

Migration Processes and the Determinants of Human Capital

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ABSTRACT

This article examines the complex and multifaceted relationship between migration processes and the determinants of human capital, focusing on both internal and international migration flows and their effects on societies of origin and destination. Human capital, broadly defined as the aggregate of individuals' education, skills, health, and competencies, plays a fundamental role in driving economic growth, innovation, and sustainable development. Migration has become an increasingly important factor in shaping the formation, distribution, and utilization of human capital at local, national, and global levels. While the emigration of skilled individuals can create challenges such as brain drain and talent shortages in sending countries, migration also presents substantial opportunities, including the transfer of knowledge and technology, acquisition of new skills, exposure to innovative practices, and the development of transnational social networks. Furthermore, remittances sent by migrants often contribute significantly to improving education and healthcare outcomes in their home communities, thereby enhancing human capital in the long term. Drawing on recent empirical studies, case analyses from Azerbaijan and other countries, and data from international organizations, this research provides a comprehensive overview of the dual impacts of migration on human capital. The article explores the main determinants affected by migration—such as access to quality education, professional development, health status, and social capital—and discusses current policy measures aimed at maximizing the positive effects of migration, including circular migration programs, skill recognition agreements, and diaspora engagement initiatives.

Keywords: Human capital; migration; brain drain; skill transfer; socio-economic development; remittances; diaspora; brain circulation

1. INTRODUCTION

Migration stands as one of the most significant socio-economic processes shaping the modern world. In recent decades, both internal and international migration flows have increased considerably, driven by globalization, technological advancements, labor market dynamics, and shifting demographic trends. According to the International Organization for Migration (IOM, 2019), the number of international migrants continues to grow worldwide, affecting the social and economic structures of both sending and receiving countries.

Human capital—the sum of individuals’ education, skills, health, and experience—plays a critical role in determining a country’s economic growth, innovation capacity, and overall development (Becker, 1994; Schultz, 1961). Countries investing in human capital through education, healthcare, and skills training tend to achieve higher standards of living and greater competitiveness in the global economy (Ibrahimov et al., 2024). Migration processes exert both direct and indirect impacts on the formation, distribution, and utilization of human capital at multiple levels.

On one hand, the emigration of skilled workers—often termed “brain drain”—can lead to shortages in key sectors such as healthcare and education in sending countries (Abdullayev & Abutalibova, 2026; Bhagwati & Hamada, 1974). These losses can hinder economic progress and weaken essential public services, especially in developing nations. On the other hand, migration is not only a source of loss; it can also bring considerable benefits. Migrants often gain valuable skills, knowledge, and professional experience abroad, and when they return, they can contribute to innovation, entrepreneurship, and improved practices in their home countries (Clemens, 2011; Dustmann & Kirchkamp, 2002).

Remittances sent by migrants are another important channel for supporting human capital, as they are frequently used to improve education and healthcare access for families in the country of origin (Adams & Page, 2005). In the context of Azerbaijan, studies show that migration has contributed to household welfare and indirectly supported the development of human capital, despite certain challenges related to skill shortages (Aliyev, 2019). This article analyzes the complex relationship between migration processes and the determinants of human capital, using both international experience and the Azerbaijani context to illustrate the challenges and opportunities migration presents for sustainable development (Abdullayev & Alakbarov, 2025).

2. METHODOLOGY

This research adopts a qualitative and analytical methodology to investigate the impact of migration processes on the determinants of human capital. The study relies primarily on secondary data sourced from reputable international organizations such as the International Organization for Migration (IOM), World Bank, OECD, and UNESCO, as well as peer-reviewed academic journals, government reports, and national statistical databases. This ensures a comprehensive and multidisciplinary approach to understanding the topic.

The research design incorporates a comparative analysis of migration’s effects on human capital across different national and regional contexts. Special attention is given to countries with significant migration flows, such as Azerbaijan, to illustrate both unique and common trends affecting human capital formation and utilization. Case studies provide in-depth insights into specific migration experiences, including the role of remittances, return migration, and policy interventions aimed at skill recognition and knowledge transfer.

Key determinants such as education, professional skills, health, and social capital are analyzed with respect to their interaction with migration trends. The study also examines the role of government policies and international agreements in shaping migration outcomes and human capital development (Abdullayev et al., 2024). In synthesizing the findings, the research draws on both qualitative assessments and available quantitative data to highlight the dual impact of migration—both challenges and opportunities—on human capital. This methodological approach allows for a nuanced understanding of the migration–human capital nexus and provides a solid foundation for the policy recommendations presented in subsequent sections.

3. LITERATURE REVIEW

The link between migration and human capital has been widely studied across multiple disciplines. Classical theories focused predominantly on the negative consequences of migration, particularly the loss of skilled labor or “brain drain” (Bhagwati & Hamada, 1974; Lowell & Findlay, 2001). Modern research, however, recognizes a more nuanced picture encompassing both positive and negative outcomes, such as skill development, knowledge transfer, remittances, and social capital growth (Docquier & Rapoport, 2012; Portes, 1998). Schultz (1961) and Becker (1994) highlighted the foundational significance of investing in human capital for productivity and long-term economic growth, establishing the conceptual framework within which migration-related human capital effects are typically analyzed.

Studies suggest that migration can foster human capital development through exposure to new technologies and professional practices (Clemens, 2011; Stark & Bloom, 1985). For origin countries, returning migrants often become sources of innovation and entrepreneurship, introducing practices and networks acquired abroad into local economic and institutional contexts (Dustmann & Kirchkamp, 2002; Azimli, 2021). The literature on transnational social capital further demonstrates that migrant networks facilitate knowledge exchange, business partnerships, and community development across borders (Castles & Miller, 2009; Portes, 1998). Research on Azerbaijan specifically shows that labor migration has contributed to skill shortages in certain sectors, but also improved household welfare and provided indirect support to human capital development through remittances (Aliyev, 2019; Yusifov, 2020).

4. DISCUSSION

4.1 Brain Drain versus Brain Gain

One of the most debated issues in the migration–human capital literature is the phenomenon of “brain drain,” whereby the emigration of highly skilled professionals from developing countries leads to talent shortages in critical sectors such as healthcare, education, engineering, and information technology (Lowell & Findlay, 2001; Bhagwati & Hamada, 1974). This outflow can undermine the development prospects of origin countries by limiting their innovation capacity and eroding the quality of essential public services. In Azerbaijan, for instance, the migration of medical professionals and engineers to Russia and European countries has contributed to gaps in the domestic labor market and created challenges for local development (Aliyev, 2019).

However, recent research emphasizes the potential for “brain gain” or “brain circulation.” Migrants often acquire advanced knowledge, technical skills, and new perspectives while working or studying abroad (Clemens, 2011). When these individuals return home—either temporarily or permanently—they can transfer valuable expertise, introduce innovative practices, and stimulate entrepreneurship (Dustmann & Kirchkamp, 2002; Azimli, 2021). Governments are increasingly recognizing the importance of engaging with diaspora communities and creating incentives for return migration, skill transfer, and investment.

4.2 Remittances and Household-Level Human Capital Development

Remittances represent a crucial channel through which migration supports human capital development. Funds sent by migrants are frequently invested in the education and healthcare of family members remaining in the country of origin (Adams & Page, 2005). In countries like Azerbaijan, remittances have been shown to improve living standards, support youth education, and contribute to better health outcomes. The positive effects of remittances can be particularly significant in rural areas and among low-income households, helping to break cycles of poverty and enhance long-term development prospects.

4.3 Social Capital and Migrant Networks

Migration processes also contribute to the growth and diversification of social capital. Migrant networks provide vital social support, information about job opportunities, and channels for knowledge sharing and skill development (Portes, 1998; Castles & Miller, 2009). For migrants in host countries, strong community networks facilitate integration, access to informal training, and adaptation to new environments. Conversely, these networks can also foster cross-border cooperation, business partnerships, and the transfer of development initiatives back to countries of origin (Imanova, 2025).

4.4 Challenges: Skill Mismatch, Underemployment, and Qualification Recognition

Despite the potential benefits, several challenges persist in realizing the full developmental impact of migration. Migrants often face issues related to skill mismatches and underemployment in host countries, as their qualifications and professional experience may not be fully recognized or utilized (Kahanec & Zimmermann, 2010; OECD, 2017). This can lead to “brain waste,” where highly educated migrants are employed in positions that do not correspond to their actual skill levels. Addressing these challenges requires coordinated policy measures, such as bilateral agreements on qualifications recognition, targeted training programs, and support for upskilling.

4.5 Policy Responses and Future Directions

Policy responses aimed at maximizing the positive effects of migration on human capital are gaining traction worldwide. Examples include circular migration schemes, international platforms for skill and knowledge exchange, and diaspora engagement strategies (IOM, 2019; World Bank, 2018). In Azerbaijan, recent initiatives have focused on attracting highly qualified returnees, supporting entrepreneurship among migrants, and enhancing the role of remittances in sustainable development (Azimli, 2021; Yusifov, 2020). Evidence from the comparative analysis confirms that the impact of migration on human capital is context-dependent and shaped by a combination of socio-economic, institutional, and policy factors (Bababayli et al., 2025). Successful approaches require comprehensive and forward-looking strategies that address both immediate challenges and long-term opportunities, ensuring that migration serves as a catalyst for human capital development and socio-economic progress.

5. CONCLUSION

Migration processes continue to play a pivotal role in shaping the trajectory of human capital development in both origin and destination countries. As this article has demonstrated, migration’s influence on human capital is multifaceted, encompassing both significant challenges and substantial opportunities. While brain drain and the loss of skilled professionals remain pressing concerns for many developing countries—including Azerbaijan—the dynamic nature of migration also enables considerable positive effects, such as skill enhancement, knowledge transfer, and increased investment in education and health through remittances.

One of the most significant benefits of migration is the exposure of individuals to new skills, technologies, and professional environments, which can be transferred back to the home country either through return migration or transnational networks. The financial resources provided by remittances often help families invest in education and healthcare, thus improving the quality and reach of human capital at the household level. At the same time, migrant networks and diaspora communities serve as important bridges for business cooperation, knowledge exchange, and the development of innovative ideas.

However, realizing these positive effects requires effective and targeted policy interventions. Governments must address the challenges of skill mismatches, underemployment, and the lack of recognition of foreign qualifications that many migrants face in host countries. Strategies to attract return migrants and harness the potential of diaspora communities should be prioritized. International cooperation, bilateral agreements, and circular migration programs can further facilitate the transfer of knowledge and skills, turning potential brain drain into brain gain. Migration should therefore be viewed as an essential component of human capital development strategies rather than merely a source of loss or risk. By implementing comprehensive and forward-looking policies, both sending and receiving countries can maximize the positive impacts of migration, support sustainable economic growth, and ensure that human capital remains a driving force for national and global progress.

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REFERENCES

- Abdullayev, A., & Abutalibova, N. (2026). Economic diversification and the development of alternative sectors. *Porta Universorum*, 2(4), 87–92.
- Abdullayev, A., & Alakbarov, A. (2025). Human capital and digital skills as drivers of firm-level competitiveness in Azerbaijan's transition economy. *Luminis Applied Science and Engineering*, 2(3), 27–34.
- Abdullayev, A. E., Asgerova, M. R., Abbasova, M. M., & Humbat, E. (2024). Global challenges of regional management in the modern world: The main factors shaping the infrastructure base of regional management. *International Journal*, 5(11), 4639–4644.
- Adams, R. H., & Page, J. (2005). Do international migration and remittances reduce poverty in developing countries? *World Development*, 33(10), 1645–1669. <https://doi.org/10.1016/j.worlddev.2005.05.004>
- Aliyev, H. (2019). Labor migration and human capital development: Evidence from Azerbaijan. *Migration Studies Journal*, 7(1), 22–37.
- Azimli, E. (2021). Migration and knowledge transfer: The case of returning Azerbaijani migrants. *Eurasian Journal of Social Sciences*, 9(2), 45–59.
- Bababayli, N., Zeynalov, H., Maharramova, K., & Isgenderova, U. (2025). Assessment of the geographic and tourism potential of the mountainous areas of Nakhchivan in the context of landscape ecology. *Journal of Geology, Geography and Geoecology*, 34(4), 721–732.
- Becker, G. S. (1994). *Human capital: A theoretical and empirical analysis, with special reference to education* (3rd ed.). University of Chicago Press.
- Bhagwati, J., & Hamada, K. (1974). The brain drain, international integration of markets for professionals and unemployment: A theoretical analysis. *Journal of Development Economics*, 1(1), 19–42.

- Castles, S., & Miller, M. J. (2009). *The age of migration: International population movements in the modern world* (4th ed.). Palgrave Macmillan.
- Clemens, M. A. (2011). Economics and emigration: Trillion-dollar bills on the sidewalk? *Journal of Economic Perspectives*, 25(3), 83–106.
- Docquier, F., & Rapoport, H. (2012). Globalization, brain drain, and development. *Journal of Economic Literature*, 50(3), 681–730.
- Dustmann, C., & Kirchkamp, O. (2002). The optimal migration duration and activity choice after re-migration. *Journal of Development Economics*, 67(2), 351–372.
- Ibrahimov, E. Y., Alakbarov, A. U., Kerimova, F. B., & Alakberov, R. S. (2024). Competitiveness of Azerbaijan's T&T industry and its impact on the regional economy. *Edelweiss Applied Science and Technology*, 8(5), 1295–1301.
- Imanova, M. (2025). Application of strategic management tools in business growth. *Management and Economics Review*.
- IOM. (2019). *World migration report 2020*. International Organization for Migration.
- Hashimov, A. (2025). The problem of national identity of Azeri Turks in Iran from a linguistic perspective and its solutions in a sociological perspective. *Ancient Land International Scientific Journal*, 7(2), 372–377. <https://doi.org/10.36719/2706-6185/44/372-377>
- Kahanec, M., & Zimmermann, K. F. (2010). High-skilled migration: Introduction. *International Migration*, 48(5), 1–11.
- Lowell, B. L., & Findlay, A. (2001). *Migration of highly skilled persons from developing countries: Impact and policy responses*. International Labour Office.
- OECD. (2017). *Talent abroad: A review of Turkish emigrants*. OECD Publishing.
- Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24, 1–24.
- Schultz, T. W. (1961). Investment in human capital. *American Economic Review*, 51(1), 1–17.
- Stark, O., & Bloom, D. E. (1985). The new economics of labor migration. *American Economic Review*, 75(2), 173–178.
- UNESCO. (2020). *Global education monitoring report 2020: Inclusion and education*. UNESCO Publishing.
- World Bank. (2018). *Leveraging migration for development: A policy perspective*. World Bank.
- Yusifov, S. (2020). Human capital and labor migration in Azerbaijan: Recent trends and policy responses. *Caucasus Social Science Review*, 12(3), 78–92.

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