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HUMAN CAPITAL AND CREATIVE ECONOMY UNDER CRISIS MIGRATION: A CONCEPTUAL MODEL AND EMPIRICAL EVIDENCE FROM KAZAKHSTAN

Abstract

The impact of geopolitically driven crisis migration on human capital accumulation and creative economy development in a receiving country remains theoretically underexplored. Following the large-scale influx of technology professionals from Russia to Kazakhstan in 2022, a developing economy became an unintended beneficiary of highly skilled labour. The purpose of the research is to develop an integrative conceptual model tracing the causal pathway from geopolitical push factors through crisis-driven technological migration and human capital accumulation to the growth of creative economy sectors, and to substantiate the model with descriptive statistical evidence. The empirical base comprises annual official data for 2014–2025 on IT services exports, the volume of computer programming and related services, permits issued to Russian citizens, technology park registrations and creative industry entities. Descriptive statistics, growth rates, compound annual growth rates and structural shares are used. IT services exports increased from USD 60.07 million in 2021 to USD 1,142 million in 2025, a compound annual growth rate of 108.8%. The annual growth of domestic IT services output accelerated from 26.6% in 2014–2021 to 43.9% in 2021–2024, and physical volume indices confirm that the growth was real. At the same time the number of temporary residence permits issued to Russian citizens fell by 49.4% over 2022–2025 while sectoral output continued to grow, a pattern consistent with mediation through institutional absorptive capacity. Almaty and Astana account for about 90% of sectoral output. The study extends the brain gain literature to creative economy outcomes and informs retention and regional absorption policy.

Keywords: crisis migration, human capital, creative economy, absorptive capacity, knowledge transfer, brain gain, structural change.

Introduction

Classic studies of migration processes describe the phenomenon of brain drain from developing countries to more developed ones and consider it a negative factor hindering economic development [1]. Later research reinterprets the same flows as knowledge circulation and a reverse flow of talent [2, 3, 4]. However, the events that led to the influx of migrants to Kazakhstan do not fit standard models, since the arrival of specialists was driven neither by economic incentives nor by targeted government policy, but by geopolitical factors. Kadyrbek and Orakbayeva demonstrate the emotional nature of this migration wave, caused by political events [5] that, in the terminology of migration theory, operate as push factors [6]. The spontaneity of such a sudden influx was explored by Williams and Baláž, who analysed knowledge transfer under temporary and uncertain conditions of the kind characteristic of the Kazakhstani case [7].

Two gaps motivate this study. First, the literature on brain gain links skilled inflows primarily to educational and labour market outcomes and rarely to the creative economy as a distinct sector [8, 9]. Second, in the Kazakhstani context the 2022 inflow has so far been described mainly in demographic and political terms [5], without a model that specifies the mechanism through which a migration shock is converted – or fails to be converted – into sustained sectoral growth, and without statistical testing of whether such a conversion is observable in official data.

The object of the research is the process of human capital accumulation in a receiving economy under a crisis migration shock. The subject is the relationship between crisis-driven technological migration and the development of creative economy sectors in Kazakhstan. The purpose is twofold: to develop an integrative conceptual model linking geopolitical push factors, crisis migration, human capital accumulation and creative economy development, with absorptive capacity [10, 11] as the mediating mechanism; and to substantiate the observable implications of that model with descriptive analysis of annual official statistics for 2014–2025. The working hypothesis is that the relationship between a crisis migration inflow and creative economy growth is not direct but is mediated by the capacity of receiving institutions to recognise, assimilate and deploy external knowledge.

The theoretical framework rests on three complementary approaches. The concept of human capital [12, 13] defines knowledge, skills and competencies as a form of capital that generates economic returns, and in the migration context identifies the factors determining the movement of skilled workers. A sudden influx often involves workers engaged in freelance and project-based employment, the model of labour relations most common in the creative and technological industries [14]. The transfer of such competencies occurs not only through formal employment but also through informal channels: mentoring, professional communities, knowledge-sharing events and joint projects [15, 16]. Evidence from other settings shows that diaspora and co-ethnic channels measurably accelerate technology diffusion across borders [17].

The concept of the creative economy [14, 18] encompasses economic activity based on knowledge, creativity and intellectual property. Florida introduced the notion of the creative class as a socio-economic group of knowledge workers, technologists, artists and professionals whose presence stimulates regional economic development through innovation, diversity and talent attraction [19]. In the Kazakhstani context, the arrival of Russian IT specialists, entrepreneurs and developers can be interpreted as an exogenous expansion of the creative class, potentially catalysing the growth of the digital content industry, EdTech platforms and knowledge-intensive services. This perspective extends the traditional brain gain framework by linking migration not only to educational outcomes but also to the broader development of the creative economy, a sector whose classification in developing countries remains contested [20].

The ability of the local economy to absorb and integrate new knowledge is analysed through the concept of absorptive capacity [10], reinterpreted as the distinction between potential absorptive capacity, the ability to acquire and assimilate external knowledge, and realised absorptive capacity, the ability to transform and exploit this knowledge to achieve productive results [11]. This distinction generates a testable expectation. If growth in creative-technology output were a direct headcount effect of migrants present in the country, sectoral output should co-move with the migrant stock; if it is mediated by institutional absorption, output may continue to grow after the migrant stock begins to decline. This expectation is examined below.

Materials and methods

The study combines conceptual model building with descriptive analysis of secondary official statistics. The descriptive approach is chosen deliberately: the available annual series are short, with six observations for each key indicator, which does not allow reliable estimation of econometric models or statistical tests, whereas descriptive measures can be computed and interpreted without distributional assumptions. The reference point is September 2022, the announcement of partial mobilisation in Russia; accordingly, 2021 is treated as the last pre-shock year and 2022 as the first post-shock year.

The information base consists of: data of the Ministry of Internal Affairs of the Republic of Kazakhstan on entries, exits and residence permits of Russian citizens [21, 22]; balance of payments data of the National Bank of the Republic of Kazakhstan on exports of IT services, as published by the Ministry of Artificial Intelligence and Digital Development [23]; data of the Ministry of Digital Development on individual identification numbers issued to foreign nationals [24]; data of the Bureau of National Statistics on the volume of computer programming, consultancy and related services [25, 26]; reports of the Astana Hub international technology park [27]; and official materials of the Government of the Republic of Kazakhstan on creative industries [28]. Table 1 presents the dataset with the source of each observation.

Table 1 – Dataset used in the statistical analysis

Indicator	Year	Value	Source
IT services export, USD mln	2020	33.5	[23]
IT services export, USD mln	2021	60.07	[23]
IT services export, USD mln	2022	337.0	[23]
IT services export, USD mln	2023	529.1	[23]
IT services export, USD mln	2024	690.7	[23]
IT services export, USD mln	2025	1 142.0	[23]
Computer programming and related services, KZT bn	2014	96.2	[25]
Computer programming and related services, KZT bn	2019	282.3	[25]
Computer programming and related services, KZT bn	2021	502.1*	Authors' calculation from [26]
Computer programming and related services, KZT bn	2022	777.2	[26]
Computer programming and related services, KZT bn	2023	1 096.6*	Authors' calculation from [26]
Computer programming and related services, KZT bn	2024	1 494.7*	Authors' calculation from [25]
Physical volume index of IT services, % to previous year	2023	125.7	[25]
Physical volume index of IT services, % to previous year	2024	132.3	[25]
Temporary residence permits issued to Russian citizens	2022	138 259	[22]
Temporary residence permits issued to Russian citizens	2023	112 685	[22]
Temporary residence permits issued to Russian citizens	2024	77 542	[22]
Temporary residence permits issued to Russian citizens	2025	69 894	[22]
Individual identification numbers issued to Russian citizens	2021	14 800	[24]
Individual identification numbers issued to Russian citizens	2022	281 000	[24]
Entries of Russian citizens, mln	2022	2.9	[21]
Russian citizens remaining in the country, January 2023	2023	≈150 000	[21]
IT services volume in Almaty, KZT bn	2023	579.3	[26]
IT services volume in Almaty, KZT bn	2024	853.1	[25]
IT services volume in Astana, KZT bn	2023	402.5	[26]
IT services volume in Astana, KZT bn	2024	486.7	[25]
IT services volume in other regions, KZT bn	2024	144.9	[25]

Continuation of Table 1

Indicator	Year	Value	Source
Technology companies registered at Astana Hub	2024	1 600 (incl. 425 with foreign participation)	[27]
Astana Hub export, USD mln	2025	633.0	[23]
Jobs created in the Astana Hub ecosystem	2025	>32 500	[23]
Registered creative industry entities	2025	>45 500	[28]
Employment in creative industries, persons	2025	≈143 000	[28]
Share of creative industries in gross value added, % of GDP	2025	≈1.0	[28]
Note: Compiled by the authors.			
Values marked with an asterisk are not published directly in the cited release; they are reconstructed by the author from officially reported year-on-year growth rates and are used only to describe the trend. The series of temporary residence permits and individual identification numbers have no official statistical publication and are derived from responses of the competent ministries to media enquiries; figures reported by different agencies for overlapping periods do not fully coincide, so these series are used for descriptive purposes only.			

Two key indicators are used. The first, IT services exports in USD million, captures the internationally traded output of the creative-technology sector and is available for 2020–2025. The second, the volume of computer programming, consultancy and related services in KZT billion, captures domestic sectoral output and is available for 2014, 2019 and 2021–2024. The annual number of temporary residence permits issued to Russian citizens is used as a proxy for the migrant stock present in the country.

The following descriptive measures are applied: measures of central tendency and dispersion (mean, standard deviation, minimum, maximum and coefficient of variation); year-on-year growth rates; the compound annual growth rate (CAGR) for the pre-shock and post-shock periods; physical volume indices, which separate real growth from price effects; and structural shares describing the spatial distribution of sectoral output. The compound annual growth rate is calculated as:

$$\text{CAGR} = (\text{Yend} / \text{Ystart})^{1/n} - 1, (1)$$

where Ystart and Yend are the values of the indicator at the beginning and end of the period and n is the number of years in the period. All computations were performed in Python using the pandas library.

Being descriptive, the analysis identifies the magnitude, direction and timing of changes in the indicators, but does not establish causal relationships between the migration shock and sectoral dynamics. Concurrent factors that may have influenced the indicators are discussed below.

Results and discussion

The migration shock: magnitude and persistence. The push that generated the 2022 inflow was a foreign policy and institutional shock, primarily the announcement of partial mobilisation in Russia on 21 September 2022. According to the Ministry of Internal Affairs of the Republic of Kazakhstan, around 98 thousand Russian citizens entered the country within the first week after 21 September, and about 2.9 million entries of Russian citizens were registered over 2022 as a whole, of which approximately 150 thousand persons were still present in January 2023 [21]. The implied retention rate of about 5.2% confirms that the event should be treated as a high-volume, low-retention transit shock rather than as ordinary economic mobility.

The administrative footprint of the shock is nevertheless substantial. The number of individual identification numbers issued to Russian citizens rose from 14.8 thousand in 2021 to 281 thousand in 2022, a nineteen-fold increase [24]. Temporary residence permits issued to Russian citizens peaked at 138 259 in 2022 and declined steadily thereafter: 112 685 in 2023, 77 542 in 2024 and 69 894 in 2025, a cumulative fall of 49.4% from the peak [22]. The shock was therefore sharp, spatially concentrated and demographically transient – a combination that makes the conversion mechanism, rather than the inflow itself, the theoretically decisive variable.

Descriptive dynamics of the creative-technology sector. Table 2 reports descriptive statistics for the two key indicators and the migrant stock proxy.

Table 2 – Descriptive statistics, 2014–2025

Variable	n	Mean	Std. dev.	Min	Max	CV, %
IT services export, USD mln	6	465.4	419.5	33.5	1 142.0	90.1
Computer programming and related services, KZT bn	6	708.2	524.0	96.2	1 494.7	74.0
Temporary residence permits, Russian citizens	4	99 595	31 805	69 894	138 259	31.9

Note: Calculated by the authors based on the data in Table 1.

Table 3 summarises the growth dynamics of the indicators before and after the shock.

Table 3 – Growth dynamics of the key indicators

Indicator	Measure	Period	Value
IT services export	Year-on-year growth, %	2021	79.3
IT services export	Year-on-year growth, %	2022	461.0
IT services export	Year-on-year growth, %	2023	57.0
IT services export	Year-on-year growth, %	2024	30.5
IT services export	Year-on-year growth, %	2025	65.3
IT services export	CAGR, %	2021–2025	108.8
IT services export	Growth factor, times	2021–2025	19.0
Computer programming and related services	CAGR, %	2014–2019	24.0
Computer programming and related services	CAGR, %	2019–2021	33.4
Computer programming and related services	CAGR, %	2014–2021	26.6
Computer programming and related services	CAGR, %	2021–2024	43.9
Computer programming and related services	Year-on-year growth (nominal), %	2022 / 2023 / 2024	54.8 / 41.1 / 36.3
Computer programming and related services	Physical volume index, %	2023 / 2024	125.7 / 132.3
Temporary residence permits, Russian citizens	Year-on-year change, %	2023 / 2024 / 2025	–18.5 / –31.2 / –9.9
Temporary residence permits, Russian citizens	Cumulative change, %	2022–2025	–49.4

Note: Calculated by the authors based on the data in Table 1 using formula (1).

IT services exports increased nineteen-fold between 2021 and 2025, from USD 60.07 million to USD 1,142 million, with the sharpest single-year increase of 461.0% in 2022, the year of the shock. Growth remained high in the following years, at 57.0% in 2023, 30.5% in 2024 and 65.3% in 2025. The compound annual growth rate of domestic IT services output rose from 26.6% in the pre-shock period 2014–2021 to 43.9% in 2021–2024, an acceleration of 17.3 percentage points. The physical volume indices of 125.7% for 2023 and 132.3% for 2024 confirm that the expansion was real and not an artefact of inflation or exchange rate movements [25]. It should be noted that growth in the domestic series had already accelerated before the shock, to 33.4% per year in 2019–2021, so part of the post-shock growth continues a pre-existing trend. Figure 1 presents the dynamics of both indicators.

Divergence between the migrant stock and sectoral output. The theoretical framework generates a discriminating expectation: a direct headcount mechanism implies co-movement of the migrant stock and sectoral output, whereas a mediated mechanism permits output to continue growing as the stock declines. Over 2022–2025 the two series move in opposite directions. The number of temporary residence permits issued to Russian citizens declined in every year – by 18.5% in 2023, 31.2% in 2024

and 9.9% in 2025, or by 49.4% cumulatively – while IT services exports rose 3.4 – fold over the same period. Figure 2 illustrates the divergence.

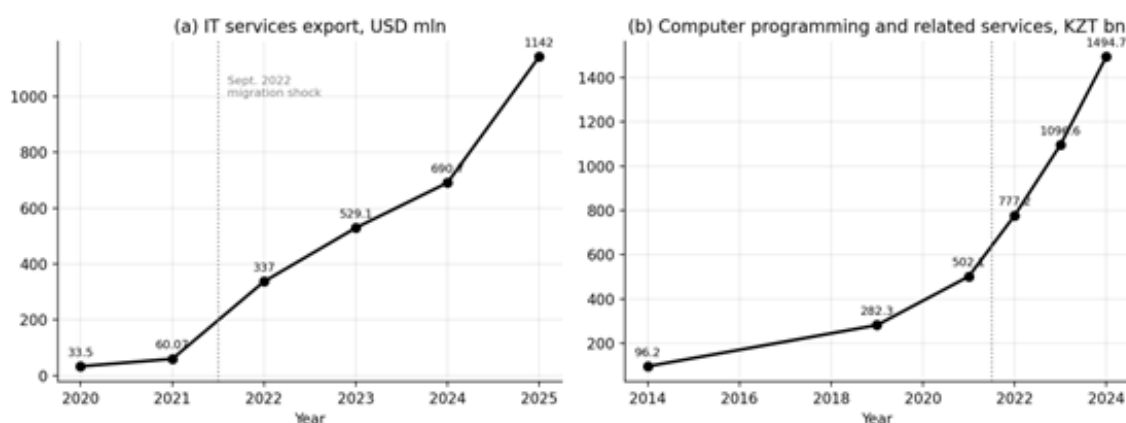


Figure 1 – Dynamics of creative-technology output, Kazakhstan

Note: Compiled by the authors based on the data in Table 1.

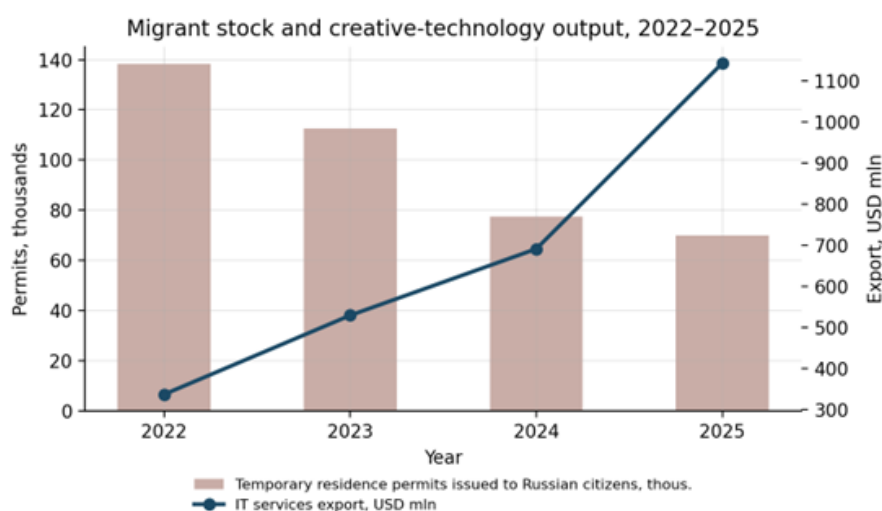


Figure 2 – Migrant stock proxy and IT services exports, 2022–2025

Note: Compiled by the authors based on the data in Table 1.

The pattern is inconsistent with a purely compositional account in which output rises because migrants are physically present and working, and consistent with an account in which the initial inflow was institutionalised – through firm registration, technology park membership, export contracts and the training of local personnel – and continued to generate output after a substantial share of the original arrivals had left. Supporting institutional evidence is available: Astana Hub reported more than 500 new companies joining in 2024, bringing the total number of registered technology companies to 1 600, of which more than 425 have foreign participation [27]; by 2025 the ecosystem accounted for USD 633 million of exports, 537 exporting companies, more than 32.5 thousand jobs and more than 6 thousand foreign specialists connected through the e-residency programme [23].

Spatial concentration. The migration inflow was concentrated in Almaty and Astana, and so is sectoral output. In 2023 the two cities accounted for 89.5% of national IT services volume [26], and in 2024 for 90.2%, with 144.9 KZT bn in all other regions combined [25]. Growth between 2023 and 2024 was markedly uneven: 47.3% in Almaty against 20.9% in Astana. The creative economy displays the same geography: of more than 45 500 registered creative industry entities, more than half are located in Almaty and Astana, 70% are sole proprietors, the sector employs about 143 thousand

people and contributes approximately 1% of gross value added [28]. The spatial coincidence of the inflow and the output response strengthens the plausibility of the association, while indicating that the absorptive capacity relevant to this mechanism is located in two metropolitan ecosystems rather than distributed nationally.

Conceptual model and propositions. The empirical patterns above are organised by the conceptual model presented in Figure 3. The model identifies four sequential stages – geopolitical push factors, crisis-driven technological migration, human capital accumulation, creative economy development – together with absorptive capacity as the mediating mechanism and four moderators: linguistic environment, institutional readiness, government policy and social cohesion.

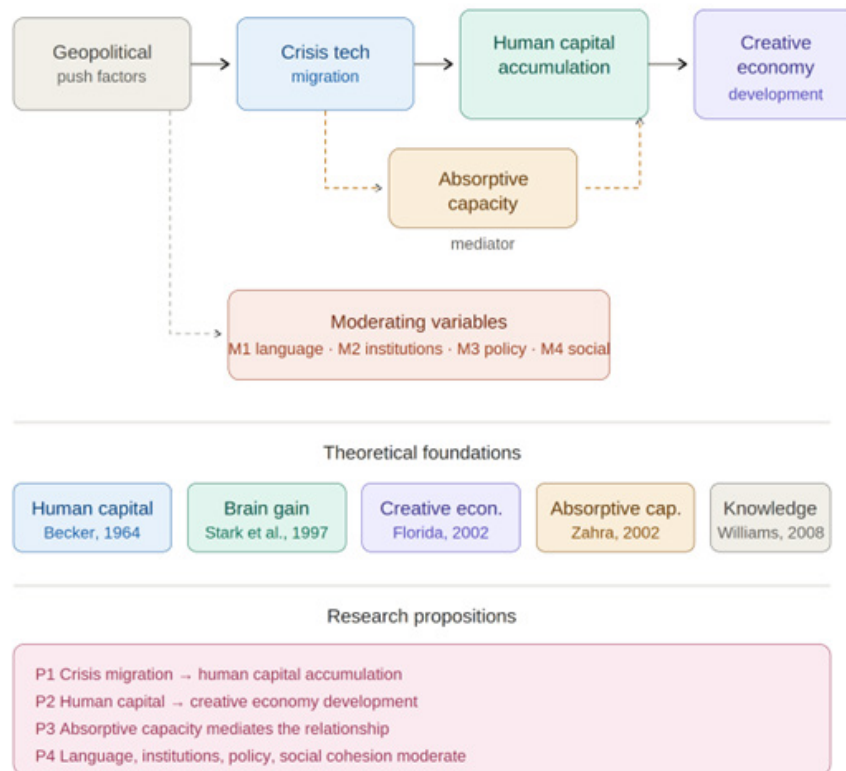


Figure 3 – Conceptual model: crisis migration, human capital accumulation and creative economy development

Note: Developed by the authors based on [10, 11, 13, 14, 19].

The model yields five propositions. P1: crisis-induced migration to the technology sector leads to significant accumulation of human capital in the host country through formal and informal channels of knowledge transfer. P2: human capital accumulated through the transfer of knowledge by migrants makes a positive contribution to the development of creative sectors. P3: the absorptive capacity of host institutions mediates the relationship between crisis migration inflows and human capital accumulation outcomes. P4: language barriers, institutional readiness, public policy and social cohesion influence the effectiveness of the creative migration pathway. P5: hybrid formal-informal educational ecosystems emerging from crisis migration provide a sustainable foundation for the growth of the creative economy beyond the initial wave of migration. The empirical status of the propositions is summarised in Table 4.

Discussion. The descriptive evidence repositions the argument. The 2022 shock coincides with a sharp acceleration of both creative-technology indicators, most visibly in exports. Yet the most theoretically consequential finding is the divergence between the migrant stock and sectoral output. Had the expansion of the sector been a simple compositional effect of a larger workforce, its trajectory would have tracked the migrant stock; instead output accelerated while the stock halved. This is precisely the pattern that the absorptive capacity framework predicts [10, 11]: the durable outcome

of a knowledge shock is determined less by the volume of external knowledge that arrives than by the capacity of receiving institutions to assimilate and transform it. In the Kazakhstani case, that transformation is visible in firm registrations, technology park membership and export contracts rather than in residence statistics.

Table 4 – Empirical status of the propositions

Proposition	Evidence applied	Status
P1	IIN issuance $\times 19$ in 2022; 425 technology companies with foreign participation; retention of only $\approx 5.2\%$ of entries	Partially supported: the inflow of specialised human capital is documented, its retention is not
P2	Exports $\times 19$ in 2021–2025; CAGR of domestic output accelerated from 26.6% to 43.9%	Consistent with the data at the descriptive level; causality not established
P3	49.4% decline in migrant stock accompanied by 3.4-fold growth in exports	Indirectly supported: the pattern is inconsistent with a direct headcount effect
P4	Not tested; requires firm-level or survey data	Not tested
P5	Not tested; requires longitudinal data on educational ecosystems	Not tested
Note: Compiled by the authors.		

The results also qualify the brain gain literature. Studies in this tradition typically evaluate skilled inflows through educational and innovation outcomes in the receiving country [8, 9, 17]. The Kazakhstani experience suggests that where the inflow is crisis-driven and transient, the relevant outcome variable is not the migrants' own productivity but the institutional residue they leave: registered firms, client relationships, trained local personnel and professional communities. This reframing extends the creative economy literature as well, in which developing-country creative sectors are usually analysed through cultural production rather than through the technology-intensive segments that dominate the Kazakhstani case [18, 20].

Three alternative explanations must be acknowledged, and none can be excluded by the present design. First, the relocation of foreign technology firms to Kazakhstan was accompanied by an active state policy of tax and regulatory incentives, so part of the measured break reflects policy rather than migration. Second, global demand for outsourced digital services grew strongly over the same period, and the export figures are denominated in a currency whose relationship to the tenge changed during the observation window; the physical volume indices mitigate but do not eliminate this concern. Third, part of the recorded growth may reflect improved statistical coverage of a sector that was previously partly unobserved. A causal claim would require longer series, for example quarterly or regional data, and a comparative design with countries or regions that did not receive the inflow, which lies beyond the scope of the present study.

Conclusion

The study proposed an integrative conceptual model of the mechanism by which crisis migration influences human capital accumulation and the development of Kazakhstan's creative economy, and substantiated it with descriptive statistical evidence. Three results stand out. First, the creative-technology sector accelerated sharply in the year of the migration shock: IT services exports grew by 461.0% in 2022 and nineteen-fold over 2021–2025, and the compound annual growth rate of domestic IT services output rose from 26.6% in 2014–2021 to 43.9% in 2021–2024, with physical volume indices confirming real growth. Second, sectoral output continued to grow while the migrant stock declined by 49.4% over 2022–2025, a divergence consistent with mediation by institutional absorptive capacity rather than with a direct headcount effect. Third, about 90% of sectoral output is concentrated in Almaty and Astana, the two cities that received the bulk of the inflow.

The theoretical contribution is threefold. The model extends the brain gain framework by connecting migration to creative-economic as well as educational outcomes, which has not previously been examined in the Kazakhstani context. The introduction of absorptive capacity as a mediator explains

why an identical migration shock produces different consequences across institutional environments. Finally, the model integrates human capital theory, the creative class concept and absorptive capacity theory into a single analytical framework applicable to crisis migrations in the post-Soviet space.

Several practical recommendations follow. Mechanisms should be developed for recognising and integrating migrants' informal knowledge into the education system. The institutional readiness of universities and technology parks to absorb external human capital should be strengthened. A targeted retention policy is required to convert temporary migration into a long-term resource, given a retention rate of approximately 5.2% of entries in 2022. The concentration of more than 90% of sectoral output in two cities indicates that absorptive capacity outside Almaty and Astana requires deliberate construction rather than diffusion.

The study has clear limitations. The analysis is descriptive and identifies the magnitude, direction and timing of changes rather than causal effects; the acceleration of the sector cannot be separated from concurrent policy measures, global demand conditions and improvements in statistical coverage. The annual series are short, and growth in the domestic series had already accelerated before the shock. Three of the six observations in the domestic output series are reconstructed from officially reported growth rates and should be verified against the primary database of the Bureau of National Statistics. The migration indicators are derived from ministerial responses to media enquiries rather than from statistical publications. Propositions P4 and P5 remain untested. Priority directions for further work are econometric testing on quarterly or regional series with a comparative design, firm-level data on the composition of technology park entrants, and survey evidence on the channels through which migrant knowledge reached local personnel.

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ДАҒДАРЫСТЫҚ КӨШІ-ҚОН ЖАҒДАЙЫНДАҒЫ АДАМИ КАПИТАЛ ЖӘНЕ КРЕАТИВТІ ЭКОНОМИКА: ҚАЗАҚСТАН БОЙЫНША ТҰЖЫРЫМДАМАЛЫҚ МОДЕЛЬ ЖӘНЕ ЭМПИРИКАЛЫҚ ДӘЛЕЛДЕР

Андатпа

Геосаяси факторлармен туындаған дағдарыстық көші-қонның қабылдаушы елдегі адами капиталдың жинақталуына және креативті экономиканың дамуына ықпалы теориялық тұрғыдан жеткіліксіз зерттелген. 2022 ж. қыркүйектен кейін Ресейден Қазақстанға технологиялық мамандардың ауқымды ағыны дамушы экономиканың көрші мемлекеттен келген жоғары білікті жұмыс күшінің күтпеген алушысына айналуына әкелді. Зерттеудің мақсаты – геосаяси итермелеуші факторлардан бастап дағдарыстық технологиялық көші-қон мен адами капиталдың жинақталуы арқылы креативті экономиканың өсуіне дейінгі себеп-салдарлық тізбекті сипаттайтын интегративті тұжырымдамалық модель құру және оны сипаттамалық статистикалық деректермен негіздеу. Эмпирикалық база 2014–2025 жж. ресми деректерден тұрады: IT-қызметтер экспорты, компьютерлік бағдарламалау қызметтерінің көлемі, Ресей азаматтарына берілген рұқсаттар, технопарк тіркелімдері және креативті индустрия субъектілері. Сипаттамалық статистика, өсу қарқындары, орташа жылдық өсу қарқыны және құрылымдық үлестер қолданылды. IT-қызметтер экспорты 2021 ж. 60,07 млн доллардан 2025 ж. 1 142 млн долларға дейін өсті, орташа жылдық өсу қарқыны 108,8% болды. Ішкі IT-қызметтер көлемінің орташа жылдық өсуі 2014–2021 жж. 26,6%-дан 2021–2024 жж. 43,9%-ға дейін жеделдеді, ал физикалық көлем индекстері нақты өсімді растайды. Сонымен бірге Ресей азаматтарына берілген уақытша тұруға рұқсаттар саны 2022–2025 жж. 49,4%-ға азайса да, саланың өнімі өсуін жалғастырды, бұл институционалдық сіңіру қабілеті арқылы жүзеге асатын медиациямен үйлеседі. Саланың өнімінің шамамен 90%-ы Алматы мен Астанаға тиесілі. Зерттеу дағдарыстық көші-қонды креативті экономика нәтижелерімен байланыстыра отырып, ақыл-ой ағыны туралы әдебиетке үлес қосады және мамандарды ұстап қалу мен өңірлік сіңіру саясаты үшін практикалық маңызға ие.

Тірек сөздер: дағдарыстық көші-қон, адами капитал, креативті экономика, сіңіру қабілеті, білім трансфері, ақыл-ой ағыны, құрылымдық өзгеріс.

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ЧЕЛОВЕЧЕСКИЙ КАПИТАЛ И КРЕАТИВНАЯ ЭКОНОМИКА В УСЛОВИЯХ КРИЗИСНОЙ МИГРАЦИИ: КОНЦЕПТУАЛЬНАЯ МОДЕЛЬ И ЭМПИРИЧЕСКИЕ ДАННЫЕ ПО КАЗАХСТАНУ

Аннотация

Воздействие кризисной миграции, вызванной геополитическими факторами, на накопление человеческого капитала и развитие креативной экономики принимающей страны остается теоретически недостаточно изученным. После масштабного притока технологических специалистов из России в Казахстан в 2022 г. развивающаяся экономика стала непреднамеренным получателем высококвалифицированной рабочей силы из соседнего государства. Цель исследования – построить интегративную концептуальную модель, описывающую причинную цепочку от геополитических выталкивающих факторов через кризисную технологическую миграцию и накопление человеческого капитала к росту секторов креативной экономики, и обосновать ее описательными статистическими данными. Эмпирическую базу составляют годовые официальные данные за 2014–2025 гг.: экспорт IT-услуг, объем услуг компьютерного программирования, разрешения, выданные гражданам России, регистрации в технопарке и субъекты креативных индустрий. Использованы описательная статистика, темпы роста, среднегодовые темпы роста и структурные доли. Экспорт IT-услуг вырос с 60,07 млн долларов в 2021 г. до 1 142 млн долларов в 2025 г. при среднегодовом темпе роста 108,8%. Среднегодовой рост внутреннего объема IT-услуг ускорился с 26,6% в 2014–2021 гг. до 43,9% в 2021–2024 гг., а индексы физического объема подтверждают реальный характер роста. При этом число разрешений на временное проживание, выданных гражданам России, сократилось на 49,4% за 2022–2025 гг., тогда как выпуск отрасли продолжал расти, что согласуется с медиацией через институциональную абсорбционную способность. Около 90% выпуска отрасли приходится на г. Алматы и г. Астану. Исследование дополняет литературу о притоке умов, связывая кризисную миграцию с результатами креативной экономики, и имеет практическое значение для политики удержания специалистов и региональной абсорбции.

Ключевые слова: кризисная миграция, человеческий капитал, креативная экономика, абсорбционная способность, трансфер знаний, приток умов, структурные изменения.

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