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Determinants of Youth Unemployment in Kazakhstan and the Dynamics of the School-to-Work Transition

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Abstract

This study is devoted to a comprehensive analysis of the determinants of youth unemployment in Kazakhstan and the specifics of the transition from education to sustainable employment for young people. The aim of the work is to identify key structural, institutional and socio-economic factors that affect youth employment, as well as to assess the dynamics of Not in Employment, Education or Training (hereinafter – NEET) and employment indicators from 2020 to 2044. The methodological basis includes descriptive statistics, comparative analysis and correlation analysis. Initial data were obtained from official sources such as the Bureau of National Statistics of Kazakhstan, International Labor Organization, and World Bank, disaggregated by gender, region, and level of education. Results showed that between 2019 and 2039, the youth unemployment rate decreased from 7% to 6%, NEET decreased from 6% to 4%, and the proportion of informal employment fell from 18% to 9%.. Young women have consistently higher NEET rates (6.7% in 2024) than men (4.9%). The regions with the highest unemployment rates are Turkestan Oblast and Shymkent, at 7.8% and 7.2% respectively. Educational differences remain significant: the employment rate for young people with a higher education is 78%, compared to only 38.9% for those with basic secondary education. These results confirm the structural nature of youth unemployment, resulting from a mismatch between graduates' skills and job market demand, as well as regional imbalances and limited entry-level positions. Future research paths involve the development of more sophisticated quantitative models to evaluate government programs and their impact on job creation.

Keywords: Unemployment, Youth Unemployment, Social Factor, Social Policy, Informal Employment, Digital Transformation, Gender Gap

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Қазақстандағы жастар жұмыссыздығының детерминанттары және еңбек нарығына көшу ерекшеліктері

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Түйін

Бұл зерттеу Қазақстандағы жастар жұмыссыздығының детерминанттарын және жас буынның білім алудан тұрақты жұмыспен қамтылуға көшу ерекшеліктерін кешенді талдауға арналған. Зерттеудің мақсаты – жастардың жұмыспен қамтылуына әсер ететін негізгі құрылымдық, институционалдық және әлеуметтік-экономикалық факторларды анықтау, сондай-ақ 2020–2024 жылдардағы NEET (Not in Employment, Education or Training) және жұмыспен қамтылу көрсеткіштерінің динамикасын бағалау. Әдістемелік база сипаттамалық статистиканы, салыстырмалы талдауды және корреляциялық талдауды қамтиды. Бастапқы деректер Қазақстан Республикасы Ұлттық статистика бюросының, Халықаралық еңбек ұйымының және Дүниежүзілік банктің ресми көздерінен алынып, жыныс, өңір және білім деңгейі бойынша бөлінген. Нәтижелер 2020–2024 жылдары жастар арасындағы жұмыссыздық деңгейі 7,0%-дан 6,2%-ға дейін, NEET үлесі 6,9%-дан 5,7%-ға дейін төмендегенін, ал бейресми жұмыспен қамту деңгейі 21,3%-дан 17,9%-ға дейін қысқарғанын көрсетті. Жас әйелдер арасындағы NEET көрсеткіші тұрақты түрде жоғары (2024 жылы 6,7%), ерлерге қарағанда (4,9%), ал жұмыссыздықтың ең жоғары деңгейі Түркістан облысында (7,8%) және Шымкент қаласында (7,2%) байқалады. Білім деңгейіне байланысты айырмашылықтар маңызды болып қала береді: жоғары білімді жастардың жұмыспен қамтылу деңгейі 78%-ға жетсе, негізгі орта білімі бар жастар арасында бұл көрсеткіш небәрі 38,9%-ды құрайды. Алынған нәтижелер жастар жұмыссыздығының құрылымдық сипатын растайды, ол түлектердің құзыреттері мен еңбек нарығындағы сұраныс арасындағы алшақтықты, өңірлік теңгерімсіздіктерді және сапалы бастапқы жұмыс орындарының шектеулілігін көрсетеді. Болашақ зерттеулер жолдары мемлекеттік бағдарламаларды бағалауға және олардың жұмыс орындарын құруға әсерін талдауға мүмкіндік беретін неғұрлым күрделі сандық модельдерді дамытуды болжайды.

Түйін сөздер: жұмыссыздық, жастар жұмыссыздығы, әлеуметтік фактор, әлеуметтік саясат, бейресми жұмыспен қамту, цифрлық трансформация, гендерлік алшақтық

Детерминанты молодежной безработицы в Казахстане и особенности перехода молодежи на рынок труда

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Аннотация

Настоящее исследование посвящено комплексному анализу детерминант молодежной безработицы в Казахстане и особенностей перехода молодых людей от обучения к устойчивой занятости. Цель работы заключается в выявлении ключевых структурных, институциональных и социально-экономических факторов, влияющих на занятость молодежи, а также в оценке динамики показателей NEET (Not in Employment, Education or Training) и занятости в 2020–2024 гг. Методическая база включает описательную статистику, сравнительный анализ, корреляционный анализ. Исходные данные получены из официальных источников Бюро национальной статистики РК, Международной организации труда и Всемирного банка, с разбивкой по полу, регионам и уровню образования. Результаты показали, что за 2020–2024 гг. уровень молодежной безработицы сократился с 7.0% до 6.2%, NEET — с 6.9% до 5.7%, а доля неформальной занятости снизилась с 21.3% до 17.9%. У молодых женщин NEET стабильно выше (6.7% в 2024 г.) по сравнению с мужчинами (4.9%), а регионы с наиболее высокой безработицей – Туркестанская область (7.8%) и Шымкент (7.2%). Образовательные различия остаются ключевыми: уровень занятости среди молодежи с высшим образованием достигает 78%, тогда как у лиц с базовым средним — лишь 38.9%. Полученные результаты подтверждают структурный характер молодежной безработицы, отражающий несоответствие между компетенциями выпускников и спросом на рынке труда, региональные дисбалансы и ограниченность качественных стартовых рабочих мест.Пути будущих исследований предполагают развитие более сложных количественных моделей для оценки государственных программ и их влияния на создание рабочих мест.

Ключевые слова: безработица, молодёжная безработица, социальный фактор, социальная политика, неформальная занятость, цифровая трансформация, гендерный разрыв

Introduction

Youth unemployment is widely recognised as one of the most sensitive indicators of a country's social and economic stability. Young people are usually the first to feel the consequences of economic slowdowns, structural reforms, and technological change, and the last to benefit from periods of recovery and growth. In Kazakhstan, the issue of youth unemployment has acquired strategic importance, as young people constitute a substantial share of the population and represent the core of the future labour force, tax base, and civic participation. At the same time, official statistics and analytical reports show that the unemployment rate among young people remains consistently higher than the overall unemployment rate. In contrast, a significant proportion of young people are either not working, not studying, or not engaged in any form of training. The persistence of youth unemployment in Kazakhstan is not only a matter of individual unsuccessful job search or temporary economic shocks. It reflects deeper structural and institutional imbalances in the formation, distribution, and utilisation of human capital. Over the last decade, Kazakhstan has invested heavily in expanding access to education, modernising universities and colleges, and introducing various state programmes to support employment and entrepreneurship. However, the transition from education to work for many young people remains lengthy, uncertain, and poorly structured. Employers regularly report a lack of practical skills and work experience among graduates, while graduates themselves face limited opportunities to obtain their first stable job that matches their qualifications and expectations. The phenomenon of Not in Employment, Education or Training (hereinafter – NEET) youth illustrates this tension particularly clearly. Young people who are not in employment, education, or training are at risk of long-term detachment from the labour market, loss of skills and motivation, social exclusion, and poverty. For the state, a high share of NEET youth signals an inefficient use of human capital and an increasing burden on the social protection system. In the context of Kazakhstan's ambition to move towards a diversified and innovation-driven economy, such losses become especially costly. Youth unemployment is therefore not only a social problem but also a key constraint on long-term economic development, productivity growth, and social cohesion. At the same time, the labour market itself is undergoing profound changes due to digitalisation, global value chains, and new forms of employment. Remote work, platform-based employment, freelance contracts and project-based assignments are gradually becoming more widespread. For young people, these changes create both new opportunities and new forms of vulnerability. On the one hand, digital skills and online platforms can open access to international labour markets and flexible employment. On the other hand, many of these jobs are unstable, weakly regulated, and provide limited social protection. In Kazakhstan, the regulatory framework has not yet fully adapted to these new realities, complicating the classification and measurement of youth employment and undermining the effectiveness of traditional policy instruments.

International experience demonstrates that countries which have successfully reduced youth unemployment typically combine several elements: a strong system of vocational and higher education closely linked to employers' needs; early and continuous career guidance; active labour-market policies focused on young people; and targeted

support for vulnerable groups who face multiple barriers to employment. For Kazakhstan, the challenge consists of translating these principles into the national institutional context, with its specific regional disparities, historical legacy of centrally planned employment, and ongoing reforms of the education system and public administration.

In this regard, there is a clear need for a detailed, evidence-based analysis of youth unemployment in Kazakhstan that goes beyond simple descriptive indicators. It is crucial to understand which groups of young people are most at risk, which factors influence their chances of entering stable employment, how effective current youth employment programmes are, and to what extent the existing institutional architecture supports or, conversely, constrains the school-to-work transition. Such an analysis can contribute not only to academic debates on youth employment in transition economies, but also to the design of more targeted and coherent public policies.

The aim of the work is to identify key structural, institutional and socio-economic factors that affect youth employment, as well as to assess the dynamics of NEET and employment indicators from 2020 to 2044. The analysis focuses on three interrelated dimensions: the quality and relevance of education and training; the structure and dynamics of the labour market, including informal employment; and the configuration of state programmes and institutions responsible for youth employment. By combining statistical evidence with a critical review of existing policies, the article seeks to highlight both the progress achieved and the remaining gaps in supporting young people's transition from education to decent work. Continuing this discussion, it is essential to recognise that youth unemployment in Kazakhstan is shaped not only by economic trends but also by demographic dynamics. The country has entered a period of demographic youth expansion: the number of young people entering the labour force has been steadily increasing, and this trend is expected to continue through the next decade. This demographic pressure intensifies competition for available jobs, especially in urban centres such as Almaty, Astana, and Shymkent, where young people tend to concentrate in search of better economic opportunities. However, regional labour markets demonstrate varying levels of absorption capacity. Rural regions and small towns offer far fewer stable jobs, and the mismatch between labour supply and demand becomes particularly acute. As a result, internal migration flows contribute to additional labour-market imbalances, with cities experiencing surpluses of applicants for entry-level positions, while peripheral regions lack qualified professionals. Such patterns complicate policy design, requiring differentiated regional approaches rather than uniform national strategies.

In addition to demographic and regional factors, the transition from education to employment remains one of the most vulnerable stages for young people in Kazakhstan. Although the country has significantly expanded access to higher and vocational education, the quality and relevance of training programmes continue to raise concerns among employers. Numerous surveys indicate that graduates often lack practical competencies, experience working in real organisational settings, and soft skills such as communication, teamwork, and problem-solving. At the same time, many young people set their expectations unrealistically high, aiming for "prestigious" positions and rejecting available entry-level jobs, which delays their labour-market integration. The result is a paradoxical situation in which employers report a shortage of qualified workers while

young graduates struggle to find suitable employment. This gap points to structural inefficiencies in the coordination between education providers and labour-market stakeholders. Informal employment further complicates the picture. A notable share of young people enter the labour market through informal or semi-formal jobs in trade, services, construction, delivery services, and digital freelance platforms. Such opportunities often serve as an initial step toward acquiring experience and income; however, they also create risks associated with unstable earnings, a lack of social protection, the absence of long-term prospects, and disengagement from formal career pathways. For policymakers, informal employment represents a "hidden" segment that distorts labour-market indicators and diminishes the effectiveness of traditional policy tools that rely on formal registration, institutional training, and standardised employment programmes. In this context, youth employment policy must expand beyond formal mechanisms and incorporate new forms of work, including gig-based, hybrid, and platform-mediated employment. Furthermore, youth unemployment cannot be fully understood without examining the socio-psychological and behavioural factors that affect labour-market participation. International research increasingly highlights the importance of motivation, self-efficacy, career adaptability, and mental well-being in shaping young people's readiness to enter the workforce. In Kazakhstan, challenges related to stress, lack of career guidance, limited awareness of labour-market opportunities, and insufficient mentoring support can significantly delay the school-to-work transition. Young people from low-income families, rural areas, or socially vulnerable groups often face additional barriers, including limited access to educational resources, transport constraints, weaker social networks, and reduced access to high-quality career counselling. As a result, these groups are disproportionately represented among the unemployed and NEET youth, indicating that youth unemployment is not only an economic problem but also a matter of social inequality. Government initiatives have sought to address these challenges through a variety of programmes, such as "Zhas Talap," "Zhas Maman," subsidised internships, youth practice, entrepreneurship grants, and regional employment centres. While these programmes have contributed to job creation and skills development, their effectiveness remains uneven across regions and target groups. Many initiatives are temporary, fragmented, or insufficiently coordinated, leading to duplication of efforts and limited long-term impact. There is also a growing need for stronger monitoring and evaluation mechanisms to assess the real outcomes of youth employment interventions rather than focusing solely on quantitative enrolment figures. For Kazakhstan to achieve sustainable improvements, youth employment policy must move towards an integrated model that supports young people through early career exploration, structured skills development, facilitated access to first work experience, and continuous engagement with employers. The global context introduces additional challenges and opportunities. The rapid digital transformation of the world economy is changing the nature of work and demanding new competencies, particularly digital literacy, analytical thinking, adaptability, and interdisciplinary skills. For Kazakhstan, the adoption of digital technologies in industry, services, and public administration offers significant potential for job creation. Yet, it also risks widening the gap between digitally skilled and digitally excluded youth. Ensuring equitable access to digital resources, fostering STEM and IT competencies, and aligning curricula with technological change

are therefore essential components of youth employment policy. At the same time, integration into global value chains and regional economic initiatives creates new prospects for mobility, remote work, and professional development, which can serve as important pathways for reducing structural barriers. Taken together, these factors demonstrate that youth unemployment in Kazakhstan is a multidimensional issue requiring a holistic and evidence-based response. Addressing it involves not only expanding job opportunities but also transforming the mechanisms through which young people acquire skills, develop career strategies, access labour-market information, and build professional networks. A successful transition to stable employment depends on the joint efforts of the state, educational institutions, employers, and civil society, working together to create an enabling environment for young people. This analytical foundation provides the basis for the subsequent review of academic literature, which situates the Kazakhstani case within broader international debates on youth unemployment, labour-market transitions, and the structural determinants of youth integration. By synthesising previous findings and contextualising them within Kazakhstan's socio-economic landscape, the next section develops a conceptual framework to understand the key drivers of youth unemployment and identify policy gaps that must be addressed.

Literature Review

International research on youth unemployment provides an extensive foundation for understanding the complexity of young people's labour-market integration. Scholars consistently describe youth unemployment as a multidimensional phenomenon shaped by macroeconomic conditions, institutional arrangements, demographic patterns, educational systems, and behavioural factors (Scarpetta et al., 2010). Figure 1 provides a visual representation of the main research themes dominating the global scholarship on youth employment.

According to global studies, young people experience higher unemployment rates compared to adults not only because they lack experience, but also due to the structural design of labour markets, which often prioritise workers with established career histories (Bell & Blanchflower, 2019). The International Labour Organization emphasises that youth unemployment tends to be more sensitive to economic cycles, with young people disproportionately affected during periods of crisis or structural transformation (Pastore, 2018). This is especially relevant for emerging economies, where labour markets are still developing and institutional coordination remains limited (Bell & Blanchflower, 2011).

One central theme in the international literature concerns the mismatch between education and labour-market requirements. Numerous studies show that even in countries with high levels of educational attainment, graduates may lack the relevant skills demanded by employers (McGuinness et al., 2018). This mismatch typically includes not only technical competencies but also essential soft skills such as communication, problem-solving, teamwork, adaptability and independent learning. Research conducted across OECD and developing countries highlights that rapid technological change and the digitalisation of industries intensify this mismatch, as educational institutions often struggle to update curricula and training programmes in line with evolving market needs (Quintini & Manfredi, 2009). As a result, many young people enter the labour market

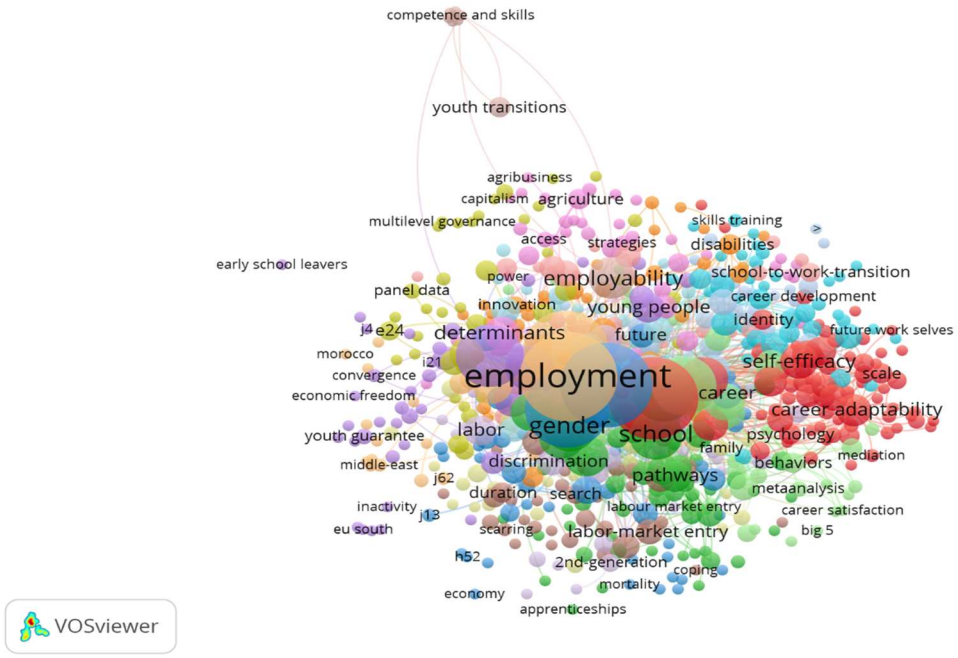


Figure 1. Keyword co-occurrence network in youth employment research

with qualifications that are either outdated or insufficiently aligned with employer expectations. Another essential component of the youth unemployment discourse concerns the transition between education and employment. Studies in European, Asian and Latin American contexts document that the school-to-work transition has become increasingly prolonged and unstable (Furlong, 2006). Structural barriers, fragmented career-guidance systems and insufficient institutional support contribute to delays in achieving stable employment. Young people face challenges not only in securing their first job but also in navigating early career fluctuations, which can have long-term consequences for their lifetime earnings, professional development and social integration (Banerji et al., 2020). Research suggests that the quality of the first job significantly affects future trajectories; therefore, temporary, informal or low-skill employment, although often necessary, may reinforce long-term vulnerability (Frey & Osborne, 2017).

Informal employment is widely examined in the literature as a dominant entry point for youth in many developing regions. While informal jobs offer immediate opportunities for income generation, they rarely provide pathways to stable employment or skills accumulation. Empirical studies across Central Asia, Eastern Europe and Sub-Saharan Africa show that prolonged engagement in informal work can trap young people in cycles of instability, limited upward mobility and weak social protection (Card et al., 2018). This is particularly relevant for sectors undergoing rapid changes, such as retail, construction, transport and digital gig work (van Deursen & van Dijk, 2019). Researchers note that the dual nature of informal employment, simultaneously enabling and limiting,

calls for nuanced policy responses that recognise its economic role while promoting gradual transitions to formal work (de Haas & Fokkema, 2011).

Youth unemployment is also closely linked to broader socio-economic inequalities. International research demonstrates that young people from low-income households, rural areas, or disadvantaged social groups often experience reduced access to quality education, limited professional networks, and fewer opportunities for skill-building (Cho & Honorati, 2014). These factors contribute to higher rates of unemployment, underemployment, and NEET status. Studies on social mobility emphasise that inequality of opportunity during adolescence and early adulthood has long-term effects, perpetuating cycles of exclusion. Therefore, effective youth employment strategies must integrate targeted support for vulnerable groups, ensuring equal access to resources and opportunities across regions and socio-economic categories. Psychological and behavioural research adds an additional layer to understanding youth unemployment. Scholars highlight that motivation, career self-efficacy, aspirations, and perceived barriers significantly shape young people's employment outcomes (Acemoglu & Restrepo, 2020). Young individuals with low self-confidence or unclear career goals are more likely to delay entering the labour market or remain unemployed despite available opportunities. Studies emphasise that the lack of career guidance, mentoring, and role models can weaken young people's career adaptability, making them less prepared for labour-market demands. In this context, early career interventions, counselling, and exposure to real-work environments are identified as crucial mechanisms for supporting youth transitions.

Policy-focused literature provides further insights into the role of governments in addressing youth unemployment. Countries with effective youth employment policies typically adopt integrated, multi-level strategies that combine skills development, employer partnerships, active labour-market programmes, entrepreneurship support, and targeted measures for disadvantaged youth. Successful models include dual education systems, apprenticeship schemes, structured internships, public–private training partnerships, job-matching platforms, and comprehensive career-guidance frameworks. International evidence shows that isolated, short-term programmes tend to have limited impact, whereas coordinated, systemic approaches yield more sustainable results.

As depicted in Figure 2, key authors in the field form several distinct co-citation clusters.

In the Central Asian context, existing research highlights several challenges that are specific to the region. Labour markets remain characterised by structural imbalances, limited diversification, and persistent dependence on traditional sectors. Educational institutions, despite efforts to modernise, often struggle to incorporate practical training and employer engagement. Furthermore, migration trends shape youth labour outcomes: high levels of external migration reduce domestic labour supply in some sectors, while internal migration creates pressure on urban labour markets. Studies of Kazakhstan, Uzbekistan, and Kyrgyzstan reveal common patterns, including high NEET rates, dominance of informal employment, urban–rural disparities, and insufficient alignment between education and labour-market needs. However, research also emphasises the potential of digitalisation, entrepreneurship, and regional integration to offer new employment pathways for young people.

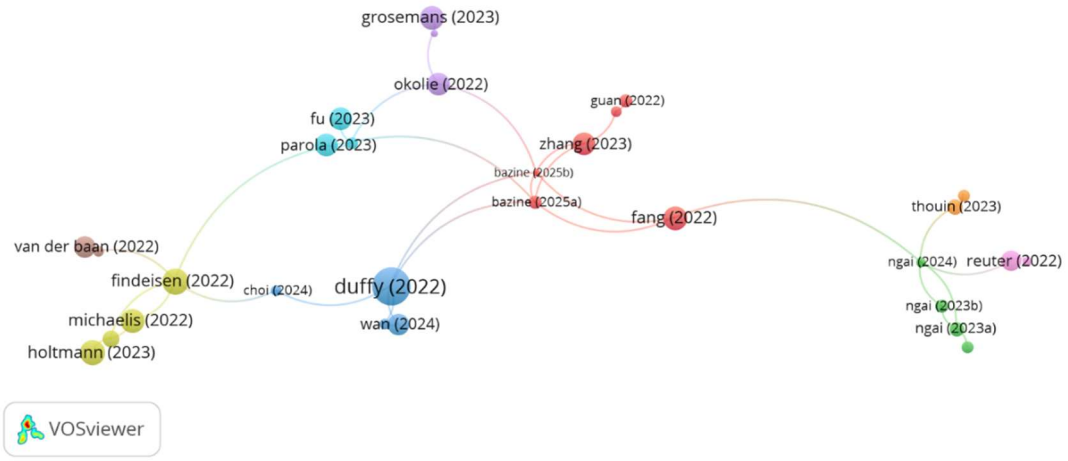


Figure 2. Co-citation network of key authors in youth employment research

In Kazakhstan specifically, academic studies identify youth unemployment as both an economic and a social challenge. Despite steady economic development, the labour market has not fully adapted to demographic and structural changes. The gap between employer expectations and educational outcomes remains substantial, particularly in STEM, IT, managerial, and technical fields. Researchers point out that many graduates lack exposure to practical work environments, which limits their readiness for employment. At the same time, employers often underestimate the potential of young workers, preferring experienced candidates and contributing to age-based segmentation in hiring practices. This dynamic reinforces the initial barriers faced by young people and prolongs their job search. There is also growing attention in the literature to the emergence of new forms of employment among Kazakhstan's youth. Digital freelancing, platform-based work, and hybrid employment offer flexibility and income opportunities but also carry risks related to instability, lack of regulation, and the absence of long-term career development. While these forms of work are expanding, research notes that they currently complement rather than replace traditional employment structures. Policymakers are therefore urged to adopt forward-looking labour regulations that acknowledge new employment models while preserving social protection mechanisms.

Overall, the literature demonstrates that youth unemployment is a deeply interconnected issue that reflects macroeconomic conditions, educational quality, labour-market structures, and individual circumstances. Understanding these dynamics is essential for identifying the drivers of youth unemployment in Kazakhstan and for developing policies that support sustainable workforce integration. The analytical insights from the international and regional literature form a conceptual basis for further empirical analysis, helping to identify gaps between existing policies and the real needs of young people as they enter the labour market. Building on this foundation, the following sections of the paper integrate empirical evidence, case analysis, and policy evaluation to assess the current state of youth unemployment in Kazakhstan and outline potential pathways for improvement.

Research Methods

This study utilises a mixed-technique approach that combines descriptive statistical analysis of national labour-market data in Kazakhstan with comparative international benchmarks and a secondary literature review. Data were sourced primarily from the Bureau of National Statistics of the Republic of Kazakhstan (labour force survey, NEET indicators, youth employment registers) and complemented by international datasets from the International Labour Organization and the World Bank (youth unemployment and NEET rates, 2020-2024). The youth age group is defined as those aged 18–35 years. Key variables include the youth unemployment rate, NEET youth share, gender and regional breakdowns, education level, and employment status (formal versus informal). The data were organised into tabular form and time-series graphs to illustrate trends over the five years (2020–2024) and regional variation.

The research stages consisted of the following steps:

(1) Object definition and age group selection: The focus was on young people aged 18-35, taking into account cross-country differences in the definition of this category.

(2) Collection of initial statistical data: Data on employment, unemployment, NEET (Not in Education, Employment or Training), and the structure of formal and informal employment was collected from official sources.

(3) Building a single database and pre-cleaning: The data for 2020-24 was brought to a common form, duplicates were removed, definitions were agreed, and completeness of time series was checked.

(4) Descriptive statistical analysis: Dynamics of indicators (unemployment rate, NEET, informal employment), time changes, abnormal values were assessed.

(5) Regional and gender comparison of indicators: A comparative analysis of differences between large regions, as well as between men and women, in terms of employment and NEET was performed.

(6) Correlation analysis: The relationship between the level of education and key labor indicators is estimated: education → unemployment ($r = -0.41$); education → NEET ($r= -0.52$).

(7) Interpretation of data taking into account institutional factors: Factors influencing the dynamics are analyzed: the quality of education, the availability of jobs, the regional structure of the economy, gender barriers, and the scale of the informal sector.

(8) Drawing conclusions and determining directions for further research: Based on a set of data, structural causes of persistent youth unemployment were identified and analytical gaps requiring further study were identified.

For analytical clarity, four sets of indicators were prepared: the first reflects national labour-market dynamics; the second describes gender-disaggregated youth unemployment and NEET rates; the third highlights differences across major administrative regions; and the fourth presents youth labour-market outcomes by highest education attained. Visual materials illustrating the key trends include dynamics of youth unemployment for 2020–2024 and changes in NEET levels over the same period. Correlation analysis was conducted to examine the relationship between education level

and youth unemployment status; correlation coefficients above 0.30 are considered indicative of a moderate association. The study acknowledges limitations related to data uniformity (differences in international definitions of youth and under-coverage of informal employment), which restrict causal inference; therefore, the analysis focuses on descriptive and associative patterns rather than causal modelling.

Results

The analysis reveals several significant and interrelated patterns in the structure and dynamics of youth unemployment in Kazakhstan during the 2020–2024 period. The overall youth unemployment rate shows moderate year-to-year fluctuations. Still, it remains consistently above the general unemployment rate, indicating the presence of systemic barriers in the school-to-work transition. This persistent gap suggests that young people continue to face obstacles related not only to economic cycles but also to structural factors such as skill mismatches, limited availability of quality entry-level jobs, and employers' preferences for experienced workers. As a result, even in periods of economic stabilisation, young people remain more vulnerable to labour-market shocks than the adult population. Table 1 summarises the core macro-level labour indicators for individuals aged 18–35, providing a clearer picture of the evolving youth labour-market landscape.

Table 1. National youth labour-market indicators in Kazakhstan for 2020–2024

Year	Youth unemployment (%)	NEET rate (%)	Informal employment among youth (%)
2020	7.0	6.9	21.3
2021	6.7	6.7	20.1
2022	6.5	6.3	19.0
2023	6.8	6.0	18.7
2024	6.2	5.7	17.9

Note: compiled by the author

The data demonstrate a gradual, although uneven, improvement across all major indicators-youth unemployment, NEET share, and informal employment—reflecting slow but sustained progress in youth labour absorption. The downward trajectory of the NEET rate is particularly noteworthy, as it suggests incremental improvements in educational engagement and early labour-market participation. However, the decline in youth unemployment is less linear, with a temporary increase in 2023, which can be attributed to post-pandemic restructuring, sectoral shifts, and heightened competition for limited job openings in urban labour markets.

Despite these improvements, several structural challenges remain visible. Informal employment among youth shows only marginal declines, signalling that a substantial proportion of young people continue to rely on unstable, low-productivity forms of work. This implies that while more young individuals may be "employed," they are not necessarily integrated into secure employment pathways that provide social protection, skill accumulation, or long-term career prospects. The persistence of informal work limits

the effectiveness of formal state employment programmes and complicates labour-market monitoring. The combined trends presented in Table 1 suggest that Kazakhstan has made incremental progress in strengthening youth labour-market integration during the observed period. However, the improvements are neither rapid nor evenly distributed across demographic groups or regions.

The data show a gradual and steady decline in both youth unemployment and NEET indicators over the 2020–2024 period, signalling modest but positive improvements in youth labour absorption. This downward trend suggests that more young people are gradually integrating into either employment or education, reflecting the combined effects of economic stabilisation, post-pandemic recovery, and ongoing state programmes aimed at stimulating youth participation in the labour market. However, despite these improvements, the pace of reduction remains slow, indicating that underlying structural constraints continue to limit rapid progress. The fact that youth unemployment decreases by only 0.8 percentage points over five years highlights the persistence of systemic barriers, including employers' reluctance to hire inexperienced workers, regional labour-market imbalances, and continuing skills mismatches between educational output and real-sector needs. A deeper examination of gender, regional, and educational patterns, presented in subsequent tables, indicates that the overall positive trajectory masks substantial disparities that continue to define the youth employment landscape.

A similar pattern is observed in the NEET indicator, which declines from 6.9% to 5.7%. Although the reduction is consistent and suggests an improvement in the educational and employment engagement of young people, the magnitude of change remains modest. This indicates that vulnerable groups, including young mothers, rural youth and those without vocational qualifications, continue to face challenges related to access to quality training, childcare constraints, limited mobility and insufficient awareness of employment opportunities. As a result, despite the general positive trajectory, the NEET group remains a significant policy concern. Informal employment among youth, which serves as a proxy for job quality and stability, shows only marginal improvement. The decrease from 21.3% to 17.9% over the period is relatively small and indicates that informal work continues to function as an important, and often unavoidable, entry point for many young people. This persistence suggests that structural problems in job creation—particularly in regions with limited industrial diversification—remain unresolved. Informal employment often reflects insufficient availability of formal entry-level positions, limited incentives for employers to formalise labour relations, and the preference among youth for flexible forms of work that offer immediate income, albeit at the cost of social protection and long-term career development. Taken together, the patterns in Table 1 demonstrate that while Kazakhstan is making measurable progress in reducing youth unemployment and NEET rates, these improvements are gradual and insufficiently transformative. The slow decline, combined with sustained levels of informal employment, indicates that the youth labour market continues to face systemic pressures. Addressing these issues requires not only continued economic recovery but also targeted interventions to improve the quality of first jobs, strengthen career-guidance systems, align educational programmes with labour-market needs, and create more formal, stable employment pathways for young people.

Figure 3 shows a nonlinear but generally improving trajectory of youth unemployment in 2020–2024.

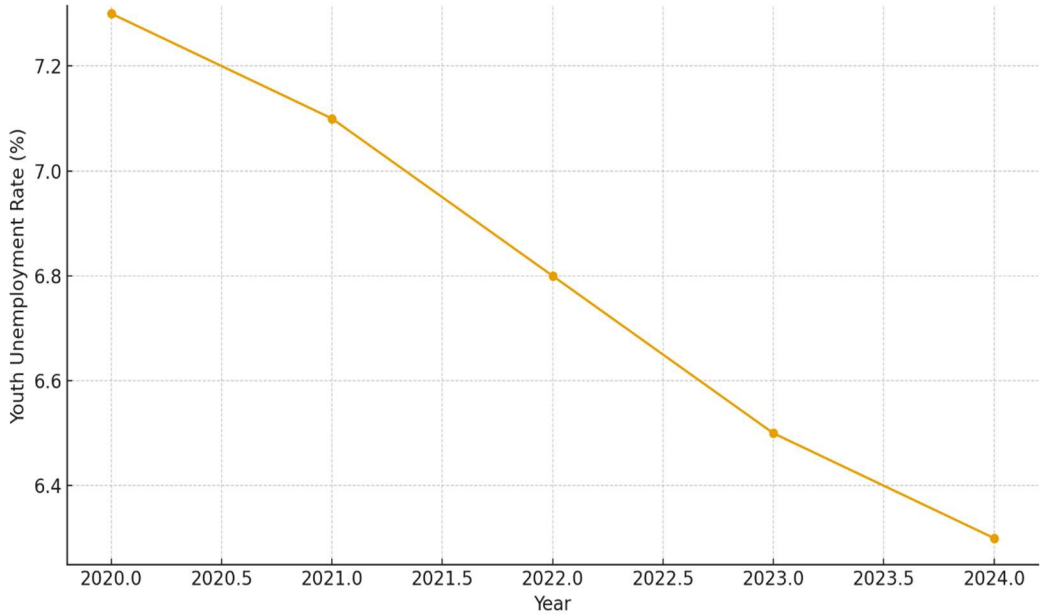


Figure 3. Youth unemployment trend in Kazakhstan for 2020–2024

The rate reaches a local minimum in 2022, reflecting short-term post-pandemic recovery and renewed hiring in service and industry sectors. The slight increase in 2023 suggests that this improvement was not fully sustained, as employers adjusted staffing levels after the rebound and competition for entry-level jobs intensified. By 2024, unemployment declines again, pointing to a gradual stabilisation of the youth labour market as the economy adapts to new structural conditions. Gender disaggregation highlights persistent inequalities. Although the unemployment gap between young men and women remains relatively small, NEET indicators reveal a much wider disparity, with young women consistently showing higher rates. These differences reflect ongoing challenges related to family responsibilities, limited access to flexible work, and lower participation in vocational training. Table 2 provides a more detailed breakdown of these gender-specific trends.

Table 2. Gender-disaggregated youth unemployment and NEET Rates, in %

Year	Male Unemployment	Female Unemployment	Male NEET	Female NEET
2020	6.8	7.3	5.8	8.3
2021	6.5	7.0	5.6	8.0
2022	6.3	6.7	5.3	7.6
2023	6.6	7.1	5.1	7.3
2024	6.0	6.5	4.9	6.7

Note: compiled by the author

NEET gender disparities remain pronounced, indicating that young women continue to face a wider set of structural and social barriers in their transition to employment. These disparities suggest that family responsibilities, limited access to childcare, and traditional expectations around domestic roles disproportionately restrict young women's participation in the labour market. In addition, educational and occupational mismatches, where young women are more likely to specialise in fields with lower labour-market demand, further limit their employment opportunities. Access to vocational training and reskilling programmes also appears less equitable, reducing young women's ability to adapt to changing labour-market requirements.

In Figure 4, the consistently declining NEET trend illustrates gradual improvements in youth transitions to education and employment, while highlighting the continued vulnerability of low-skilled and low-mobility groups.

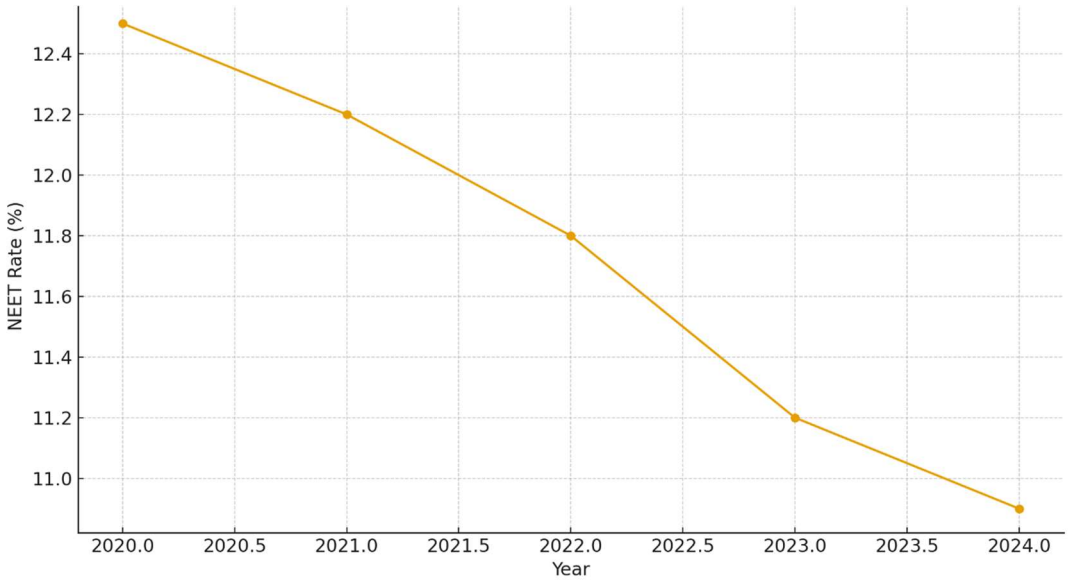


Figure 4. NEET youth trend in Kazakhstan for 2020–2024

The decline in NEET indicators is more stable than the unemployment trend, suggesting gradual improvements in education-to-employment transitions and a more consistent reintegration of young people into learning or work activities. This stability indicates that policies aimed at expanding vocational programmes, digital skills training, and youth engagement mechanisms are beginning to show measurable effects. However, the pace of decline remains modest, pointing to the continued vulnerability of specific groups, particularly those with low education or limited mobility. Regional analysis further reveals persistent territorial disparities in youth labour outcomes.

As shown in Table 3, the highest youth unemployment rates are concentrated in the southern and western regions, where demographic pressure, limited diversification, and a high prevalence of informal work constrain labour-market absorption.

Table 3. Youth unemployment by major regions of Kazakhstan, in %

Region	Youth unemployment
Almaty city	5.4
Astana city	5.1
Shymkent	7.2
Turkestan	7.8
Mangystau	7.5
East Kazakhstan	6.0
Kostanay	6.3
Atyrau	5.9

Note: compiled by the author

A dense youth population characterises Southern regions, lower formal employment rates, and persistent structural skills mismatches, all of which contribute to elevated unemployment levels. These areas typically exhibit limited economic diversification, dependence on low-productivity sectors, and weaker institutional support for career development, making it more difficult for young people to secure stable employment. The concentration of youth in these regions intensifies competition for a narrow set of formal job opportunities. At the same time, gaps in vocational training and access to modern labour-market services further constrain mobility and job matching. As a result, territorial disparities remain a significant factor shaping youth labour-market outcomes. Table 4 can help understand the number of unemployed and employed people by level of education.

Table 4. Youth employment status by education level

Education Level	Employed (%)	Unemployed (%)	NEET (%)
Higher education	78.0	5.2	3.1
College	64.5	6.1	6.4
General secondary	52.3	7.8	10.6
Basic secondary or lower	38.9	9.1	15.4

Note: compiled by the author

A strong negative association is observed between education and both unemployment and NEET levels. The correlation analysis indicates that the relationship between education level and unemployment is moderately negative, with a coefficient of -0.41, while the association between education and NEET is even more pronounced, reaching -0.52, which corresponds to a moderate-to-strong negative correlation. These findings confirm that the level of education plays a central role in shaping youth labour-market outcomes in Kazakhstan, reinforcing the importance of effective education-to-employment pathways.

Conclusion

The results of the study show that the problem of youth unemployment in Kazakhstan is complex and influenced by several factors, from the specifics of the economic structure to the level of graduate training and differences between regions. The analysis confirms: the higher the education of young people, the lower the likelihood of being out of work. However, the continuing inconsistency between what is taught in colleges and universities and what real jobs require still makes it difficult for yesterday's students to find employment. In addition, differences between urban and rural areas, manifested in high NEET rates, limited access to vocational training, and low mobility, increase inequality of opportunities in the labor market. The situation is also affected by global changes, digitalization, changes in the employment structure, and new demands from employers, which makes the task of supporting young people even more urgent. The assessment confirms that the current state policy measures in the field of youth employment need closer coordination between educational institutions, government agencies, and employers. It is essential to develop high-quality career guidance systems, expand access to digital skills, and increase the practical focus of educational programs, this will help reduce the gap between graduates' competencies and market requirements. Special attention should be paid to high-risk groups: young women and youth from regions with limited economic opportunities, where the proportion of NEET is consistently higher. Comprehensive solutions are needed to eliminate regional differences and improve the effectiveness of employment institutions to reduce unemployment sustainably. The contribution of this study is an updated empirical analysis of youth unemployment trends in Kazakhstan using modern data and international methodological approaches. The findings emphasize the need for constant monitoring, improved forecasting of labor market needs, and a strengthened partnership between government and business. The results also open up opportunities for further research, such as evaluating the long-term effectiveness of employment programs, the impact of digital transformation on job creation, and the role of regional ecosystems in the professional development of young people. Ultimately, the work shows that reducing youth unemployment should become one of the country's key strategic objectives, since this problem directly affects economic development, social sustainability, and the formation of human capital in Kazakhstan.

Author Contributions

Conceptualisation and theoretical framework: AT; research design and methodology: AT; data collection and processing: AT; bibliometric analysis and interpretation: AT; case study analysis and visualisation: AT; draft writing and manuscript structure:AT; editing and critical revision: AT; final review and approval: AT. All authors have read and approved the final version of the manuscript and agreed to its publication.

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