UNEMPLOYMENT RATE AND LABOR MARKET CHALLENGES IN UZBEKISTAN: ANALYSIS AND SOLUTIONS

Associate professor **Raximboev Muzaffar Gulimbay uli**
Philosophy Doctor (PhD) in Economics, Associate Professor, etc.
Jumanazarov O'serboy Seytmuratovich
Economics Faculty of Karakalpak State University. Department of Economics and Tourism 4b,
Economics student: **Bazarbaeva Paruazxan Koshkinbaevna,**
Elmuratova Guljamal Allambergenova

1. ABSTRACT

The Republic of Uzbekistan is currently navigating a critical socio-economic juncture, characterized by the necessity to reconcile significant demographic expansion with the imperative for sustainable, high-yield job creation. With a cohort of approximately 600,000 to 700,000 new entrants joining the labor market annually, the domestic economy faces a persistent structural deficit, as current developmental trajectories generate approximately 500,000 formal positions per year. This systemic disparity necessitates a transition toward a "managed addressability" model of intervention. The Uzbek labor market exhibits a persistent structural bifurcated equilibrium between the formal and informal sectors; currently, nearly 60% of the workforce remains in informal arrangements, characterized by a lack of social protections and institutional oversight. Furthermore, rapid technological maturation and the strategic pivot toward a "green" economy are recalibrating labor demand, demanding a more agile and technically proficient workforce. To mitigate these frictions, the state has institutionalized data-driven, makhalla-level interventions. By utilizing advanced analytics to classify districts according to twenty socio-economic criteria and identifying granular skills gaps, the government seeks to operationalize poverty reduction and stabilize employment. This analysis synthesizes recent reforms and statistical indicators to provide a technical roadmap for labor market formalization.

2. KEYWORDS

Employment, Unemployment, Uzbekistan, Informal Sector, Migration, Youth Employment, Economic Reforms, Data Analytics, Poverty Reduction, Makhalla.

3. INTRODUCTION

The Republic of Uzbekistan is undergoing a period of profound structural transformation, institutionalized through the "Uzbekistan-2030" strategy and a state commitment to doubling the national economy [9, 11]. Under this rigorous developmental framework, the state aims to achieve a GDP per capita of $5,800, supported by a total economic volume of approximately $240 billion by the conclusion of the decade [11]. As of the 2025 fiscal cycle, the macroeconomic landscape demonstrates substantial momentum,

with an estimated growth rate of 7.7%, elevating the national GDP to $147 billion [9]. This expansion is underpinned by a robust influx of foreign direct investment (FDI), reaching $43 billion, which has facilitated a strategic reallocation of capital toward social policy, infrastructure modernization, and targeted poverty reduction [9].

However, this macroeconomic expansion must be contextualized within a landscape of intense demographic pressure. Uzbekistan's labor market is characterized by a high youth bulge, necessitating the absorption of 600,000 to 700,000 new workers annually [4]. While the current industrial and service sector trajectories generate roughly 500,000 jobs per year, a persistent structural gap of 100,000 to 200,000 positions remains [4]. Historically, this surplus has been absorbed by the informal sector or redirected through external labor migration. To formalize and manage these flows, the state has secured bilateral legal agreements with major labor-receiving nations, including the Russian Federation, Kazakhstan, Turkey, Japan, and the United Arab Emirates, ensuring safer and more orderly labor mobility for Uzbek citizens abroad [4].

To mitigate the domestic supply-demand mismatch, the "Uzbekistan-2030" targets include the creation of 2.5 million high-yield jobs and a strategic increase of the private sector's economic contribution to 85% [11]. A primary pillar of this strategy is the "green" energy transition, which aims for a renewable energy capacity of 25,000 MW, accounting for 54% of total generation [11]. This shift is expected to catalyze employment in high-tech manufacturing and infrastructure maintenance. Furthermore, the implementation of a qualification certification system, effective since January 1, 2021, seeks to standardize vocational competencies and align the tertiary education sector with evolving industrial requirements [1].

The transition to a "managed addressability" model signifies that poverty and unemployment are no longer addressed as aggregate national abstractions but as granular, localized variables within the makhalla (community) system. By classifying districts according to twenty distinct socio-economic criteria—ranging from infrastructure quality to household income levels—the state identifies "difficult" makhallas for focused capital injection [9]. For instance, the deployment of 300 kW solar plants in 903 classified makhallas represents a transformative approach where infrastructure is utilized as an economic asset, generating a localized revenue stream to fund community-led poverty reduction [9]. This decentralized economic model seeks to institutionalize formalization at the household level while providing a buffer against global market volatility.

4. LITERATURE REVIEW

The academic and policy discourse surrounding Uzbekistan's labor market indicates a sophisticated, multi-dimensional reform trajectory:

• **Mamadaliyeva (2025):** Evaluates the frictions generated by rapid technological maturation, identifying a significant structural gap between the supply of unskilled labor and the industrial demand for specialized technical competencies [1].

• **Aliyeva (2025):** Investigates the role of data science in mitigating market opacity. She argues that the integration of high-frequency data—specifically through API-driven ingestion of job portal registries and JSON-formatted vacancy databases—is critical for reducing the information asymmetry that hinders graduate placement [2].

• **Islamova (2022):** Characterizes external migration as a vital "export of labor," providing a necessary outlet for demographic pressure. Her analysis indicates that remittances (comprising 10% of GDP) prevent national poverty levels from escalating by an estimated 2.6 to 7.2 percentage points [4].

• **Asadov (2026):** Critiques the "inclusive turn" in public policy, focusing on the classification of 903 "difficult" makhallas. He evaluates the efficacy of localized interventions in achieving managed addressability [9].

• **Sharipov (2026):** Synthesizes the qualitative objectives of the "Uzbekistan-2030" strategy, emphasizing the goals of doubling the GDP and reaching a $5,800 per capita threshold through "green" energy dominance [11].

• **Sherkhonov (2025):** Analyzes the role of small business diversification and the digitalization of administrative protocols as the primary catalysts for private sector resilience [12].

• **UNDP & World Bank:** These entities identify the informal sector as a systemic barrier to "decent work," noting that women and youth are disproportionately marginalized by a lack of social protection in unregistered employment [8, 10].

• **ILO:** Through the Decent Work Country Programme (2021–2025), the ILO provides the regulatory framework for aligning national labor legislation with international standards on occupational safety and collective bargaining [2].

• **State Statistics Committee:** Provides the empirical baseline for labor resource dynamics, highlighting the persistent formal employment disparity between the capital and agrarian regions [1, 3].

5. METHODOLOGY

The analytical framework employed in this study utilizes a rigorous four-stage data analytics workflow to synthesize macroeconomic indicators with micro-level community-level data [2].

1. **Data Ingestion:** Information is harvested via real-time API integration with private recruitment platforms (e.g., hh.uz) and the national vacancy database (ish.mehnat.uz). This is supplemented by the longitudinal Household Budget Survey (HBS) data [2].

2. **Standardization and Cleaning:** The workflow involves the unification of job titles and regional nomenclature to ensure cross-dataset compatibility. Anomaly detection algorithms are deployed to identify and filter duplicate or fraudulent vacancy entries [2].

3. **Modeling and Forecasting:** Advanced econometric tools are utilized, including Logistic regression to calculate employment probability coefficients for recent graduates. Time-series forecasting, specifically utilizing ARIMA (AutoRegressive Integrated Moving Average) and Prophet models, facilitates the projection of future labor demand. Natural

Language Processing (NLP) is applied to job description corpora to perform a skills-gap analysis [2].

4. **Visualization:** Data is rendered via interactive Power BI and Tableau dashboards, allowing for the real-time monitoring of regional Key Performance Indicators (KPIs), such as vacancy-to-applicant ratios and average time-to-hire [2].

Furthermore, a regional classification system categorizes all territories based on twenty distinct criteria. These criteria are grouped into four primary technical categories: 1) Infrastructure (access to potable water, natural gas, and paved roads); 2) Income Levels (average household earnings and dependency on social transfers); 3) Energy Access (stability of the electrical grid); and 4) Service Proximity (access to vocational training and healthcare) [9]. This classification underpins the "Social Contract" model, where makhallas demonstrating significant household income growth are eligible for a 2 billion UZS incentive for local infrastructure [9].

6. RESULTS AND DISCUSSION: QUANTITATIVE ANALYSIS

The quantitative assessment of the 2024–2025 labor market reveals significant progress alongside persistent structural disparities:

- **Unemployment and Demographic Indicators:**
  - General Unemployment Rate: 4.8% [9].
  - Youth Unemployment Rate (ages 15–24): 10.94% [2].
  - Graduate Non-Placement Rate: 59% of university graduates were not formally placed through the national registry at the time of reporting [2].
- **Labor Force Distribution and Real Income Growth:**
  - Total Employed Population: 13.7 million [1].
  - Formal Sector: 5.8 million [1].
  - Informal Sector: 7.9 million (including 2.6 million external labor migrants) [1].
  - Real Income Dynamics: Real per capita incomes have increased 2x over the last five years. Recent data indicates annual growth rates of 20% for wages and 14% for pensions, despite a downward trend in the consumer price index (7.3%) [4, 9].
- **Migration and Remittances:**
  - Remittances totaled approximately $6 billion (10% of GDP) [4].
  - The absence of migration and remittances would correlate with an estimated poverty increase of 2.6 to 7.2 percentage points [4].
- **Geographic Formalization Heterogeneity:**
  - Highest Formalization: Tashkent City (81%) and Navoi (67%) [1].
  - Highest Informality: Namangan (68.1%) and Surkhandarya (67.8%) [1].

7. DISCUSSION: REGIONAL DISPARITIES AND POLICY MODELS

The technical analysis indicates that economic expansion alone is insufficient to mitigate unemployment without targeted structural intervention at the makhalla level.

Geographic Heterogeneity and Seasonality Solutions The contrast between industrialized Navoi and agrarian Namangan highlights the challenge of seasonal

unemployment. To address this, the state is transitioning toward a three-pronged institutional model: 1) The formalization of seasonal labor contracts; 2) The modernization of agricultural yields through "lightweight" greenhouses (subsidized by the Entrepreneurship Promotion Fund); and 3) The establishment of year-round industrial processing clusters near agricultural zones to reduce dependency on seasonal cycles [1, 7].

Managed Addressability: The "Notebook" System Uzbekistan has operationalized the "Iron," "Women," and "Youth" notebooks—digital registries for targeted social and vocational assistance [4]. Technical surveys within the "Women's Notebook" reveal a specific demographic profile of vulnerability: 90% of unemployed women in the registry possess two or more children, and 96% have only a secondary or vocational education [4]. This data allows for the delivery of specific subsidies and entrepreneurial training to those with the highest barriers to entry.

Infrastructure as an Economic Asset A significant policy innovation for the 2026 cycle is the transformation of infrastructure into a revenue-generating asset for the makhalla. By installing 300 kW solar plants in 903 "difficult" makhallas, the state creates a "green" asset capable of generating 400–500 million UZS in annual revenue [9]. These funds are explicitly tied to the "Social Contract" model, incentivizing local leaders to transition residents from the informal sector to formal, income-generating activities to unlock further state funding.

8. CONCLUSION

To fulfill the "Uzbekistan-2030" strategy and mitigate the 59% graduate non-placement rate, the following policy interventions are recommended:

1. **Institutionalization of a National Labor Market Analytics Center:** Establishing a centralized entity for real-time forecasting to reduce information asymmetry between the tertiary education sector and industrial demand [2].
2. **Scaling the "Social Contract" Model:** Further linking the 2 billion UZS infrastructure incentive to measurable household income growth, thereby decentralizing the accountability for poverty reduction [9].
3. **Formalization via Digital Integration:** Implementing digital tax incentives and automated record-keeping for the 7.9 million self-employed and informal workers to integrate them into the social protection system [1, 12].
4. **Curriculum-Market Realignment:** Utilizing NLP-driven skill gap analysis to reform Higher Education Institution (HEI) curricula, ensuring that the 600,000 annual market entrants possess the "green" and digital competencies required by the $147 billion national economy [2, 9].

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