, M., et al., 2021).

Significant differences have been found depending on the type of employer: employees of private companies demonstrate higher stress compared to public-sector

employees: low stress was recorded among 24% of private-sector employees and 35% of public-sector employees. This result is of considerable interest: it points to more stressful working conditions in the private sector – greater uncertainty, job instability, higher productivity requirements. The age breakdown reveals that the most favorable psychological profile is characteristic of persons under 20 years old (40% with low stress) and 51–60 years old (53% with low stress), while people aged 20–50 are dominated by an average level – the period of greatest work load and career responsibility.

The psychodiagnostic data reveal a substantive picture of behavioral patterns in stressful situations. Of all surveyed workers, 55% try to avoid strong emotions, 61% consider strong emotions dangerous, 22% believe that emotions are better suppressed, and 18% regard them as a sign of weakness. Thirty-four percent of respondents avoid emotional conversations. These indicators form a portrait of a culture of emotional suppression, characteristic of a number of post-Soviet societies and increasing the latent stressogenicity of the work environment. Importantly, 76% of surveyed workers think about work problems in their free time – a classic sign of chronic occupational stress leading to professional burnout (Abla, E., et al., 2021).

The symptomatology of stress also deserves detailed consideration. Fatigue without apparent reasons was noted by 66% of respondents, anxiety – 66%, sleep and appetite disturbances during stressful periods – 59%, headaches – 55%, irritability – 54%, reduced work capacity – 50%. The combination of these symptoms indicates that occupational stress in the surveyed Armenian labor force sample has multidimensional manifestations and affects a majority of respondents to some extent. The irritability indicator carries a particular social burden: 64% of respondents reported that they easily lose their temper over minor issues, which inevitably affects the quality of interpersonal interaction in the work collective.

The analysis of openness of communication in the professional environment has revealed a very limited level of psychological safety. Only 3% of respondents believe they can be frank with their supervisor; with colleagues – 12%; with family members – 33%. Such a low level of trust in the work environment indicates that surveyed the surveyed Armenian workers tend to cope with stress alone, without resorting to constructive social support. This may increase psychological pressure on the individual and reduce the likelihood of timely identification and resolution of organizational problems. It should also be noted that 77% of respondents react to criticism addressed to them “moderately”, which, in the context of other data, is interpreted as a sign of reduced tolerance to criticism and potential conflict – hidden, not manifesting itself in open clashes.

The most important conclusion of the study is that occupational stress observed in the sample is more often chronic and latent than acute. It is not expressed in high conflict or open destructive manifestations – 85% of surveyed workers have no unresolved conflicts with colleagues. However, it is manifested among respondents in fatigue, anxiety, avoidance of emotions, and low readiness for open communication – i.e., in those psychological states that gradually undermine labor potential, reducing initiative, creative thinking, and innovative activity (Kulchitskaya, E. V., Hakobjanyan, A. O., Galstyan, A. R., & Kadura, E. V., 2026). Overcoming this “silent” stress requires not

point interventions, but systematic work with organizational culture and professional psychological support.

The study has several limitations. The empirical survey is based on n = 234 respondents; at a 95% confidence level this corresponds to a confidence interval of approximately 6.5 percentage points. Therefore, the results should be interpreted as stable sample-based tendencies rather than as exact estimates for the entire national workforce. In addition, cross-country comparisons are constrained by differences in statistical methodologies across countries.

Thus, the psychological results are used in this article as evidence of trends observed in the sample and as a basis for hypotheses about labor-potential realization. They are not interpreted as a direct measurement of the psychological condition of the entire Armenian workforce, and causal links with national innovation performance should be tested in future studies using larger representative samples and regression/correlation models.

Conclusion

The conducted research allows us to formulate a number of fundamental conclusions that integrate the three analytical dimensions – macroeconomic, labor market, and psychological. The central thesis that unites all three sections is the following: Armenia has significant but insufficiently realized human potential, and the gap between this potential and economic results has a multi-level nature and is reproduced at each of the studied levels of analysis.

At the macroeconomic level, the correlation analysis of 20 countries demonstrates that Armenia occupies a specific position among middle-income economies: a relatively high HDI (0.811) combined with comparatively lower GDP per capita (USD 8,501) within the selected sample, a good Education Index (0.749) with a not-so-high Human Capital Index (0.58), a relatively favorable business climate with a noticeable lag in the Global Innovation Index (29.0 vs. average 35.2). This configuration is typical for economies in a "middle-income trap": human potential has been accumulated, but the mechanisms for its transformation into economic productivity and technological innovation remain insufficiently developed (Diebolt, C., & Hippe, R., 2018; Shi, S., & Wang, S., 2024).

At the labor market level, undeniable progress has been recorded over the five-year period: unemployment has decreased from 18.2% to 13.4%, employment has increased by 3.4 percentage points, the applicants per vacancy have decreased from 73 to 23 persons. At the same time, structural problems persist: the gender gap in employment (about 20 p.p.) remains one of the most acute in the region; the share of chronic unemployment (68.4%) indicates an accumulated structural mismatch between professional competencies and market needs; the "servicisation" of employment without a simultaneous increase in labor productivity creates the risk of replacing quality employment with low-productivity jobs (Tiratsvyan, A., 2025; Kurginyan, R., Gasparyan, A., & Harutyunyan, A., 2025).

At the psychological level, the empirical study has revealed latent stress tendencies within the surveyed group; these tendencies do not necessarily manifest themselves in open conflicts, but may reduce labor potential at the level of the sample. The culture of emotional suppression, low psychological safety in the workplace, and the observed

share of respondents reporting difficulty in "switching off" from work problems during non-working hours indicate potential chronic tension that may constrain sustainable innovative development, rather than proving a direct national-level causal relationship (Kulchitskaya, E. V., Hakobjanyan, A. O., Galstyan, A. R., & Kadura, E. V., 2026). This conclusion organically complements the picture drawn by the previous sections: The findings therefore suggest that psychological working conditions should be considered as one possible component of Armenia's innovation and productivity challenges, alongside economic, educational, and institutional factors.

Based on the results obtained, the following directions for state policy can be proposed. In the field of education and human capital, the priority should be not increasing expenditures, but increasing their effectiveness – with an emphasis on practice-oriented programs demanded by the labor market. In the field of employment, targeted measures are needed to reduce the gender gap, stimulate women's employment, and combat chronic unemployment through retraining programs and active job placement assistance. In the field of psychological health protection, it is important to institutionalize psychological support in the workplace, form a culture of open communication, and consider occupational stress management as an investment in labor productivity, not as a social expense (Managhi, S., & Piao, H., 2022; Burdorf, A., & Rugulies, R., 2024). The integration of all three directions into a unified employment and human development policy will allow Armenia to fully realize its accumulated potential and move to a higher trajectory of economic growth.

Thus, unlocking Armenia's development potential requires not only economic and institutional reforms, but also a reconsideration of the human and psychological dimensions of labor as key drivers of sustainable growth.

Appendix A. Survey Questionnaire Structure

The questionnaire used in the empirical study included seven blocks. The full instrument was administered online; the structure below is provided to clarify the content and logic of sample formation and stress measurement.

Block 1. Socio-demographic information: gender, age group, place of residence, education, and other basic characteristics necessary for describing the respondent profile.

Block 2. Employment characteristics: current employment status, type of employer or employment, sphere of activity, and job-related characteristics used for subgroup comparison.

Block 3. Perceived Stress Scale (PSS-10): ten items evaluating how often the respondent experienced stress-related feelings during the previous month; answers were recorded on a five-point Likert scale from 0 ("never") to 4 ("very often").

Block 4. LESS II Emotional Schemas method: statements assessing beliefs about emotions, emotional control, suppression, and avoidance; answers were recorded on an agreement scale.

Block 5. Shcherbatykh stress-diagnosis method: a list of psychological, physiological, and behavioral symptoms of stress with "yes/no" answers.

Block 6. Fontana Professional Stress Scale: items measuring work-related exhaustion, internal tension, irritability, anxiety, sleep disturbance, reduced productivity, and related symptoms; answers ranged from 0 ("never") to 3 ("almost always").

Block 7. Point assessment of stress symptoms: ten questions characterizing the severity of basic stress symptoms such as sleep disturbance, irritability, headaches, and fatigue, assessed from 0 to 3 points.

The integrated stress score was calculated after standardization of raw scores obtained from the psychodiagnostic blocks. The final interpretation was: low stress below 14 points, moderate stress from 15 to 22 points, and high stress above 22 points.

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