DOI: https://doi.org/10.71447/8x9qm672

STRUCTURAL BARRIERS TO LABOR MARKET REINTEGRATION AND HUMAN CAPITAL RECOVERY IN POST-CONFLICT KARABAKH AND EAST ZANGEZUR

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ABSTRACT

Following the 2020 conflict, large-scale reconstruction and resettlement initiatives in Karabakh and East Zangezur have made labor market reintegration a central condition for sustainable economic stabilization. This article examines the mismatch between the employment potential of returning populations and the emerging regional economic structure, assessing its implications for long-term development. The analytical framework is grounded in Human Capital Theory, institutional economics and post-conflict recovery models. Methodologically, the study relies on the analysis of official statistical data and the evaluation of state employment and reconstruction programs. The findings indicate that infrastructure-led investments predominantly generate temporary employment, while the transition toward sustainable and productivity-enhancing jobs in manufacturing and services remains constrained by structural and institutional barriers. The discrepancy between the skill composition of the returning workforce and regional economic priorities weakens the labor market's capacity to integrate labor supply effectively. The article proposes a strategic approach to human capital recovery within the frameworks of green economy and smart village development, emphasizing the necessity of coordinated institutional reforms to ensure durable socio-economic reintegration.

Keywords: labor market reintegration, human capital, post-conflict economy, economic restructuring, regional development

JEL Classifications: J21, J24, J64, O33.

1. INTRODUCTION

Following 2020, Azerbaijan's economic system transitioned into a new phase of macroeconomic reality. The reintegration of the liberated Karabakh and East Zangezur1 territories into the national economy transcends mere physical infrastructure restoration and capital expenditure expansion. This process necessitates a fundamental restructuring of the institutional architecture2 and the functional integration of regional labor markets (Kərimov, 2025). The potential contribution of these territories to the national Gross Domestic Product is conditioned not only by the exploitation of natural resources and agrarian opportunities but also by effective labor division, productivity enhancement and the active inclusion of human capital into economic cycles. Amidst global digitalization trends and the technological paradigm shifts triggered by the Fourth Industrial Revolution, the competitive development of these regions requires precise institutional coordination and structural alignment of the labor market.

The phased demographic transition planned under the "Great Return" program highlights the labor market's absorptive capacity3 as a primary economic challenge. A significant structural mismatch4 exists between the occupational profiles and employment habits of formerly displaced persons who have functioned within urban environments for decades and the skill sets necessitated by the agro-industrial and "green economy" models currently being established in the liberated territories (Decree No. 2620 of the President of the Republic of Azerbaijan on measures to establish a "green energy" zone in the liberated territories of the Republic of Azerbaijan, 2021). This discrepancy creates an asymmetry between the qualitative parameters of labor supply and demand, thereby weakening the efficiency of allocation mechanisms within regional labor markets. Absent institutional regulation, state investments risk being confined to transitory employment effects.

The phenomenon of human capital depreciation in post-conflict zones remains a focal point of discussion in economic literature. Educational disruptions, skill obsolescence and labor market detachment during conflict periods diminish the valuation of human capital. Its recovery relies on targeted special economic zones, fiscal incentives, specialized training programs and innovation subsidies. These instruments must serve to accelerate not only the influx of capital but also the structural transformation of the labor market.

Existing scholarship has predominantly focused on the social and political dimensions of reintegration, leaving a void in comprehensive economic and institutional analysis. Specifically, there is a lack of systemic evaluation regarding the structural barriers to labor market reintegration, skill mismatches and the empirical efficacy of state programs. This article aims to address this research gap by analyzing labor market barriers within an economic framework and providing strategic policy recommendations.

2. LITERATURE REVIEW

[1] East Zangazur refers to the administrative and economic region established in the post-conflict period and formalised by the decree of the President of Azerbaijan on 7 July 2021, "On the new division of economic regions of the Republic of Azerbaijan."

[2] The formal and informal rules, regulations and organizational structures that govern economic behavior and policy implementation.

[3] The ability of a regional economy to integrate and utilize arriving labor resources and capital investments effectively.

[4] A situation in the labor market where the skills and locations of job seekers do not align with the requirements and locations of available vacancies.

The academic literature on post-conflict economic recovery increasingly emphasizes the centrality of labor market reintegration and human capital restoration as key determinants of sustainable development. Early contributions, grounded in the human capital framework of Gary Becker, conceptualize skills, education, and experience as productive assets that depreciate under prolonged displacement. In post-conflict regions, this depreciation is often intensified by labor market detachment and occupational discontinuity, leading to persistent productivity gaps and structural unemployment.

Recent empirical studies extend this framework by examining the dynamics of labor markets in fragile and conflict-affected settings. Reports by the World Bank highlight that job creation in post-conflict regions is initially driven by public investment, particularly in infrastructure, but these employment effects are typically short-lived unless complemented by private sector development and sectoral diversification. The International Labour Organization underscores that skills mismatch remains a critical barrier to effective labor market reintegration, as returning populations often possess competencies misaligned with emerging economic structures.

A growing strand of literature focuses on structural transformation and sectoral shifts in post-conflict economies. According to Dani Rodrik, sustainable economic growth requires the reallocation of labor from low-productivity sectors to higher value-added activities, a process that is often constrained by institutional inefficiencies and coordination failures. In this context, labor market outcomes depend not only on the availability of jobs but also on the compatibility between workforce skills and sectoral demand. This is further reinforced by studies on skill mismatch, which demonstrate that both horizontal and vertical mismatches reduce labor productivity and hinder efficient resource allocation.

Institutional factors also play a decisive role in shaping labor market performance. The institutional economics approach, associated with Douglass North, argues that formal and informal rules govern economic interactions and determine the efficiency of resource allocation. Weak contract enforcement, information asymmetry, and underdeveloped labor market institutions can significantly reduce absorptive capacity, limiting the ability of regional economies to integrate returning populations effectively. Empirical evidence suggests that improving institutional quality, through transparent governance, efficient labor market intermediation, and active labor market policies, enhances both employment outcomes and productivity levels.

In parallel, the literature highlights the role of state intervention in facilitating labor market adjustment. The OECD emphasizes that well-designed active labor market policies, including vocational training, wage subsidies, and employment incentives, can mitigate the adverse effects of structural mismatch and accelerate workforce integration. The effectiveness of such policies depends on their alignment with market needs and their capacity to stimulate private sector participation, rather than creating dependency on public expenditure.

Attention has shifted toward the integration of “green” and “smart” development models in post-conflict recovery strategies. Studies indicate that the transition to a low-carbon economy and the adoption of digital technologies create new forms of labor demand, particularly in renewable energy, digital agriculture, and smart infrastructure systems. These sectors require higher levels of technical and digital competencies, thereby increasing the importance of continuous skill upgrading and lifelong learning mechanisms. The emergence of “Smart City” and “Smart Village” concepts reflects a broader shift toward knowledge-based regional development, where innovation, data-driven decision-making, and technological diffusion play a central role.

Despite these advances, the existing literature reveals a notable gap. Most studies focus either on the social dimensions of reintegration or on macro-level reconstruction policies, with limited attention to the integrated analysis of labor market dynamics, institutional capacity, and sectoral transformation. There is a lack of context-specific research examining how structural barriers, skill mismatches, and policy interventions interact within a unified economic framework in post-conflict regions.

This article seeks to address this gap by providing a comprehensive analysis of labor market reintegration in the liberated territories of Azerbaijan, focusing on the interplay between human capital transformation, demand-side dynamics, and institutional mechanisms. By situating the analysis within both theoretical and empirical frameworks, the study contributes to a more nuanced understanding of how post-conflict regions can transition from reconstruction-driven growth to a sustainable and productivity-oriented development model.

3. STRUCTURAL TRANSFORMATION OF THE REGIONAL LABOR MARKET IN THE POST-CONFLICT PERIOD

3.1. Demographic Profiles of Returnees and the Re-orientation of Human Capital

Historically, the Karabakh and East Zangezur regions occupied a fundamental position within Azerbaijan's agro-industrial complex, specializing in intensive agriculture, viticulture, animal husbandry and associated light processing industries. Under the Soviet planned economy, these territories were deeply integrated into a system of production cooperation and centralized resource allocation, where the division of labor was predominantly anchored in collective farming and state-led industrial enterprises. The conflict in the early 1990s and the subsequent mass displacement of the population effectively dismantled this regional economic fabric, severing production chains and geographically fragmenting the indigenous human capital. This rupture entailed not only the loss of physical capital but also the erosion of institutional memory and the functional mechanisms of the local labor market (Kərimov, 2025).

Over the ensuing three decades, the internally displaced population largely assimilated into the urban economies of Baku and other major cities, gravitating toward the service sector and informal employment. This process of urban adaptation catalyzed a structural transformation of human capital, leading to the gradual atrophy of original agrarian competencies and regional specializations. Post-2020, the restoration of these territories and the implementation of the "Great Return" strategy have inaugurated a new historical phase: the objective transcends mere physical resettlement to encompass the institutional and structural reintegration of these regions into the national economic system (Decree No. 3587 of the President of the Republic of Azerbaijan "I State Program on the Great Return to the territories liberated from occupation of the Republic of Azerbaijan", 2022). The historical trajectory of labor resources and their transformative stages now serve as the primary analytical baseline for assessing the supply side of the labor market in the post-conflict era.

Prolonged displacement has exerted a direct influence on the structural and qualitative parameters of labor resources. According to human capital theory, skills and knowledge constitute investment-grade assets that undergo amortization when underutilized or decoupled from a compatible economic environment. A significant portion of the displaced population operated for decades outside their original vocational domains, often confined to low-productivity and informal employment. This phenomenon exacerbated qualification mismatches and diminished the

functional value of human capital, leading to a decline in its market valuation (Awu, Darius, & Chimele, 2025).

In economic literature, the concept of "occupational scarring5" encapsulates the persistent negative impact of long-term unemployment or forced career shifts on future labor market performance. Within the context of displacement, these "scars" are both psychological and professional. The psychological component manifests as diminished risk appetite and weakened entrepreneurial initiative, while the professional component relates to the failure to update skills in alignment with the evolving technological conjuncture (Suphaphiphat & Shi, 2022). Reprioritization of labor resources becomes imperative, necessitating the transformation of existing skill sets to meet the requirements of the new regional economic model.

The demographic composition of the returning population is the principal factor determining the quantitative and qualitative characteristics of regional labor supply. The relative youth of the age structure provides a foundation for high labor activity and long-term productivity growth; however, this potential can only be realized if supported by commensurate levels of qualification and skill capital. Given that the younger generation's educational levels were shaped in urban settings with a predilection for the service sector, a skill inequality emerges upon their return to agro-industrial regions.

The labor behaviors of a young generation characterized by urbanized experience do not fully align with the physical and technical competencies demanded by agriculture and primary processing. This structural mismatch may destabilize the internal labor market balance, leading to inefficiencies in workforce allocation. Gender balance remains a critical determinant; the labor force participation rate of women dictates the socio-economic resilience of the region and defines the inclusivity of the endogenous development6 model. Without adequate institutional and social support mechanisms for female employment, the realized volume of labor supply will inevitably lag behind its statistical potential (Girdziute, et al., 2022).

The long-term development of post-conflict regions is inextricably linked to the re-orientation of human capital. The "Green Economy" and "Digital Agriculture" strategies envisioned for Karabakh and East Zangezur require a technologically intensive, knowledge-based approach that diverges from traditional agrarian models (Amanova, 2025). This necessitates not merely the restoration of existing skills but their radical reconfiguration.

Lifelong learning mechanisms enhance the dynamic adaptability of labor resources and mitigate human capital amortization. A targeted, sector-specific design of vocational training programs ensures the optimal allocation of resources from the standpoint of economic efficiency. Synchronizing these training initiatives with regional priorities will catalyze labor productivity and accelerate structural transformation. The re-orientation of human capital must be evaluated not merely as social policy, but as an integral component of investment strategy.

The reprioritization of labor resources encompasses the enhancement of digital literacy, adaptation to agrotechnological innovations and readiness for green technology integration. Such an approach bolsters the endogenous development model and strengthens the sustainable integration of the region into the national economic framework.

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[5] The long-term negative labor market outcomes (such as lower wages or higher unemployment risk) resulting from a period of forced displacement or unemployment.

[6] A development model that relies on the internal resources, skills and innovative capacity of a specific region rather than solely on external aid.

The phenomenon of return migration from Baku and other urban centers can be analyzed through two economic lenses: as brain gain (the reversal of brain drain) or as mere demographic displacement. If returnees successfully transpose the managerial, service-oriented and digital competencies acquired in urban environments to the region, a genuine brain gain effect may materialize. However, should these skills fail to align with the regional economic structure, the return will result only in a quantitative increase in labor supply. While labor mobility enhances adaptability to shifting economic conjunctures and encourages efficient resource allocation, it is insufficient for sustainable reintegration on its own. The qualitative transformation of human capital and its alignment with regional priorities remain the decisive factors.

3.2. Transitioning from Infrastructure-Led Growth to Sustainable Sectoral Employment

The reconstruction of the Karabakh and East Zangezur economic regions represents one of the most capital-intensive post-conflict recovery initiatives in contemporary economic history. From a demand-side perspective, the initial phase of reintegration has been defined by massive state-led investments in physical infrastructure, including transportation networks, energy grids and "smart" urban settlements. While this infrastructure-led growth model is indispensable for establishing the foundational conditions for resettlement, its primary contribution to the labor market remains inherently transitory. The critical challenge for the Azerbaijani economy lies in managing the transition from the temporary labor demand generated by the construction surge to a sustainable, diversified and private-sector-driven employment framework.

Currently, labor demand in the liberated territories is overwhelmingly dominated by the construction, civil engineering and demining sectors. This phase creates a temporary employment surge driven primarily by public procurement. In macroeconomic terms, these state-led expenditures act as an exogenous shock to regional demand, stimulating local activity through the investment multiplier[7] (Blanchard & Leigh, 2013).

However, historical precedents in post-conflict zones (such as the Balkans or Southeast Asia) suggest that economies often face a reconstruction bubble[8]. This phenomenon occurs when the labor demand for low-to-medium skilled manual labor peaks during the infrastructure phase and then sharply collapses once primary projects reach completion. To prevent this, the Azerbaijani government must synchronize the conclusion of major infrastructure projects with the operationalization of industrial and service sectors. Without this synchronization, the regional labor market could face significant frictional unemployment as workers displaced from construction sites struggle to find roles in more permanent, technology-intensive sectors.

To circumvent a "boom-and-bust" cycle, the state's role must evolve from being the primary employer via procurement to becoming a facilitator of market-led demand. This necessitates the strategic utilization of special economic zones and industrial clusters, such as the Aghdam Industrial Park and the Araz Valley Economic Zone[9]. These zones are designed to generate permanent labor demand by lowering entry barriers for firms through fiscal holidays, customs exemptions and integrated utility infrastructure.

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[7] An economic mechanism where an initial increment in public or private spending leads to a proportionally larger increase in the overall regional income through successive rounds of spending.

[8] A transitory economic phenomenon where post-conflict labor demand and growth rates are artificially inflated by short-term, state-led infrastructure spending, risking a sharp contraction once primary physical restoration projects reach completion.

[9] A specialized industrial cluster established by presidential decree in 2021, strategically located in the Jabrayil district to leverage the logistics potential of the Zangezur corridor and serve as a regional hub for processing, logistics and technical services.

This strategic intervention fosters a "crowding-in" effect10, ensuring that public expenditures catalyze private sector participation rather than displacing it. In this context, demand is expected to shift toward the manufacturing of construction materials, the light industry and agro-processing. The localization of production not only reduces logistics costs but also ensures that the labor demand becomes an endogenous feature of the regional economy, rather than a byproduct of state budget cycles.

The demand side of the labor market is increasingly being shaped by the "Green Energy Zone" and "Digital Agriculture" concepts. Unlike traditional industrialization, the green economy is characterized by high capital intensity and a demand for specialized technical competencies. This shifts the regional labor demand curve toward high-quality human capital, requiring a profound synergy between industrial policy and vocational education standards.

The development of solar and wind energy potential in Kalbajar and Lachin creates a specific demand for renewable energy engineers and technicians. The "Smart Village" framework (exemplified by Aghali) redefines agrarian labor demand. The demand is no longer for traditional subsistence labor but for agrotechnologists, data analysts and supply chain specialists capable of operating IoT-based irrigation11 and monitoring systems. The integration of these territories into national and global value chains depends on the ability of local enterprises to meet stringent export standards, which consequently fosters a demand for expertise in quality control, logistics and international trade regulations.

The sustainability of labor demand ultimately hinges on the risk-return calculus of private investors. Post-conflict regions often carry a significant risk premium12 due to residual security concerns and initial market thinness13. To stimulate demand, the Azerbaijani government has introduced comprehensive institutional incentives, including ten-year fiscal exemptions, social insurance subsidies for regional employers and preferential loan schemes.

From the perspective of institutional economics, these incentives serve to "internalize the positive externalities" of regional development. By lowering the marginal cost of labor for firms, the state encourages businesses to enter the market during its most uncertain phase. However, for this demand to remain sustainable in the long term, it must eventually transition from being subsidy-dependent to being productivity-driven. Regional competitiveness must be built on comparative advantages, ensuring that the labor demand remains robust even after the phase-out of initial fiscal incentives.

4. INSTITUTIONAL FRAMEWORKS AND STRATEGIC INCENTIVES FOR SUSTAINABLE ECONOMIC REINTEGRATION

4.1. Strengthening Labor Market Absorptive Capacity through Structural Alignment

In the post-conflict phase, the economic reintegration of the liberated territories is not limited solely to the restoration of physical infrastructure or sectoral investments. The fundamental issue

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[10] A phenomenon where increased government spending or institutional incentives encourage and stimulate additional private sector investment rather than displacing it.

[11] An advanced precision agriculture framework that utilizes interconnected sensors and real-time data analytics to automate water delivery, optimizing resource efficiency and increasing crop yields through climate-responsive technology.

[12] The additional return or economic incentive required by investors to compensate for the perceived uncertainty and higher risks associated with operating in a post-conflict environment.

[13] A condition in a developing or post-conflict economy characterized by a low volume of transactions and a limited number of buyers and sellers, which results in high price volatility and reduced liquidity for labor and capital.

is the labor market's capacity to integrate the newly returning population effectively. In this context, the concept of "labor market absorptive capacity" is not measured solely by the number of available vacancies; it is also determined by the alignment between the economic structure, institutional mechanisms and information flows (Cattani, Savoia, & Orlandi, 2024). The separate analysis of the supply and demand sides in previous sections indicates that the primary challenge for sustainable employment is the functional integration of these two dimensions. This integration can be secured through structural alignment.

Viewed through the lens of institutional economics, the labor market's absorptive capacity refers to the market's ability to accept, allocate and direct the new workforce toward productive activities. This involves more than just vacancy availability. It is linked to the reliability of contractual relations, the protection of property rights, the level of trust among market participants and the minimization of transaction costs.

Formal and informal institutions guide economic behavior and determine the efficiency of resource allocation. If the enforcement mechanisms for contracts in the labor market are weak, if uncertainty in labor relations is high, or if the share of the shadow economy has increased, the absorptive potential diminishes. In such cases, even the existence of jobs does not generate full employment because market subjects tend to be risk-averse.

Macroeconomic stability is also a prerequisite for absorptive capacity. Low and predictable inflation, fiscal discipline and currency stability stabilize investor decisions and ensure the continuity of labor demand. Otherwise, exogenous shocks create fluctuations in the labor market, leading to the postponement of long-term employment decisions (Blanchard, Dell'Ariccia, & Mauro, 2010).

Furthermore, the flexibility of the regional economic structure plays a vital role. If an economy depends on only one or two sectors, it cannot absorb the entire returning population. A diversified structure expands absorption opportunities by forming jobs suitable for various skill levels. Thus, the labor market's absorptive potential is shaped by the interaction of institutional quality, macroeconomic stability and sectoral balance. Structural alignment acts as the primary mechanism ensuring the coordination of these elements.

One of the primary problems in the liberated territories is qualification mismatch. A portion of the returning population has worked in service and informal sectors within urban environments for a long time, whereas the current economic structure of the region is oriented more toward agro-industry, logistics and energy sectors. This disparity creates a structural mismatch in the labor market, causing unemployment rates to remain artificially high.

Qualification mismatch manifests in two forms: horizontal and vertical. Horizontal mismatch occurs when an individual's field of specialization does not coincide with the fields demanded by the labor market. Vertical mismatch happens when the level of education and skills is either lower or higher than the requirements of available jobs. In both cases, an inefficient allocation of resources occurs and labor productivity declines (Verhaest & Omey, 2006).

To address this problem, reskilling and upskilling strategies are economically justified tools. Reskilling involves the complete re-formation of existing skills for an entirely new sector, while upskilling involves the deepening and refinement of current competencies. These processes can be evaluated as an investment in human capital.

According to economic models, when the internal rate of return for training programs is positive in the long term, it leads to a reduction in structural unemployment14. Although short-term costs are high, these investments are compensated in the medium and long term through increased labor productivity and the expansion of the tax base. The effectiveness of structural alignment depends on the coordination of training programs with the needs of the real sector. If educational modules are designed outside of market demand, a new mismatch arises. Therefore, sectoral analysis and labor market forecasting are essential components of this process.

Information inequality in the labor market is one of the main factors reducing employment efficiency. Employers lack complete information regarding the skills of potential employees, while job seekers face insufficient information about available vacancies and wage conditions. This situation leads to an increase in frictional unemployment15.

Asymmetric information raises transaction costs and delays the conclusion of labor contracts. Digitalized vacancy databases and integrated data platforms can mitigate this problem. If regional employment systems provide real-time information on vacancies, required skills and wage intervals, the alignment process accelerates.

Additionally, skill certification mechanisms serve as a signaling function for employers. Standardized assessment systems reduce uncertainty regarding worker quality and increase the probability of concluding labor contracts. This enhances market transparency and strengthens structural alignment.

The integration of digital skills formed in urban environments into the region's agro-industrial sector occurs through the mechanism of knowledge transfer. The knowledge spillover effect ensures the diffusion of new technologies and management practices into the local economic system. A young and technologically literate workforce drives innovations such as digital monitoring in agricultural production, logistics optimization and the implementation of e-commerce platforms. This process increases internal innovation potential in accordance with the endogenous development model. That is, economic growth stems from internal knowledge and technology diffusion rather than external capital.

Knowledge transfer leads to productivity growth and an increase in value-added. If this process is supported by through innovation clusters and technology parks, a sustainable employment structure will be formed in the region. Strengthening the labor market’s absorptive capacity requires the coordination of structural alignment, information transparency and knowledge transfer mechanisms. The synchronous operation of these elements facilitates the formation of a sustainable and productive employment model by reducing the institutional gaps between the supply and demand sides.

4.2. Synergetic Effects of Public Employment Policies and “Smart” Regional Development

In the liberated territories, the state’s employment policy acts not merely as a tool for social intervention, but as an economic mechanism that accelerates structural transformation. The primary objective of these policies, beyond ensuring the integration of the returning population into the labor market, is to foster a sustainable and highly productive economic model in the region. While the previous section analyzed institutional and structural barriers, this section focuses on

[14] A form of involuntary unemployment caused by a fundamental mismatch between the skills that workers in the economy can offer and the skills demanded of workers by employers.

[15] The temporary unemployment that occurs when workers are in the process of moving from one job to another or are searching for jobs that match their specific skill sets.

how these barriers are overcome through specific fiscal and structural tools. The efficacy of state intervention should be measured not only by short-term employment growth but also by long-term productivity and competitiveness indicators.

The ten-year tax exemptions, subsidies for social insurance contributions and utility concessions applied to the liberated territories are essential elements of a classic fiscal incentive package. These tools directly reduce the marginal costs of enterprises and influence investment decisions.

In the microeconomic model of the labor market, the labor demand curve reflects the decisions of firms based on marginal productivity and wage levels. Subsidizing social insurance contributions reduces actual labor costs, creating a stimulus for firms to hire more employees. Expressed graphically, the labor demand curve shifts to the right. That is, more workers are hired at the same wage level (Cunha, Giorgi, & Jayachandran, 2019).

Tax exemptions function through a similar mechanism. Reducing corporate income tax increases the internal rate of return on investment, stimulating capital inflows into the region. This has an indirect effect on increasing labor demand. Through the fiscal multiplier effect16, initial state incentives create broader economic activity. If the multiplier coefficient is greater than one, each unit of state fiscal stimulus generates a larger increase in total output.

Utility concessions enhance attractiveness, particularly for energy-intensive and processing-oriented sectors, by reducing operating costs. This improves investment attractiveness and positively influences the formation of sectoral balance. However, the effectiveness of fiscal incentives depends on their duration and targeted nature. If incentives are broad but non-selective, the budgetary burden increases, potentially leading to inefficient resource allocation. Therefore, aligning incentives with specific sectoral priorities is crucial.

The "Smart Village" and "Smart City" concepts entail not only the construction of digital infrastructure but also the cluster-based organization of human capital. This model possesses the potential to trigger a technological leap in the economy.

The concept of a "human capital cluster" refers to the interaction of highly skilled labor, innovation centers and technology enterprises within a specific geographic area (Otsuka & Sonobe, 2018). In such clusters, the diffusion of knowledge and innovation17 occurs more rapidly due to the intensive flow of information among firms.

The smart village model encourages the application of digital technologies in agriculture sensor-based irrigation, drone monitoring and data analytics. This accelerates the transition from traditional agrarian employment to high-tech employment. As a result, labor market productivity increases and wage levels rise. The primary advantage of this model is its ability to bridge the structural gap between the agricultural sector and the digital economy. If agriculture is managed through technology-based systems, it no longer acts as a low-productivity sector but as an innovation-oriented field of activity. From the perspective of technological profitability, while smart infrastructure investments require high capital expenditure at the initial stage, they reduce operating costs and increase productivity in the long term, thereby strengthening the region's competitive advantage.

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[16] An economic concept where an increase in government spending leads to a proportionately larger increase in national income and economic activity.

[17] The process by which new technologies, practices, or ideas spread through an economic system or cluster.

Active Labor Market Policies18 play a critical role in the region's structural transformation. Through self-employment programs, vocational training courses and specific quotas, the state accelerates the adjustment process in the labor market.

The effectiveness of these programs depends on their synchronicity with the needs of the real sector. If vocational training programs do not align with the skills demanded by the market, a "policy mismatch" risk arises. In such instances, state resources are utilized inefficiently and sustainable growth in employment indicators is not achieved.

Evaluation mechanisms play a decisive role here. Performance-based monitoring and outcome indicators allow for the measurement of program impact. If self-employment programs generate only short-term income but lack strong market integration, their long-term efficacy remains low. Aligning Active Labor Market Policies tools with regional priorities and sectoral forecasts reduces the risk of policy mismatch. In this case, state intervention complements market mechanisms without replacing them.

Forming the region as a "Net Zero" emission zone opens new opportunities for the creation of green jobs19. The transition toward a low-carbon economy generates demand not only for traditional technical positions but also for emerging specialties in renewable energy, energy efficiency, and environmental monitoring. These roles encompass a wide spectrum of skill requirements, ranging from engineers and technicians in solar, wind, and biomass energy systems to specialists in smart grid management and environmental compliance.

According to endogenous growth theory, investment in technology and human capital is the internal source of economic growth. The development of the green sector serves not only ecological goals but also stimulates innovation and knowledge-based growth. Green jobs create high added value and enhance the region's long-term competitiveness. If specialization in this field is achieved, the region can attain a comparative advantage.

Consequently, the efficacy of state employment policy depends on the coordination of fiscal incentives, the smart regional development model and active labor market programs. The synergy of these mechanisms possesses the potential to form not only short-term employment growth but also a sustainable and high-tech economic structure.

CONCLUSİON

This research has systematically analyzed the formation of the labor market in the liberated territories of Azerbaijan within the context of macroeconomic reintegration. The analysis demonstrates that the economic recovery of the region transcends the mere reconstruction of physical infrastructure; the fundamental challenge lies in ensuring structural alignment between labor supply and labor demand. The transformation of human capital during the prolonged period of displacement, the acquisition of urban-centric skills and the emergence of new sectoral priorities have made an initial structural mismatch in the labor market inevitable.

That the long-term competitive advantage of the liberated territories can only be secured through the alignment of human capital with sectoral priorities, the diversification of investment flows and

[18] Government programs designed to help the unemployed find work through training, job search assistance and subsidized employment.

[19] Positions in sectors that contribute to preserving or restoring environmental quality, such as renewable energy, green construction and sustainable agriculture.

the strengthening of institutional coordination. Economic growth will remain dependent on temporary fiscal stimuli, failing to establish a sustainable development trajectory.

That while the infrastructure-oriented growth model is necessary during the transition phase, it is insufficient for long-term employment. The multiplier effect of construction-based growth is limited and stagnates at a "transitory expansion" stage unless supported by sectoral broadening. Therefore, the creation of permanent jobs in manufacturing, logistics, tourism, processing industries and high-tech agricultural sectors must be a strategic priority.

Institutional absorptive capacity has a direct impact on economic growth. Without transparency in contractual relations, efficient information flow and the coordination of active labor market policies, the integration of supply and demand sides remains weak. Structural alignment mechanisms, such as reskilling, upskilling and information platforms are essential prerequisites for realizing the economy's productivity potential.

"Smart" and "Green" development models enhance the quality of the labor market. The Smart Village and Smart City concepts represent the formation of human capital clusters rather than just technological infrastructure. Green energy and digital agriculture sectors create high-value-added and technologically profitable jobs. This model strengthens the endogenous growth trajectory, establishing the region's long-term competitive advantage.

Sustainable labor market development in the liberated territories requires a coordinated policy framework that simultaneously aligns human capital formation, investment strategy, digital infrastructure, and sectoral priorities. Education and reskilling policies must be tailored to regional economic needs through the establishment of vocational centers focused on logistics, green energy, agrotechnology, and digital management, with modular training programs developed in partnership with employers to reduce structural mismatch. Investment policy should prioritize labor-intensive yet productive sectors, expanding logistics centers, agroparks, and processing industries through Public-Private Partnerships and targeted fiscal incentives that stimulate long-term capital formation and enhance the fiscal multiplier. Strengthening digitalization and institutional coordination through a unified regional employment ecosystem and integrated “Smart” platforms for vacancies, skill profiles, and training opportunities will reduce information asymmetry, improve labor matching, and support data-driven monitoring.

The sustainable development of the labor market in the liberated territories requires strategic coordination, institutional adaptation and technological modernization. When synchronicity is ensured between human capital, investment flows and state policy, the macroeconomic reintegration of the region will transcend the recovery phase and transform into a new model of economic development.

REFERENCES

1. AllenI, J., & Velden, R. (2001). Educational mismatches versus skill mismatches: effects on wages, job satisfaction, and on-the-job search. Oxford Economic Papers, 53(3), 434-452. doi:10.1093/oep/53.3.434
2. Amanova, L. S. (2025). Digital Transformation Of The Agricultural Sector Of Azerbaijan. Audit, 1(47), 89-99. doi:10.59610/bbu1.2025.1.8
3. Awu, E., Darius, B., & Chimele, P. (2025). Human Capital Theory: Viewing Employees As Organizational Asset. Management Science Research Journal, 9(3), 370-375.
4. Blanchard, O. J., Dell'Ariccia, G., & Mauro, P. (2010). Rethinking Macroeconomic Policy. IMF Staff Position Notes, 2010(003). doi:10.5089/9781455224982.004

5. Blanchard, O., & Leigh, D. (2013). Growth Forecast Errors and Fiscal Multipliers.
6. Cattani, L., Savoia, F., & Orlandi, L. B. (2024). The kind of things that money just can't buy: The role of potential absorptive capacity in enhancing firm-level employment growth. Technological Forecasting and Social Change, 208. doi:10.1016/j.techfore.2024.123646
7. Cunha, J. M., Giorgi, G. D., & Jayachandran, S. (2019). The Price Effects of Cash Versus In-Kind Transfers. The Review of Economic Studies, 86(1), 240-281. doi:10.1093/restud/rdy018
8. Decree No. 2443 of the President of the Republic of Azerbaijan "On the application of the Law of the Republic of Azerbaijan No. 1052-VIQ dated December 8, 2023 "On Evaluation Activities". (2023, December 30). Baku, Azerbaijan. Retrieved from https://e-qanun.az/framework/55995
9. Decree No. 2469 of the President of the Republic of Azerbaijan "Azerbaijan 2030: National Priorities for Socio-Economic Development". (2021, February 2). Baku, Azerbaijan. Retrieved from https://e-qanun.az/framework/46813
10. Decree No. 2620 of the President of the Republic of Azerbaijan on measures to establish a "green energy" zone in the liberated territories of the Republic of Azerbaijan. (2021, May 3). Baku, Azerbaijan. Retrieved from https://e-qanun.az/framework/47397
11. Decree No. 3378 of the President of the Republic of Azerbaijan "Socio-economic development strategy of the Republic of Azerbaijan for 2022-2026.". (2022, July 22). Baku, Azerbaijan. Retrieved from https://e-qanun.az/framework/50013
12. Decree No. 3587 of the President of the Republic of Azerbaijan "I State Program on the Great Return to the territories liberated from occupation of the Republic of Azerbaijan". (2022, November 16). Baku, Azerbaijan. Retrieved from https://e-qanun.az/framework/52757
13. Girdziute, L., Besuspariene, E., Nausediene, A., Novikova, A., Leppala, J., & Jakob, M. (2022). Youth's (Un)willingness to work in agriculture sector. Front Public Health, 10(2022). doi:10.3389/fpubh.2022.937657
14. Kərimov, Z. H. (2025). Azərbaycan tarixi (Vətən müharibəsi. Böyük qayıdış). Bakı: ADPU.
15. Nərimanoğlu, H. (2024). Şərqi Zəngəzur – Quruculuq və Böyük Qayıdışın ünvanı. Bakı: Füyuzat.
16. Otsuka, K., & Sonobe, T. (2018). The Role of Human Capital in Cluster-Based Industrial Development. The Developing Economies, 56(2), 104-116. doi:10.1111/deve.12166Digital Object Identifier (DOI)
17. Rodrik, D. (2016). Premature deindustrialization. Journal of Economic Growth, 21(1), 1-33. doi:10.1007/s10887-015-9122-3
18. Suphaphiphat, N., & Shi, Y. (2022). Economic Scarring: Channels and Policy Implications. IMF Working Papers, 2022(248), 1-18. doi:10.5089/9798400227257.001
19. Tanrıverdi, P. Ə. (2022). Maddi mədəni irsin sosial-iqtisadi təsirləri. Bakı: Elm və bilik.
20. Verhaest, D., & Omey, E. (2006). The Impact of Overeducation and Its Measurement. Social Indicators Research, 77(3), 419-448. doi:10.1007/s11205-005-4276-6