



SKILLS FOR FAIR, EFFICIENT LABOUR MIGRATION

RESEARCH EVIDENCE FOR NEW POLICIES AND ACTIONS
THEMATIC REPORT

This report has been prepared by the European Training Foundation.

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Manuscript completed in May 2026.

Artificial Intelligence: ETF has made use of Grammarly V1.2.255 and Copilot for Microsoft 365 for editing purposes. The use of AI by authors could not be verified by ETF and relies on their responsibility.

When citing this report, please use the following wording:

European Training Foundation (2026), *Skills for fair, efficient labour migration. Research evidence for new policies and actions*, Publications Office of the European Union, Luxembourg

Luxembourg: Publications Office of the European Union, 2026

PDF: ISBN 978-92-9157-760-6 doi:10.2816/6724871

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PREFACE

The skills of migrant workers present a critical asset for addressing the structural transformations facing contemporary economies and societies globally. This imperative transcends geographical and developmental boundaries. Across regions and contexts, the demand for foreign labour reflects both evolving labour market structures requiring skilled human capital and the demographic realities of ageing populations. The skills sought encompass a broad spectrum – from highly professional qualifications to medium and foundational technical competencies – spanning sectors from advanced manufacturing and digital industries through to agriculture and services.

Better framing labour migration in a mutually beneficial way – generating simultaneous gains for countries of origin, countries of destination and migrants themselves through strategic alignment of skills development, qualifications' recognition and migration governance – offers a sustainable solution to global skills deficits and mismatches. This 'triple-win' paradigm necessitates forward-looking policy frameworks and multi-stakeholder partnerships integrating public authorities, vocational and educational institutions, private sector employers and civil society actors in institutionalised cooperation.

In response to these systemic challenges, the European Union has elevated labour migration and skills development to a central strategic priority in recent years. Key policy instruments – including the Pact on Migration and Asylum, the Talent Partnerships initiative, the Talent Pool and the Union of Skills framework – establish integrated approaches to align migration governance, skills systems development and qualification recognition with labour market requirements. In parallel, multiple initiatives from new policy frameworks to pilot-scale accompanying mechanisms for migrants have been undertaken by many partner countries to address the needs of their migration profile, often increasingly articulated around emigration, immigration and return migration flows.

In this policy context, the European Training Foundation (ETF) aims at stimulating reflections while providing evidence and recommendations on how policies can improve sustainable labour migration. To achieve this goal, ETF launched in 2025 a new community of international experts on skills and migration (MIGCOM) under the ETF Skills Lab Network of Experts. MIGCOM is a voluntary network that promotes knowledge exchange and peer learning between researchers, experts and practitioners around the skills and migration nexus.

To foster knowledge co-creation and exchange, MIGCOM invited international experts to share their expertise through a dedicated call for articles between June 2025 and April 2026. Out of the 116 abstracts received, 40 were selected. These 40 authors were invited to submit their articles and then 30 articles were received. Following a process of editing and peer reviews, 19 articles have finally been selected for ETF publication. Eleven articles are included in this Thematic Report while another eight articles are published in a Working Paper. Both publications are available at [Skills and migration | ETF](#).

The dimensions covered by the two publications are complementary, with this publication focusing on the skills' systems perspective, while the Working Paper focuses on labour markets analyses. Altogether the different skills' dimensions of migration have been explored covering aspects related to migration and development, partnerships for labour migration, brain drain and brain gain, female migration, skills' identification and skills' provision.

A variety of methodological approaches have been adopted by the different authors, ranging from qualitative and ethnographic methods to more quantitative and econometric analyses, using diverse data sources the validity of which could not be verified by ETF. Authors combined their analyses with practical recommendations for new/adjusted policies and instruments that policymakers and practitioners may use to improve the developmental benefits of labour migration. However, such cases should not be seen as exhaustive. The relation between skills and what might be termed "virtuous labour migration" may encompass additional dimensions which require extra attention. Further studies are called for to deepen understanding and to improve policy recommendations into the constantly evolving relationship between skills, migration and labour markets.

Geographically, the report has a broad coverage and draws on cases from the European Union (Italy, Germany, Lithuania) and many current ETF partner countries, including in the Western Balkans (Albania, Bosnia and Herzegovina, Kosovo¹, Montenegro, North Macedonia and Serbia) and Türkiye, Eastern Europe (Moldova and Ukraine), Central Asia (Kyrgyzstan and Uzbekistan) and Northern Africa (Morocco), but also South East Asia (Bangladesh) and West Africa (Nigeria and Senegal).

The report is structured into five chapters. It starts with an editorial chapter, "Why the focus on Skills for Fair, Efficient Labour Migration?" which contextualises why skills are key for virtuous labour migration, sets out a conceptual framework and reports key takeaways from the eleven articles. After this introduction, the eleven submitted articles are presented in four chapters, structured into interrelated areas:

- Chapter 2 "Policy Alignment and Skills Partnership Architecture" groups together three articles which identify preconditions for successful labour and skills mobility around robust data and effective partnerships.
- Chapter 3 "Resilience and Adaptation in High-Emigration and Conflict Contexts" brings together another three articles focusing on how to develop resilience and adapt policies in high-emigration and/or fragile conditions such as conflict-affected Ukraine.
- Chapter 4 "Tapping into Return Mobility and Diaspora Expertise" groups three articles focusing on how to use return mobility and diaspora expertise for development and what policies can be put in place for successful results.
- Chapter 5 "New frontiers: Platform economy and skill justice" brings together two articles. One focuses on digital labour markets as a new frontier of tele-migration while the last article demonstrates how migrants' skills are often underutilised because of discriminatory practices.

¹ Throughout this publication, this designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

This publication is the result of good cooperation and contributions from several international experts under the guidance of ETF. The ETF is very grateful to the authors of the eleven articles, to the editor Mariavittoria Garlappi, and to the peer reviewers Ummuhan Bardak, Terence Hogarth, Sona Kalantaryan, Isilda Mara, Cristina Mereuta, Burulcha Sulaymanova and Maarit Virolainen; and to all those who effectively supported the process including Chiara Fratalia, Roberta Di Monte and Alessandra Massaro.

Last, but not least, words go to the migrant workers to whom this report is dedicated. It is ETF's hope that this study will help to improve their often-difficult professional, and personal, lives through more informed, balanced, and humane policies, and understanding of migration as a shared prosperity.

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CHAPTER 1: WHY THE FOCUS ON SKILLS FOR FAIR, EFFICIENT LABOUR MIGRATION?

Mariavittoria Garlappi

Anchored in the EU's evolving policies on labour migration, this report investigates whether and how focusing on skills and cooperation between origin and destination countries can create virtuous² cycles linking training systems, labour market needs and sustainable development. With topics ranging from policy design to partnership implementation, conflict-affected labour markets, return migration, and inclusion, this report examines the institutional architecture and operational approaches required to make mobility mutually beneficial: a “Triple win” for migrants, for countries of origin and of destination.

This opening chapter is organised into four sections. Section 1.1 provides some context by setting out the key drivers of the skills-migration nexus. Section 1.2 outlines EU initiatives to help the design and implementation of virtuous labour migration pathways – including the ETF's role – as well as other global initiatives. Section 1.3 sets out the key analytical angles identified by the authors of the eleven articles, including in their literature reviews – it also includes brief summaries of the articles organised into their four interrelated focus areas. Finally, Section 1.4 presents the main cross-cutting findings and policy recommendations.

1.1 Main drivers of the skills-migration nexus

International migration reached 281 million people (3.6% of the global population) in 2020 according to the IOM World Migration report 2024. While the percentage of migrants has remained relatively stable over the past decades, the absolute number has increased to 304 million by 2024, continuing to rise into 2026. Primary interlocking drivers are complex and include three main categories of migrants.

Labor migration remains the dominant driver, with an estimated 60% of migrants worldwide (about 169 million) in 2022 according to ILO; followed by family reunifications, especially to OECD countries. Forced displacement reached record highs of over 120 million by late 2024 according to the International Catholic Migration Commission; this includes refugees and internally displaced persons (IDPs).

Europe is one of the main destination areas. As of 1 January 2025, an estimated 46.7 million people born outside the European Union (EU) were residing in an EU country, accounting for 10.4% of the EU population according to Eurostat.

² By “virtuous labour migration”, we refer to labour migration that more justly and efficiently serves the migrant, the country of origin and the host country.

1.1.1 Increasing skills and education levels of migrants

Central to any discourse in this report are the increasingly sophisticated skills levels of migrant workers and the growing skills and labour needs in many countries of the world, including in the EU and in some partner countries (such as in the Western Balkans and the Maghreb region). This context is the basis that creates favourable conditions for future virtuous labour migration. To be fully effective in a triple win logic though, labour migration pathways need new/adjusted policies, dedicated support mechanisms and tools, and appropriate types of partnerships, which will be presented in the next sections.

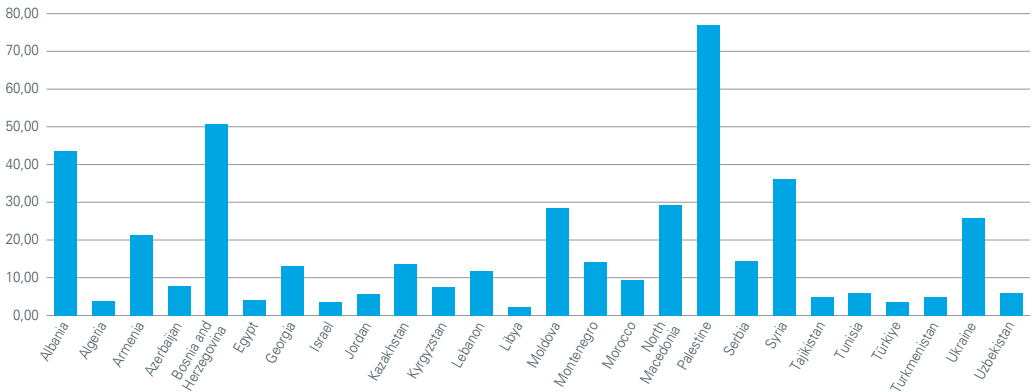
Looking at educational attainment across many countries of origin of migrants over time, a general upward trend is evident, reflecting improved access to quality education for both males and females. According to the UN Sustainable Development Goals report 2024, between 2015 and 2023, the primary school completion rate increased from 85 to 88 per cent, the lower secondary completion rate from 74 to 78 per cent, and the upper secondary completion rate from 53 to 59 per cent. Among the factors of this significant progress, dedicated policies and investments, increased school enrolment, and narrowing gender gaps can be mentioned.

Capacities of systems to identify and provide skills demanded by labour markets, however, obviously vary significantly across countries due to different regulatory frameworks, governance, and pedagogical methods. This was demonstrated by the 2025 ETF Torino Process analyses – a review of vocational education and training policies, performance, and reforms to enhance skills development and employment, focusing on access, quality and relevance to labour market needs.

Recognition of qualifications and validation of skills emerges as a central challenge. Qualification frameworks, employer validation mechanisms and cross-border recognition systems are needed to rapidly improve the portability of know-how of migrant workers to minimise risks of skills' underutilisation. Improvements in the performance of education and training systems translate into modern, advanced qualifications and skills for citizens and potential migrants, who then become better prepared and more attractive to labour markets in more advanced economies – be it from a North-South or South-South perspective – and, in some cases, irrespective of gender. Studying abroad at the university level is also contributing to this trend, as this often translates into emigration.

With a view to the skills-migration nexus and to set the scene, Figure 1 shows how migration is a key feature of basically all partner countries by providing the emigrant stock as a percentage of the total population. In some cases, it is a prominent element, and this is for different reasons, such as protracted conflicts or low-performing labour markets.

Figure 1: Emigrant stock as % of total population

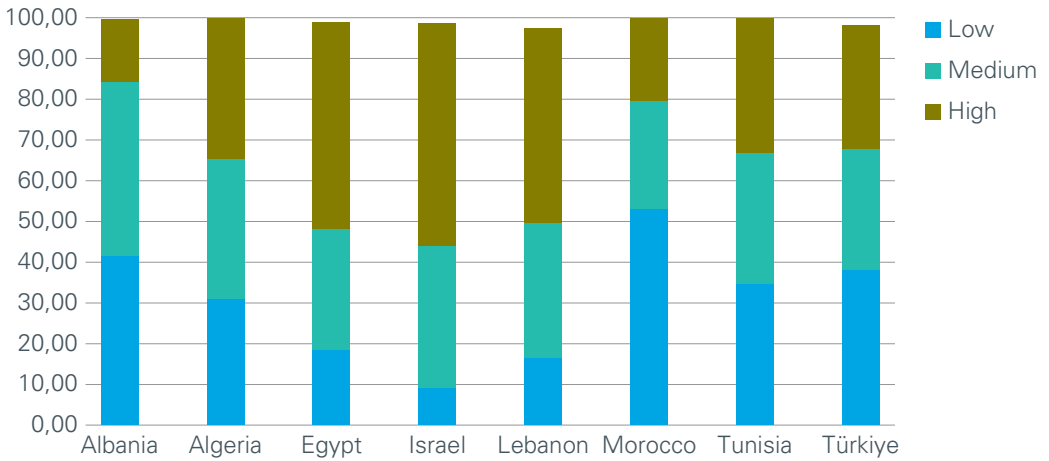


Source: Taken from ETF Migration Dashboard, UN DESA International Migrant Stock 2024

Based on other evidence available in the dashboard, it is worth noting that emigration and GDP growth have evolved in different ways over time. In some cases, these indicators follow a similar direction, while in others they show contrasting movements, reflecting the diversity of economic and demographic contexts across regions. It is also interesting to see the relations over time between levels of public expenditure on education and emigration. This varies widely: countries investing more in education did not necessarily experience lower emigration shares, and vice-versa, reflecting differences in demographic structures, labour markets and development priorities across regions.

Figure 2 shows the educational attainment of migrant populations from selected ETF partner countries in OECD countries as an indicator of the capacity of partner countries to address the labour and skills needs in advanced economies. Variations across countries are significant: some countries have a predominantly highly educated migrant population, while others have a larger share of migrants with low or medium education levels. These differences reflect diverse migration patterns and national education profiles from countries of origin, and differences in attraction and retention capacity from countries of destination.

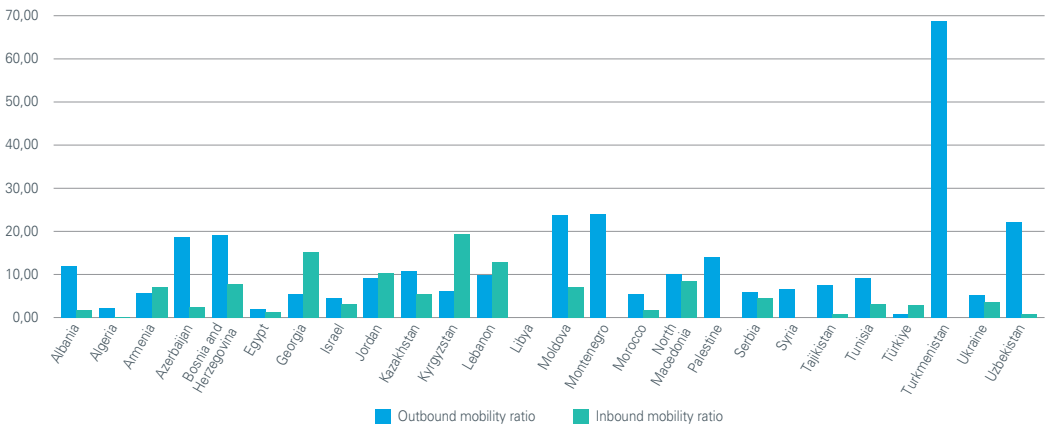
Figure 2: Educational attainment of migrant populations from ETF partner countries in OECD countries



Source: Taken from ETF Migration dashboard, OECD Database on Immigrants in OECD countries (DIOC) 2020/2021

As a proxy of possible future skilled labour migration trends, Figure 3 illustrates student mobility trends. Over the past five years, patterns of international student mobility among ETF partner countries have been diverse. In most cases, outbound student mobility is higher than inbound. A few countries, however, show relatively balanced or even higher inbound rates, reflecting growing regional hubs for education and exchange.

Figure 3: Student mobility as a proxy of potential high-skilled migration



Source: Taken from ETF Migration dashboard, UNESCO UIS Reference years 2016-2024

1.1.2 Increasing skills' needs in partner countries and in EU member states

To complement the overall context and the so far dominant narrative about countries of origin of migrant workers as basically characterised by migration outflows, it is worth noting how the migration profile of many ETF partner countries has become more complex over the last few years and presents different co-existing forms of mobility. Several countries which have traditionally experienced outward migration of their own citizens for many years have now also transformed into countries of destination receiving migrant workers, hosting transit migrants and facing new patterns of circular migration.

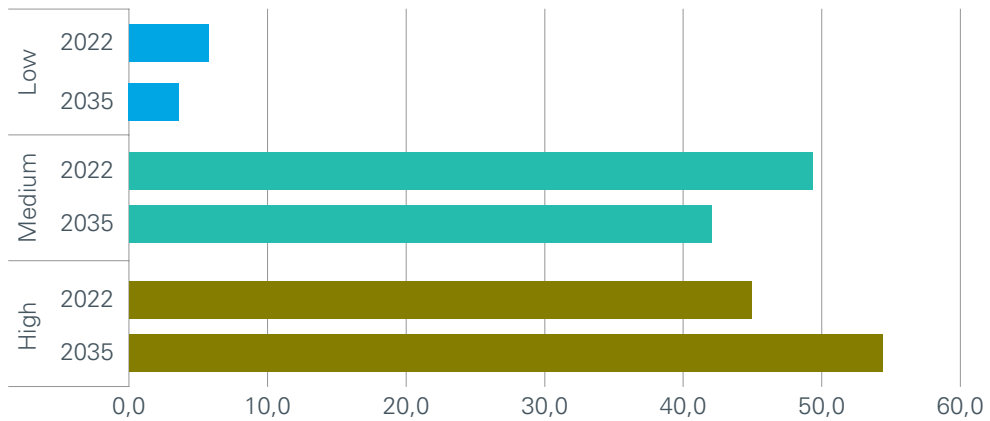
Furthermore, return migration stands out increasingly as a policy priority for different partner countries aiming at building on brain circulation and the financial assets acquired by their citizens while studying or working abroad. As a consequence, the panorama of several neighbouring countries to the EU – such as the Western Balkans, Türkiye and Maghreb – have started to be characterised by similar needs for skills and for labour, and similar migration patterns, as in EU countries. This requires institutions to think of new, more articulated and adapted policies and support mechanisms, as illustrated in some of the articles in this report.

On the other side, EU Member States' needs for labour and for skills are now openly accepted in the policy debate because of societal and economic transformations. The demographic transition is evident in the ageing trends of populations across the EU. According to Eurostat, as of 1 January 2025, the median age of the EU population was 44.9 years, reflecting a steady, long-term ageing trend where half the population is older and half younger. This median age has increased by over two years since 2015, with Italy (49.1 years) having the oldest population and Ireland the youngest (39.6 years).

As a result of an ageing population, the EU workforce is shrinking, creating shortages and leading to increased recruitment of foreign workers. Vacancies across almost all economic sectors (from agriculture to caregiving and health, logistics and construction, tourism and hospitality, but also high-level medical and high-tech professionals) witness the necessity to form and to attract talents to address European challenges of competitiveness and the dual green and digital transitions. In contrast, growing youth populations in other parts of the world, such as Sub-Saharan Africa and Asia, can create opportunities for demographic complementarities and already strongly shape mobility patterns.

Figure 4 illustrates the need for skills in the EU, comparing 2022 with 2035. It shows a significant increase in the share of employment of highly educated individuals (from 45% to over 54%), to the detriment of those with medium (from 49% to 42%) and lower levels of education (from 5.8% to 3.6%). This trend demonstrates that even traditionally labour-intensive sectors are transforming into technology-driven ones, thus the need for skilled workers. It is also worth noting that digitalisation and platform-mediated work shape new, combined skill requirements, digital, technical and linguistic. Digital platforms, remote work and algorithmic management have introduced new forms of work, creating opportunities and challenges in the relations between EU and partner countries.

Figure 4: Current and future employment share (%) for educational level possessed in EU27



Source: CEDEFOP, Skills Intelligence, Future jobs

In terms of occupation and education levels, the same source envisions a high demand for highly skilled professionals, while demand decreases for those with low levels of education. Such forecasts are, however, to be interpreted in a nuanced way as the impact of Artificial Intelligence is rapidly changing skills' needs and occupation profiles.

Concerning the main countries of origin of migrant workers to the EU, according to Joint Research Centre data over the last decade, they include Ukraine, Albania, Serbia and Türkiye from Europe, North Africa (Morocco) and the Middle East (particularly Syria), and Afghanistan. Migration flows are driven by labour shortages, geographical proximity and humanitarian crises. Germany, Spain, Italy and France are the largest destinations, often receiving migrants from diverse countries.

A final word within the skills-migration nexus goes to the often-limited attention paid to the growing role of forced migration. According to Eurostat in 2025, 669,365 first-time asylum applicants (non-EU citizens) applied for international protection in EU countries, down by 27% compared with 2024. Venezuelan, Afghan and Syrian were the top citizenships; Spain, Italy, France and Germany were the main countries of destination. Refugees and asylum seekers are often analysed primarily through humanitarian frameworks, whereas they can also participate in host countries' labour markets and provide skills and expertise. This opportunity requires specific policy attention and dedicated instruments to be viable in the regulatory conditions regulating refugees and asylum seekers' status.

1.2 The EU policy framework and global initiatives

1.2.1 An articulated European framework of policies and actions

Facing ageing, the green/digital transition and sectoral shortages, the European Union (EU) is recasting labour migration as a skillsbased competitiveness and resilience tool. The aim is for more targeted and predictable mobility and faster recognition to increase attractiveness in the global race for talents and to reduce skills underutilisation within EU labour markets.

The Pact on Migration and Asylum to be implemented by mid2026 anchors this shift, linking stronger legal pathways to wider governance reforms and positioning thirdcountry skills as complementary to domestic activation and upskilling. The Skills and Talent Mobility Package operationalises this shift by creating EU-level delivery tools, notably an EU Talent Pool to match vacancies with third-country candidates. To improve targeting, the EU has reinforced signalling through an EU-wide list of 42 shortage occupations and complemented this with an Action Plan on labour and skills shortages.

In parallel, the EU aims also to reduce labour-market inefficiencies caused by slow and fragmented recognition of third-country qualifications, which currently delays hiring and contributes to skills underutilisation. Key responses in this respect are the EU Skills Portability initiative aiming at scaling transparency tools and interoperable digital credentials to make skills readable and usable across borders, including for non-EU nationals.

EU frameworks such as the European Qualifications Framework and the European Learning Model also contribute to reduce frictions in recognition and matching, when implemented consistently and adopted by stakeholders. Additionally, and specifically for highly skilled workers the revised Blue Card is intended to make the EU more attractive by easing entry conditions, reinforcing rights and facilitating intra-EU mobility.

In the logic of long-term win-win collaboration, Talent Partnerships are positioned as a model between interested EU Member States and partner countries, designed to move beyond ad hoc recruitment by linking mobility to jointly identified sector priorities and investment in skills ecosystems for mutual benefits. Launched with Egypt, Morocco and Tunisia, and with Bangladesh and Pakistan (with discussions ongoing with other partners, including Senegal), they aim to align skills needs identification, training provision and safeguards such as ethical recruitment and skills circulation. Table 1 summarises the priority sectors identified so far and highlights areas of convergence that can guide investment and implementation choices.

Table 1: Priority sectors identified under Talent Partnerships

Country	Launch event	Priority jobs and sectors jointly identified for common skills' provision and mobility actions
Northern Africa		
Egypt	June 2023	Information Communication Technology (ICT), construction, tourism, agriculture, transportation and energy.
Morocco	April 2023	Mechatronics, lorry drivers, construction, agriculture, tourism, care sector/personal care and metallurgical industry.
Tunisia	June 2023	Information Communication Technology (ICT), tourism, transport & logistics, construction, agriculture, industry, mainly electric and metallurgic.
Eastern Asia		
Bangladesh	March 2023	Information Communication Technology (ICT), construction, textile/garment, ship building industry, agriculture and hospitality/ tourism.
Pakistan	March 2023	Information Communication Technology (ICT), construction, renewable energy, hospitality, agriculture, textile and services professions.

Source: DG HOME, May 2025

Cooperation with partner countries translates into EU funding and technical assistance from different DGs, such as MENA, HOME and INTPA with the key policy task to ensure coherence across instruments, programmes and financing. While the significant efforts undertaken by EU institutions and Member States are to be recognised, a set of challenges continues to limit the effectiveness, scale and coherence of skills-based labour migration initiatives.

A priority could be to strengthen coordination at the EU level so that Member States can speak with greater consistency in global competition for talent, while offering partner countries a more predictable cooperation framework. More integrated action could also help shift from fragmented, project-by-project initiatives towards system-level solutions that deliver medium- to long-term outcomes and would reduce duplication and inefficiencies stemming from parallel bilateral schemes. Operationally, this means prioritising a limited set of European-wide enablers.

One such example could be voluntary development of common European occupational profiles for the most needed occupations. This would enable third countries to use them as a stable reference for skills intelligence, curriculum design and training delivery. Another example could be promoting interoperable, user-friendly tools for skills validation and qualifications' recognition that competent authorities and employers can apply more consistently across partner countries, accelerating portability and reducing skills underutilisation after arrival.

A particularly useful practice is developing joint qualifications or “joint diplomas” built on harmonised curricula between sending and receiving countries – an approach analogous to joint university programmes but adapted to vocational education and training – so that graduates have clearer, pre-defined access to relevant labour markets both at home and in destination countries. Overall, improved data collection and analysis on migrants’ skills, qualifications and professional trajectories – covering both incoming workers and returnees – should inform skills anticipation, targeted upskilling/reskilling and more effective matching.

Within the ‘triplewin’ logic, the European Training Foundation (ETF) – the EU agency working with partner countries to strengthen the employability of their citizens – focuses on the skills dimensions of migration. It generates evidence through analytical work and applied studies and provides policy advice to European Commission services and partner country institutions, with the aim of strengthening the relevance of education and training policies for labour migration objectives, improving skills intelligence, enhancing skills provision for migrants, and supporting systems for skills validation and qualifications recognition. More recently, the ETF has established a community of international experts (MIGCOM³) to foster mutual learning and knowledge co-creation and a Migration Dashboard to consolidate and disseminate key information on structural changes shaping the skills-migration nexus⁴.

1.2.2 Global features and partner country initiatives

In parallel to the efforts undertaken by the EU, and at a more global level, skills relevance to migration is also being increasingly recognised. Skills are featured in the Global Compact for Safe, Orderly and Regular Migration (GCM) adopted by the United Nations General Assembly in 2018 as the first intergovernmental agreement covering all dimensions of international migration. It is important to note, however, that GCM is a non-legally binding agreement adopted by a large majority, with the exclusion of several Western countries. In the GCM, skills are addressed primarily through Objective 18, which focuses on investing in skills development, facilitating mutual recognition of qualifications, and promoting the use of “Global Skills Partnerships” to meet labour market needs while preventing brain drain.

At individual partner country level, initiatives addressing skills’ issues have been multiplying in recent years at policy and project levels with the double aim of better supporting individual migrants and, more recently, national development – beyond the use of remittances. Whilst many contexts and highly country-specific, a number of overall trends can be identified:

Policy frameworks related to skills and migration are increasingly articulated in many countries, showing a growing awareness of the implications of skills in migration dynamics and the need for dedicated attention. Despite these efforts, three main challenges emerge from the articles presented and from wider literature. The first

³ Any interested expert can join MIGCOM by filling a form at [EUSurvey - Survey](#)

⁴ ETF Migration Dashboard is accessible at [Migration Dashboard | ETF](#)

challenge has to do with the formal adoption of policies, which in many cases takes years. Secondly, comes the challenge of operationalising policies through adequate measures and means, including the monitoring and evaluation of results. Finally, migration policy coherence with related policies such as employment, entrepreneurship and social inclusion is still very limited.

At the project level, a wealth of different actions has been implemented, as illustrated, among others, by various ETF reports⁵. In some cases, projects offer interesting new perspectives. However, the main limits remain in the very high dependency on donors' priorities, guidance and funding and subsequent very low translation of successful practices into medium-term self-sustainable system-level solutions. The number of beneficiaries of individual projects is also often quite limited, and this despite significant funding.

Policy priorities of partner countries have evolved in recent years as a response to new trends and challenges. The migration profile of several ETF partner countries has evolved from one of mainly traditional emigration to becoming also a country of immigration and/or transit due to demographic ageing, long emigration effects and labour market conditions. This is the case of Western Balkans countries, and increasingly of North African and Middle Eastern countries, which are called to develop more articulated policy responses addressing skills needs at different levels and for different migrant populations.

Transversal to practically all partner countries, policy attention has been capturing some new elements. Feminisation of migration is now seen as a priority by itself, be it for highly qualified women and for medium- or low-skilled ones. Dedicated policy strands and studies look for specific solutions which may satisfy the needs of seasonal (mainly low-skilled) and potential long-term (mainly highly skilled) migrant women.

After decades of experiencing sustained emigration flows and building on the improved conditions of their migrants abroad and of returnees, several countries are increasingly focusing their policy attention on how to build on the expertise of their emigrants. This typically takes two main forms: on one side, the set-up of mechanisms to ease the return and investments in countries of origin through dedicated services and financial mechanisms; and on the other side, how to better co-design and co-implement development initiatives with the diaspora – as illustrated by the Diaspora Engagement map, an EU-funded project.

Less policy attention has so far been devoted to how to beneficially deal with tertiary-level student outward mobility, which often translates into emigration of highly qualified human capital, a critical aspect for the future of any country.

Last, it is worth mentioning the case of seasonal migration as a triple win case, which is widely and increasingly appreciated by countries of origin and destination and by (certain categories) of migrants. Seasonal migration looks like an ideal solution so far, mainly experimented with in the agricultural sector, but it could be extended to other sectors, such as tourism and hospitality. Upskilling and re-skilling of seasonal migrants seems to be a relatively easy measure to implement.

⁵ ETF reports are accessible at [Skills and migration | ETF](#)

1.3 Primary analytical angles

1.3.1 Literature review

The relationship between skills and labour migration has emerged as a central concern in contemporary policy and academic discourse, as economies worldwide confront demographic ageing and accelerating structural transformations. As a result, the competencies of migrant workers represent a critical resource for addressing human capital requirements generated by evolving labour markets and shrinking domestic workforces (ETF 2021, 2022, 2025). The conceptualisation of a ‘triple win’ – whereby labour migration can simultaneously benefit countries of origin, countries of destination and migrants themselves – has gained importance as a guiding framework.

The evidence assembled across the eleven empirical articles suggests that outcomes are however fundamentally contingent upon institutional design: where skills systems, labour market intelligence and migration governance are coherently integrated, mobility generates sustainable returns. However, where these remain fragmented, brain waste and skills underutilisation persist. More specifically, evidence from the literature reviews in the eleven articles can be organised around four main themes:

- Skills partnerships are recognised as a key element for virtuous labour migration. To be effective, skills partnerships must be grounded in reciprocal needs, long-term investment in skills formation in both origin and destination countries, and transparent sharing of responsibilities for human capital development among participating public, private and CSO stakeholders (European Commission, 2020; Clemens et al., 2019; Acosta et al., 2025 as cited in Article 2.1). Adversely, employer-led partnerships risk narrowing skills formation to functional competencies, thereby limiting migrant workers’ agency (Kim, 2018; Boeri et al., 2012; Wickham, 2017 as cited in Article 2.1). As skills’ partnerships may be affected by asymmetrical power relations between destination and origin countries, there is a risk they fall short of holistic sustainable development (De Lange et al., 2022; Triandafyllidou, 2013 as cited in Article 2.3). Such risks can be mitigated by new instruments like Talent Partnerships that offer a strategic opportunity to align training and institutional frameworks within a mutually beneficial architecture.
- In contexts characterised by high emigration, economic fragility or conflict, migration operates as a structural driver of labour market transformation with profound implications for national resilience. In such contexts, skills play a key role and skills forecasting requires adapted approaches integrating migration as a core variable alongside macroeconomic and demographic factors (Cedefop, 2023; Awad et al., 2023 as cited in Article 3.1). It also requires the synthesis of heterogeneous data sources where official statistics on emigrants are incomplete. Investing in skills development and skills transfer is of primary importance, especially concerning typically highly emigration-affected professions, such as medicine, in which initial and continuous training opportunities and facilitated recognition pathways play a crucial role in retention strategies (Gëdeshi, King and Ceka, 2024 as cited in Article 3.2). Human

capital transfer ('social remittances') from migrants – rather than monetary flows alone – play a primary role also in the financial inclusion of households in structurally vulnerable contexts (Aggarwal et al., 2011; Demirguc-Kunt et al., 2018 as cited in Article 3.3).

- Brain circulation is a progressively more recognised driver for national development, emphasising continuous mobility and 'global talent networks' (Saxenian, 2005; Tung, 2008 as cited in Article 4.1). This phenomenon can be reshaped by origin-country policies encouraging return and knowledge transfer (de Haas, 2010; Cassarino, 2004; Dustmann et al., 2011 as also cited in Article 4.1). EU accession can act as a catalyst for brain gain, with 'Europeanisation' acting through conditionality and normative diffusion and shaping domestic migration governance (Schimmelfennig and Sedelmeier, 2004 as cited in Article 4.2). Effective brain gain requires however supportive institutions and economic opportunities commensurate with returnees' qualifications to avoid brain waste (Sumption, 2013; Kone and Özden, 2017 as cited in Article 4.2). Brain gain also needs effective measures to stimulate entrepreneurship (Amuedo-Dorantes and Pozo, 2006; Kakhkharov and Ahunov, 2020 as cited in Article 4.3).
- Social protection and antidiscrimination measures emerge as two important priorities. In this context, digitalisation is introducing novel dimensions to the skills-migration nexus, reshaping boundaries between employment, self-employment and cross-border mobility globally. Evidence from the Western Balkans, shows a dual structure where higher-skill online freelancing supports skills retention through 'virtual' mobility, whilst lower-skill, on-location work reproduces informality and labour market segmentation (Kässi and Lehdonvirta, 2018; Zwysen and Piasna, 2024; Dumancic and Obadic, 2024 as cited in Article 5.1). The ethical dimension is equally pressing as migrant workers frequently accept positions below their qualification level upon arrival, with initial job allocation dynamically influencing subsequent trajectories (Visintin, Tijdens and Van Klaveren, 2015; Banerjee, Verma and Zhang, 2019 as cited in Article 5.2). A strong association between skill mismatch and perceived workplace discrimination suggests unfair practices at entry can entrench underemployment (Rafferty, 2020; Larsen and Waisman, 2016 as cited in Article 5.2) or skills waste.

1.3.2 Focus areas from the articles

Building on existing literature, the articles included in this report provide new evidence about how investing in skills labour migration can become more virtuous. Central to the discourse is to explore how skills-based cooperation supported by forward-looking policies can transform migration into a sustainable engine for development, ensuring benefits for migrants, countries of origin and of destination. Different kinds of approaches and measures are presented in the eleven articles in four interrelated thematic sections.

Chapter 2: Policy Alignment and Skills' Partnerships Architecture

Chapter 2 explores how robust data governance and early-stage bilateral and multilateral cooperation can prevent skills' underutilisation and brain waste in the context of the

transition from “flow management” to skills-based governance and institutionalised cooperation. By harmonising standards and involving the private sector, human capital development can serve both local and international skills needs.

In Article 2.1, “[Mutually beneficial migration: Harnessing national data to develop effective labour mobility partnerships and skills development cooperation](#)”, Francesca Majorano Sarapo and Mattia di Salvo demonstrate that robust national labour market data aligned with international standards (ISCO, ISIC, ESCO) is essential for effective EU Talent Partnerships. Drawing on Nigeria and Senegal case studies, they show how granular Labour Force Survey data enables systematic skills matching while persistent data gaps constrain circular migration. The authors recommend investing in national data capacity and skills anticipation for evidence-based, sustainable partnerships.

In Article 2.2, “[Sustainability of the skills partnerships between the origin and destination countries of migration in Lithuania, Italy and Germany](#)”, Vidmantas Tütlys et al. show through three case studies (Italy-Egypt, THAMM Plus in Northern Africa and Lithuania-Uzbekistan) that Skills Partnerships address labour shortages if built on reciprocal needs rather than narrow employer-driven recruitment. Integrated approaches combining pre-departure preparation, language and prior learning recognition deliver better outcomes than pure company-based schemes. Sustainable partnerships require coherent multi-actor governance anchored in public-interest objectives and aligned with legal migration and VET systems’ development frameworks.

In Article 2.3, “[‘Virtuous’ labour migration? Skilling, migration and development in Bangladesh and EU policy](#)”, Colleen Boland et al. examine how misalignment between skills systems, migration governance and labour market demand limits the positive developmental impact of EU-Bangladesh labour migration. Weak alignment with EU qualification requirements confines migrants to low-paid, precarious jobs, while structural gender and intersectional inequalities restrict access to quality training. The emerging EU-Bangladesh Talent Partnership offers a strategic opportunity to align training and certification, and embed a long-term approach linking skills, migration and development.

Across the three articles, evidence shows that virtuous migration builds on coherently integrated skills systems, labourmarket intelligence and migration governance. Robust data harmonised with EU/international taxonomies such as ESCO enable transparency and facilitate skills provision and recognition, circularity, and reintegration. Effective partnerships must be sectorspecific and embedded in broader publicinterest objectives beyond narrow employerdriven schemes. Integrated training pathways – combining predeparture preparation, language and transversal skills, workbased learning and recognition of prior learning – produce stronger and more durable outcomes.

Chapter 3: Resilience and Adaptation in Conflict affected and High-Emigration Countries

Articles in chapter 3 show how, in times of geopolitical upheaval, migration policies can address urgent skills replacement demands in war-torn regions. They can also help persistent high emigration regions to protect critical sectors such as health care and vulnerable groups, such as women.

In Article 3.1, “[Estimating the impact of emigration on labour force replacement demand in the Ukrainian labour market](#)”, Volodymyr Sarioglo and Mykhailo Rozbytskyi address how war-induced emigration drives labour shortages in Ukraine. Microsimulation modelling shows external migration outweighs demographic ageing as the main replacement demand source, causing a loss of nearly one-fifth of the pre-war labour force by 2023. As shortages are particularly acute in high-skilled occupations and in skilled and elementary technical jobs critical for infrastructure, public services and economic resilience, there is a need to integrate migration as a core variable in skills governance. A coordinated response should combine migration-aware labour market intelligence with targeted return and skills recognition measures, combined with complementary immigration from third countries.

In Article 3.2, “[Understanding and addressing the potential migration of medical doctors from Albania and Kosovo](#)”, Ilir Gëdeshi, Russell King, and Isilda Mara present survey evidence (2023–2025) indicating a high risk of sustained medical doctor outward mobility from Albania and Kosovo, posing material risks to health-system capacity. Around four in ten Albanian doctors and nearly half in Kosovo report migration intentions. Considering that preferred destinations reflect wage differentials and clearer qualification-recognition pathways, the authors recommend balanced talent-management approaches combining domestic retention, expanded training and ethical circular mobility partnerships.

In Article 3.3, “[The role of migrant education and gender in enhancing financial inclusion of households in Kyrgyzstan](#)”, Akylai Muktarbek kyzy uses longitudinal household data to demonstrate that international labour migration supports financial inclusion in Kyrgyzstan primarily through human capital transfer rather than remittances alone. In this respect, migrant education level is the most consistent driver of positive spillovers, such as increasing the use of formal banking and digital services. Main divides depend on gender – female-headed households remain structurally disadvantaged – and on urban-rural disparities. Findings underscore the importance of integrating financial skills development and digital inclusion across the migration cycle, alongside gender-sensitive financial system reforms.

Across these three articles, the evidence shows that in conflict-affected and high-emigration contexts migration has become a central structural driver of labour shortages, often outweighing demographic ageing and undermining recovery and resilience. Highly skilled and younger cohorts are disproportionately affected, creating acute risks for critical sectors such as healthcare or in vulnerable areas, such as rural contexts. A coherent policy response requires migration-aware skills governance, targeted retention and reintegration measures, skills recognition and upskilling pathways, as well as ethical, circular mobility partnerships.

Chapter 4: Tapping into return mobility and diaspora expertise

Chapter 4 reflects on the increasing attention of countries of origin to build on brain circulation. Three articles present key elements of maximising the multiplier effect of returnees and brain circulation for development in countries of origin through national normative frameworks, EU policies and financial support mechanisms.

In Article 4.1, “[Return migration and brain circulation: Comparative policy reflections from Türkiye, Serbia and Morocco](#)”, Mehmet Gökay Özerim analyses return migration and brain circulation policies, framing skilled mobility as a circulatory process. According to the analytical framework proposed, development outcomes depend on aligning skills recognition, labour-market reintegration and diaspora engagement with domestic labour market demand. Results of the analysis show that Türkiye relies on ad-hoc instruments, whereas Serbia presents more coherent EU-anchored approaches, and Morocco demonstrates normative commitment but faces operational challenges. Skills recognition and labour market reintegration emerge as critical bottlenecks across the three countries, requiring coherent national systems and sustained implementation.

In Article 4.2, “[Skilled returnees and the EU accession incentive: A comparative analysis of brain gain policies in Albania and Moldova](#)”, Gabriel Fernandez Alonso argues that EU accession acts as a unique catalyst for attracting highly skilled individuals back home. Drawing on evidence from Albania and Moldova, the article finds that EU integration dynamics enable brain gain where national policies are institutionalised and linked to skills intelligence. Whereas Albania shows fragmented initiatives shifting toward state-led approaches, Moldova demonstrates an advanced model with dedicated institutions and one-stop services. Overall, the main message is that enlargement frameworks provide incentives, but domestic institutional commitment and labour-market absorption capacity are decisive.

In Article 4.3, “[Potential of return migration and remittances for entrepreneurship and development](#)”, Jakhongir Kakhkharov and Shuhrat Yarashov examine remittances and return migration as potential drivers of entrepreneurship, drawing on evidence from Uzbekistan (2018–2025). They find that neither channel delivers entrepreneurial outcomes without enabling conditions. Remittance-receiving households are relatively unlikely to engage in short-term business creation, instead predominantly funding consumption. Return migration similarly does not translate into higher enterprise creation. Evidence points to the need for integrated approaches linking return mobility with reintegration, finance and entrepreneurship ecosystems.

Across the three contributions, return migration and diaspora engagement emerge as potential drivers of development only when embedded in coherent, institutionalised systems. Moving beyond a narrow brain drain narrative, labour mobility can be better understood as a circulatory process whose positive outcomes depend on effective skills recognition, labour market reintegration and alignment with domestic demand. On the other hand, fragmented or ad-hoc policies lead to brain waste, even where return or circulation is encouraged. EU integration dynamics can act as a strong catalyst for brain gain, but only where national commitment, skills, intelligence and implementation capacity are in place.

Chapter 5: New frontiers: Platform economy and skill justice

The final section of articles looks at how, in a context where work is becoming increasingly digital and able to be performed remotely, migration policies are called to capture the needs and opportunities of the “remote” frontier with the double perspective

of economic competitiveness and social protection. Part 5 also examines the ethical necessity of “skill justice” to contrast discriminatory attitudes towards migrant workers.

In Article 5.1, “[Transformation of the labour market in selected countries: How platform work reshapes skills and cross-border mobility](#)”, Alka Obadic et al. examine how digital labour platforms increasingly shape labour markets and cross-border mobility across the EU and neighbouring regions. Whereas in the EU, platform work remains supplementary within stronger regulatory frameworks, in the Western Balkans it is expanding rapidly as a primary income source. A distinction can be noted between higher-skill online work, which enables global participation, and lower-skill work, which reproduces informality and segmentation. In the platform economy, weak skill recognition and social protection gaps risk reinforcing inequalities. Therefore, policies should integrate platform work into skills strategies, strengthen digital skills and improve regulation.

In Article 5.2, “[Towards sustainable migration pathways: Investigating migrant skill formation, mismatches and justice in North Macedonia](#)”, Filip Peovski et al. address systemic bias constraining migrant workers’ skills. They demonstrate that underutilisation in North Macedonia stems from institutional and workplace-level barriers. A strong association exists between skill mismatch and perceived discrimination, while unfair entry-level practices entrench underemployment. Training alone seems insufficient where recognition mechanisms are weak. However, time in the host country improves matching. Findings reveal persistent entry penalties and brain waste risks despite labour shortages, requiring early integration support and strengthened anti-discrimination enforcement.

Across the two articles, new risks and opportunities are explored in the Western Balkans linked to platform work and more in general to new return/immigration dynamics. The authors demonstrate how skills remain systematically underutilised, not due to individual deficits but because of institutional, organisational and workplace-level barriers, including perceived discrimination. Policy responses must integrate platform work into skills and migration strategies, while strengthening skills recognition, social protection, early integration and antidiscrimination measures to prevent brain waste.

1.4 Key findings and policy recommendations

1.4.1 Findings

This report provides evidence about several cross-cutting issues related to ensuring virtuous labour migration, as set out below.

Virtuous labour migration depends largely on the capacity of public institutions, private sector and civil society both in countries of origin and destination.

Across diverse countries and against different policy backdrops, evidence clearly points to skills development systems, labour-market intelligence and migration governance

as the decisive factors in shaping human capital development and mobility towards development gains instead of reinforcing skills' mismatches and brain waste.

Public interest-oriented partnerships come out as a primary element for sustainable labour migration pathways.

According to different authors, skills partnerships deliver durable outcomes only when embedded in broader public-interest frameworks. On the other hand, a narrow focus on employer-driven recruitment tends to limit mobility and the long-term employability of migrant workers. Effective partnerships require coherent, multi-actor governance involving public authorities, employers, VET providers and civil society, alongside explicit measures to mitigate risks of brain drain in countries of origin.

EU-led initiatives like the pre-accession processes or Talent Partnerships can provide a functional anchor to virtuous mobility patterns.

Key to the success of EU-led initiatives is the combination of a triple-win logic with capacity building and technical assistance instruments and funding. EU integration dynamics in particular can catalyse brain circulation where national commitment and implementation capacity are strong. Meanwhile, Talent Partnerships offer strategic entry points to align training, certification and mobility within a long-term skills-migration-development logic. Ownership and leadership from countries of origin remains essential to go beyond formalistic and regulations-driven cooperation and to ensure development gains also for own economies and societies.

Misalignment between skills systems, migration governance and labour-market demand remains a major constraint.

Evidence shows how expanded TVET provision in countries of origin alone does not translate into skills utilisation when qualification requirements, recognition systems and migration frameworks are poorly aligned. Additionally, fragmented and predominantly high-skill-oriented EU migration pathways limit opportunities for medium- and low-skilled workers. Meanwhile, structural gender and intersectional inequalities further restrict access to quality training and safe mobility, particularly for women and marginalised groups such as from rural areas.

Robust and harmonised labour-market data is key to enabling effective skills-based migration policies.

Evidence demonstrates that granular Labour Force Survey data aligned with international classifications (ISCO, ISIC, ESCO) is essential to identify priority sectors, occupations and skills and as a basis for functional partnerships, including future Talent Partnerships. More generally, persistent data gaps on skills profiles of migrants, including returnees and the diaspora, constrain evidence-based policy design and negatively affect the optimal utilisation of the know-how brought by migrant workers.

In conflict-affected and high-emigration contexts, migration has become a central structural driver of labour shortages.

Evidence from Ukraine shows that war-induced emigration now outweighs demographic ageing as a source of replacement demand, with acute shortages in high-skilled professions and critical technical occupations, and strong gendered effects due to the massive emigration of highly educated women. Similar risks are observed in the Western Balkans' healthcare sector, where sustained outward mobility of medical doctors threatens system capacity. Meanwhile, in Kyrgyzstan, massive emigration from rural areas undermines their resilience. These dynamics expose the limits of traditional labour-market forecasting and call for migration-aware skills governance combining retention, return and reintegration measures, skills recognition and upskilling, and ethical circular mobility partnerships.

Return migration and diaspora engagement have become a priority in the policy agenda of several partner countries.

As reflected in this report, while in principle return migration and diaspora engagement can generate development gains, in reality, they work out effectively only when supported by institutional ecosystems. Across several countries, evidence shows that remittances and return do not automatically translate into entrepreneurship or productive investment. Outcomes rather depend on institutional capacity, skills recognition, labour-market reintegration and access to dedicated financial and entrepreneurship support, including for the migrants' households. In this context, fragmented or ad hoc approaches increase the risk of brain waste.

Digital mobility and discrimination can lead to increased inequalities and brain waste.

With the expansion of digital work, evidence demonstrates that whereas high-skill online platform work can support virtual mobility and skills retention, low-skill, location-based platform work often reproduces informality and precarity. For both highly and low-skilled workers, weak recognition of platform-based skills and gaps in social protection risk reinforcing underutilisation and discrimination. More generally, for all categories of migrant workers – including returnees or foreign workers – early integration, competency-based recognition and stronger anti-discrimination enforcement are essential to prevent brain waste.

1.4.2 Policy recommendations

To leverage skills to transform labour migration into a sustainable “triple win” for migrants, countries of origin and countries of destination, policies must move decisively from flow management toward skills-based governance, institutional alignment and long-term partnerships. Evidence from diverse country contexts in the eleven articles presented points to the following priority actions.

Embed skills-based governance in labour migration policies.

Labour migration policies should be anchored in robust, forward-looking skills governance rather than reactive mobility management. Governments should systematically integrate migration variables into labour-market intelligence, skills anticipation and education planning. This is particularly important in high-emigration and conflict-affected contexts, where migration has become a structural driver of labour shortages. Migration-aware forecasting, combined with skills recognition and upskilling pathways, is essential to avoid brain waste and to support recovery and resilience.

Invest in robust, harmonised labour-market data systems.

Effective skills-based migration requires granular and harmonised labour-market data aligned with international classifications (ISCO, ISIC, ESCO) and standards. Strengthening national data capacity – including data on migrants, returnees and the diaspora – is critical to identify priority sectors and skills, design evidence-based policies, and support partnerships for effective skills matching, recognition and circularity. Sound and systematically collected data frameworks provide the basis for targeted and sustainable cooperation frameworks, such as Talent Partnerships.

Build skills partnerships as public-interest instruments.

Skills Partnerships should be designed around reciprocal interests and embedded in broader public-interest and development frameworks, not limited to narrow employer-driven recruitment. VET training aimed at facilitating access to the labour market should be combined with pre-departure preparation, language and transversal skills, work-based learning and recognition of prior learning. Partnerships should embed multi-actor governance and policy alignment from the outset, and foresee investments in institutional capacity and skills systems in countries of origin. Explicit measures to mitigate brain drain are essential.

EU-led Talent Partnerships offer a very conducive framework to design sustainable partnerships via joint identification of skills needs in a mutually beneficial fashion, and consequent alignment of training curricula and certifications. By putting governments in the lead, they create conditions for long-term approaches linking skills, migration and development. Strengthening responsible private sector engagement should also be a priority, as well as institutionalising TVET to ensure quality, sustainability and international recognition. Finally, Talent Partnerships can provide the framework to link diaspora entrepreneurship support to priority sectors identified.

EU enlargement instruments can also support skills partnerships through policy advice, supported initiatives and resources if they build on mutually identified needs and ownership by national institutions in partner countries.

Align migration policies with skills systems and labour-market demand.

Misalignment between training systems, migration governance and labour-market needs remains a major constraint, particularly for medium- and low-skilled workers. EU and national policies should expand legal pathways linked to skills development, improve

qualifications recognition, and address structural gender and intersectional inequalities that limit access to quality training and safe mobility. Alignment across migration, education and employment policies is a precondition for inclusive and effective labour migration.

Design specific support measures for conflict-affected and high propensity emigration sectors/regions.

Evidence from the Ukrainian case calls for a shift towards migration-aware labour market governance. More specifically, actions proposed include a) institutionalising microsimulation-based labour demand models within public employment and economic planning systems; b) prioritising return and reintegration programmes for highly skilled workers, with targeted incentives and qualification recognition; c) aligning education, reskilling and vocational training with identified occupational shortages; d) strategically considering labour immigration where domestic reserves are insufficient; and e) strengthening inter-agency data coordination and monitoring among different institutions to enable timely, evidence-based policy responses.

To support sectors under high labour shortages, such as healthcare in the Western Balkans, several measures can be undertaken, including radical reforms such as improving salaries, working conditions and merit-based career progression. Expanding domestic specialisation and training pathways, linked to modern equipment and research opportunities, together with the development of circular migration and cooperation schemes with destination country hospitals and universities, can also provide valuable incentives.

Specific support should also be designed for areas under sustained massive emigration, as the case of rural areas in Kyrgyzstan shows. Investments in digital infrastructure and support to the financial literacy of households can also help add value to the use of remittances for local development.

Strengthen return migration, reintegration and entrepreneurship-support eco-systems.

The findings support a shift from “remittance-centred approaches” towards systems targeting social, economic and financial inclusion more broadly. Policies and support tools should include comprehensive reintegration frameworks linking migration authorities, employment services, skills recognition and, where applicable, entrepreneurship and financial support. Tailored mentoring should be provided in pre-departure, reintegration and migrant support programmes, and one-stop returnee services linked to employment and skills systems should be set up. Recognition of foreign qualifications and skills, including non-formal learning, should benefit from accelerated channels.

To support entrepreneurship, access to targeted financial products (e.g. matching grants and concessional loans linked to viable business plans) should be put in place. This should be combined with measures to improve the overall business climate, including simplified registration, risk mitigation tools and supported access to markets. Diversifying and stabilising remittance channels to enhance resilience to external shocks would add value

in uncertain geopolitical times. Finally, diaspora talent networks should also be included in national skills and employment strategies to convey knowledge and financial resources into national development plans.

Integrate digitalisation, platform work and skill justice into migration strategies.

Digitalisation and platform work are reshaping skills demand and mobility, creating opportunities for virtual mobility – especially in the ICT sector and for creative professions. But they are also creating new risks of precarity and exclusion – particularly in the delivery and transport sectors. Policies should recognise platform work as a form of cross-border labour mobility and integrate it into skills and migration strategies by strengthening recognition of platform-based skills, improving social protection (including alignment with the EU Platform Work Directive) and enhancing data. Digital, language and transversal skills should be strengthened with certification mechanisms that support progression into higher-value platform work.

On the link between skills and justice among labour migrants, discrimination emerges as an important challenge. A few measures can be adopted to combat this, such as early, front-loaded integration support, competency-based recognition and validation, prioritising demonstrated skills over formal qualifications from countries of origin, and systematic anti-discrimination monitoring and enforcement at the workplace level. To be effective, such measures rely on a stronger coordinating role for public employment services, working with employers, education providers and social partners.

Keep constant dedicated policy attention to gender as a priority issue.

Transversal to any policy direction and thematic area, policy attention should reserve a constant and dedicated effort to specific gender-related challenges and obstacles. According to the ILO, women make up roughly half of all international migrants, often driven by demand in the care and service sectors. While offering economic independence and supporting households through remittances, this situation presents high risks of exploitation, gender-based violence, precarious employment, and “deskilling”, which remain generally under the policy radar. These risks are to the detriment of proper personal and professional development, reflected in brain waste for societies and economies as reported by the ETF study on skills needs of migrant women.

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CHAPTER 2: POLICY ALIGNMENT AND SKILLS' PARTNERSHIPS ARCHITECTURE

2.1 Mutually beneficial migration: Harnessing national data to develop effective labour mobility partnerships and skills development cooperation

Francesca Majorano Sarapo, Mattia di Salvo

2.1.1 Preface

The effective governance of labour mobility relies heavily on timely and accurate data on high-demand occupations and productivity trends in both origin and destination countries. However, many European Union (EU) partner countries face significant challenges in collecting and disseminating comprehensive information on labour market demand. This knowledge gap hinders evidence-based policymaking in the domain of skills development, labour mobility and migration.

In recent years, Artificial Intelligence (AI) and alternative data sources, such as those derived from social media, have emerged as potential solutions to address this data gap. For instance, AI-powered tools can analyse online job postings, social media platforms and other digital sources to provide insights into labour market trends and skills demand, even in almost real-time. However, these alternative data sources also have limitations. They are often not representative of the entire labour market, as they may only capture information from specific segments of the population or industries, most likely skewed towards highly skilled profiles. Furthermore, these data sources are typically owned and controlled by private actors, such as tech companies, which can limit access to the data and create concerns around data privacy and bias.

This paper presents the European Commission Joint Research Centre JRC's efforts in analysing current and expected labour dynamics in Nigeria and Senegal by using traditional data sources. Rather than reporting the in-depth results of the analysis (already in JRC publications), the paper provides a methodological overview and reflection on the process, to support future similar endeavours. The analysis' findings carry implications for both the EU and its partner countries. For the EU, they inform labour migration policies aimed at addressing labour market shortages by attracting foreign talent across all education and skill levels – Talent Partnership, the Talent Pool or bilateral agreements of Member States. From the partner countries' perspective, the findings can support the development and implementation of policies addressing the skills dimensions of migration, as well as human capital development for the general population.

The data used are from a mix of national and international sources and are complemented with qualitative sources such as national reports. In terms of national data sources, the Labour Force Surveys (LFS) of both Nigeria (last quarter of 2022) and Senegal (last quarter of 2023) were used to access recent statistics on labour market indicators disaggregated according to the main characteristics of the working-age population. The main international data sources were the International Labour Organisation (ILO)'s time-series indicators at the macro level, based on both national data sources and ILO modelled estimates. These indicators adequately capture recent trends in the evolution and composition of the labour force in the countries analysed. Finally, further information was gathered from dedicated national reports regarding several aspects, including migration aspirations and returnees' experiences, evolution of education levels, growing economic sectors, and national policies and development strategies.

Chapter 2.1.2 introduces the methodology and step-by-step process utilised to identify occupations suitable for labour mobility schemes as well as those in need of further workforce through dedicated skills development programmes, drawing examples from the analysis done in Nigeria.

Chapter 2.1.3 shows how international classifications can be used to move from the identification of occupations for labour mobility to the definition of the skill set needed for each occupation, and consequently potential gaps to be filled with training initiatives.

Chapter 2.1.4 focuses on JRC's main lessons learnt from the process of using national data in combination with international data. It highlights the caution needed in interpreting data when underlying sources or definitions change, the comparative advantages of national versus international data, and the challenges encountered in the efforts to read labour market information in the context of migration.

Finally, chapter 2.1.5 concludes with recommendations for policy and further analysis.

2.1.2 Selecting occupations for labour mobility and skills development – the case study of Nigeria

This chapter outlines the methodology and approach used to identify occupations that can benefit from labour mobility schemes and skills development programmes, with a selection of examples from the Nigerian context.

Methodological approach in brief

The analysis carried out by the JRC on the Nigeria and Senegal labour markets considered the evolution of economic sectors in terms of contribution to gross domestic product (GDP) and employment, the main characteristics of the working-age population, general labour market indicators such as participation and employment rate, and the distribution of the employed population across sectors and occupations, as well as geographical, educational, age and sex-related aspects.

The methodology applied to assess origin countries' occupations and skills distribution in the labour market essentially follows a two-step approach. First, it showcases the evolution of sectors' contribution to GDP and employment, coupled with qualitative information from national and international reports about current and future policy priorities. Second, it analyses microdata from the national LFS to identify main occupations, intersections with sectors of employment, and differences among socio-economic groups and (perceived) barriers to employment.

The first step aims to capture the demand-side dynamics of the labour market by analysing the evolution of sectors' contribution to the countries' economies and the policy priorities and development plans. The second step aims to provide detailed, up-to-date information about the supply side of the labour market, in order to identify which areas have a relatively large workforce or not (also with respect to sectors' contribution to GDP), and which kind of cooperation with the EU can be set in terms of labour mobility schemes, training and human capital formation.

Leveraging the International Standard Industrial Classification of All Economic Activities (ISIC) and the International Standard Classification of Occupations (ISCO), the analysis of LFS microdata adopted matrices to identify the main intersections of employment in terms of economic activities and occupations. Results for Nigeria, for instance, show that around 60% of total employment takes place in two main intersections: Service and sales workers employed in activities related to Trade, Transport, Accommodation and Food, and Business and Administrative services; and Skilled agricultural workers employed in Agriculture (Table 2). Another 10% is employed in Manufacturing as Craft and related trades workers. By leveraging the comprehensive information collected in the LFS, results can also be broken down by main characteristics of respondents, for instance by showing differences in employment distribution between men and women.

Table 2: Example of employment matrix across broad economic activities and occupations – Nigeria

	Agriculture for- estry and fishing	Mining and quarrying & Utilities	Construc- tion	Manufac- turing	Public adm., Commu- nity, So- cial and Other services	Trade, Transport, Acc & Food, and Business and Adm serv
Managers	0.04%	0.02%	0.01%	0.08%	0.23%	0.32%
Professionals	0.01%	0.01%	0.06%	0.04%	3.76%	0.78%
Technicians and associate professionals	0.02%	0.03%	0.17%	0.17%	1.31%	0.89%
Clerical support workers	0.00%	0.00%		0.02%	0.28%	0.53%

	Agriculture for- estry and fishing	Mining and quarrying & Utilities	Construc- tion	Manufac- turing	Public adm., Communi- ty, So- cial and Other services	Trade, Transport, Acc & Food, and Business and Adm serv
Services and sales workers	0.17%	0.03%	0.03%	0.63%	2.86%	29.74%
Craft and related trades workers	0.04%	0.03%	2.19%	10.04%	0.36%	2.21%
Plant and machine operators and assemblers	0.05%	0.08%	0.08%	1.40%	0.12%	4.60%
Skilled agricultural forestry and fishery workers	28.66%			0.03%	0.00%	0.14%
Elementary occupations	1.96%	0.14%	0.52%	0.58%	0.51%	4.03%

Source: JRC 2024a

Moreover, the flexibility of international classifications of sectors (ISIC) and occupations (ISCO) allows analysis at a more granular level of detail in either direction, for instance by showing the sub-sectors of Manufacturing in which Craft and related trade workers are mostly clustered, or, conversely, by identifying the occupations most commonly employed in Manufacturing under the broad category of Craft and related trade workers.

Step-by-step process

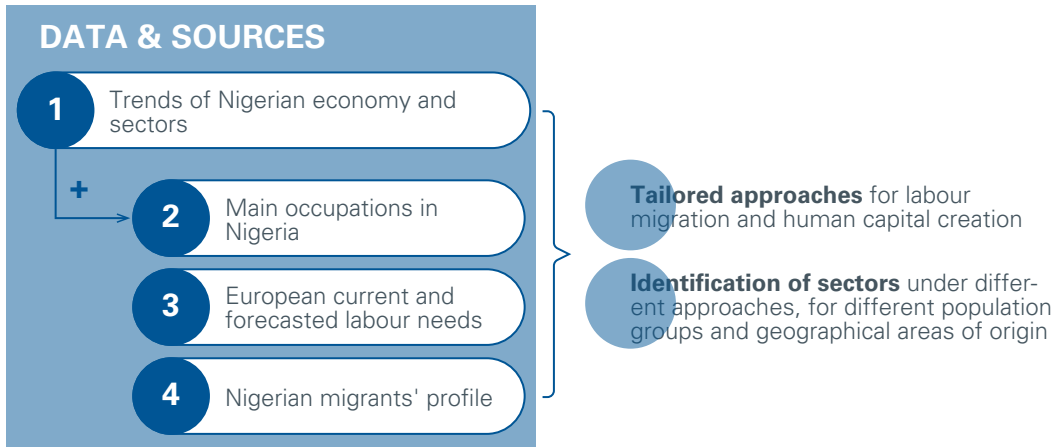
When it comes to defining labour mobility schemes and training programmes, analysing occupations at a granular level is especially important as it can help identify potential areas for cooperation between countries, and facilitate matching between potential supply and demand. The ISCO classification develops over four levels, providing detailed descriptions of each four-digit level occupation and a comprehensive hierarchy that facilitates mapping at broader aggregations.

Taking the example of Nigeria (Table 5 in annex), the more granular analysis of occupations at ISCO four-digit level shows the importance of agriculture and food related activities, with eight of the top 20 occupations falling in this group (e.g. Field Crop and Vegetable Growers, or Fast Food Prepares). It also provides a general snapshot of the specific profiles and skill-sets available at origin within a broader occupation group. Some other key specific occupations show the relevance of self-employment, such as those linked to small shops and selling activities (e.g. Stall and Market Salespersons, Street Food Salespersons, and Shopkeepers).

By integrating LFS microdata (on employment distribution across sectors, occupations and socio-economic groups), macro-level indicators (trends in sectoral growth and

development plans), statistics on labour needs in the EU, and migration aspirations at origin, the analysis identifies opportunities for cooperation in labour migration and human capital development.

Figure 5: The step-by-step process



Essentially, two main approaches related to human capital development are proposed in JRC papers. On the one hand, up- and re-skilling are proposed for the main sectors of employment at origin which are also characterised by lower levels of education and higher incidences of self-employment, informality and underemployment. On the other hand, the Global Skill Partnership (GSP) model is considered the most adequate to build skills in demand both at origin and destination for sectors that are growing in terms of GDP and facing significant restructuring due to macro-trends, such as the green and digital transitions. The concept of GSP is the one developed by the Centre for Global Development, which proposes to meet global skill shortages by providing targeted training in countries of origin and helping some of the trainees move. GSPs equip people with the skills they need before they move, making sure migration happens in a managed way while encouraging integration.

In the case of Nigeria, for instance, the first model based on up- and re-skilling has been identified for sectors such as Agriculture, Hospitality, and Wholesale and retail. These sectors employ large shares of the population in Nigeria with high levels of self-employment and lower levels of education (between 30% and 50% of workers in these sectors have no formal education). While training alone would not suffice to improve employment conditions and incomes in these sectors within the national context, it would likely increase the chances of more sustainable self-employment, especially if accompanied by access to capital. Candidates could benefit from transversal skills in business and entrepreneurial areas, especially since “undergoing training to help find work” and “unable to find work requiring his/her skills” were among the main reasons stated for not finding work or not starting their own business. For Agriculture specifically, training could also cover sustainable practices and digital competences, such as precision

farming and water efficiency, to accompany the green transition as well as enhance productivity and food security.

For other sectors and occupations, such as construction, drivers and metal workers, and information and communication technology (ICT), a model based on the GSP approach was proposed. These sectors and occupations are either growing in terms of GDP contribution, or have limited workforce, or both. Hence, while opportunities for migration can exist, it is important to monitor demand at origin to avoid shortages and risk of brain drain. The GSP approach thus proposes targeted training in countries of origin and help for some of the trainees to move.

This model can be particularly relevant in the context of medium- to long-term trends that are shaping economies worldwide, such as the twin transition, to target shared needs between origin and destination countries. Both construction and ICT are among the most relevant sectors, together with agriculture, when it comes to the twin transition.

For instance, “Building frame and related trade workers” are among the occupations with the highest ‘greenness score’ and belong to the construction worker category, which reports significant future openings in the EU. “Bricklayers and related workers” are among the top 20 occupations employing men in Nigeria and among the 42 occupations identified by the European Commission as being in shortage. ICT professionals and technicians are among the occupations with the highest digital score. The ICT sector registered the highest growth in contribution to GDP in Nigeria between 2016 and 2022, but still employs only 0.4% of the workforce. The expansion of digital and ICT has been recognised as a priority area in several national policies, with the Nigerian Youth Employment Action Plan supporting actions to promote education and training and enhance digital skills development (JRC, 2024a, p.52).

Data sources

The Nigeria Labour Force Survey (NLFS) for the fourth quarter of 2022 was used for the case study of Nigeria. The quarterly NLFS relies on 8,880 households selected from a sample of 35,520 households nationwide. For the analysis, the population with at least 15 years of age was selected, leading to 8,777 households and 25,834 individuals. The analysis used the normalised weights provided in the NLFS.

ILOSTAT indicators on employment-to-population ratio were used to compare figures based on ILO estimates and national data sources.

Statistics from the *Agence Nationale de la Statistique et de la Démographie* (ANSD), the *Recensement général de la Population et de l’Habitat* (RGPH-5), and the Labour Force Survey for the fourth quarter of 2023 (with a sample of 3,614 households) were used to compare figures on employment status in Senegal.

The 2022 Gallup Survey (for Nigeria), 2023 Afrobarometer (for Senegal), EUROSTAT datasets on residence permits (migr_resocc; migr_resfirst; migr_resvalid), the RGPH-5 and the OECD International Migration Database were used for descriptive statistics on potential migrants and immigrants.

The ISCO-08 and the ESCO 1.2.1 classifications were used to map occupations and skills.

2.1.3 From occupations to skills – ISCO and ESCO as starting points

By leveraging international classifications, the results of the analysis based on official statistics can help skill matching between supply at origin and demand at destination. Information on shortages in the EU are available at different degrees of aggregation. For instance, the European Centre for the Development of Professional Training (CEDEFOP) statistics on future job openings are reported at level two of the ISCO classification of occupations, while an EU-wide list of occupations in shortage has identified 42 occupations at the fourth, most detailed, level of ISCO (European Commission, 2023b).

ISCO provides a general description of the occupation, as well as its main tasks, up to the fourth level of disaggregation. The European Skills, Competences, Qualifications and Occupation (ESCO) classification, however, provides a list of skills for each occupation using a further level of disaggregation, defining a five-digit level classification of occupations that does not exist in ISCO. Hence, using information on the most detailed level of disaggregation available in ESCO, it is possible to gather information on the most relevant skills and competences required for an occupation, at least as defined within the European context. Moreover, ESCO is available in all the European languages and, as for occupations, it classifies skills within a hierarchy encompassing the main fields of competences (e.g. managerial, IT, business, etc.).

In order to illustrate the potential of ESCO and ISCO in facilitating the design of labour mobility schemes and training programmes, the occupation of “Software developer” is taken as an example here. This occupation is listed among the 42 occupations at four-digit level in shortage in the EU and it belongs to the broader two-digit level group of “Information and communications technology professionals”, which is in the top 20 for future job openings in CEDEFOP and is experiencing persistent labour shortages (European Commission, 2023a, table 2.4). IT professionals, in general, are among the main occupations targeted in recent pilot projects for Skills Mobility Partnerships coordinated by the International Centre for Migration Policy Development (ICMPD), such as the project Digital Explorers taking place between Nigeria (among others) and the Baltics (AfriKo, 2022).

Within the ISCO level four (code 2512), ESCO identifies nine sub-occupations at the five-digit level, which include one named “software developer” (code 2512.4) (Table 3). While

for this example there is a one-to-one match between ISCO’s level four and ESCO’s level five, this might not be the case for other four-digit ISCO occupations. Yet, it would still be possible to gather information on the skills used in each of the five-digit level occupations defined by ESCO to assess those most common at level four.

Table 3: ISCO-ESCO hierarchy example for the occupation “Software developers”

ISCO lev 2	ISCO lev 3	ISCO lev 4	ESCO lev 5
25 - Information and communications technology professionals	251 - Software and applications developers and analyst	2512 - Software developers	2512.1 - cloud engineer
			2512.2 - software analyst
			2512.3 - software architect
			2512.4 - software developer
			2512.5 - user interface developer
			2512.6 - cloud architect
			2512.7 - cloud DevOps engineer
			2512.8 - cloud software developer
			2512.9 - IoT developer

Source: own elaboration based on European Commission 2024

ESCO classifies skills, competences and knowledge for each of the five-digit occupations, characterising them as either essential or optional for a given occupation. For the occupation “software developer” (code 2512.4), ESCO lists 108 skills, competences and knowledge, among which 24 are classified as being essential for the occupation (Table 4).⁶

Table 4: Number of skills, competences and knowledge for Software developers

Essential Skills and Competences	Essential Knowledge	Optional Skills and Competences	Optional Knowledge
15	9	14	70
E.g. Analyse software specifications, develop software prototype	E.g. ICT debugging tools, computer programming	E.g. design user interface, migrate existing data	E.g. C++, Java

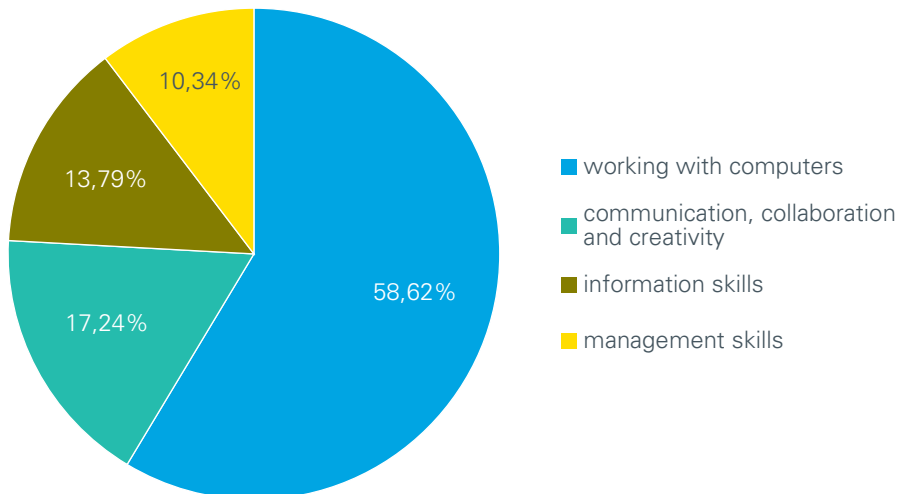
Source: own elaboration based on European Commission 2024

⁶ The complete list of skills, competences and knowledge is available in Annex, Table 5

The ESCO classification of essential versus optional skills represents, however, a general parameter. Concrete job vacancies can align with it or define more specific requirements. In the example of software developers, during the pre-departure stage of the first phase of the Digital Explorer pilot project between Lithuania and Nigeria it became evident that being skilled in Java was quite an important aspect for companies based in Lithuania, but not for those in Nigeria (AfriKo, 2022). In the ESCO classification of skills for software developers, Java is considered as an optional rather than an essential skill for software developers. Hence, an ex-ante screening of ESCO skills can help clarify early on not only where skill-gaps might exist at origin but also what the specific needs are in a specific EU destination.

Based on the hierarchy of skills, further information can be gathered from ESCO in terms of skill classification in broader groups (Figure 6).

Figure 6: Skills Group Share for Software developers



Source: own elaboration based on European Commission 2024

Last but not least, ESCO’s classification of skills provides a description of each skill, possible alternative labels, and additional information on its characteristics (e.g. reusability across sectors) (Figure 7). Moreover, ESCO is a dictionary that is continuously updated with further classifications of skills along other dimensions, for instance whether skills are considered to be “digital” or “green”.

Figure 7: Example of skill description: “develop software prototype”

skills > working with computers > programming computer systems > programming computer systems > develop software prototype

Concept overview

Description

Create a first incomplete or preliminary version of a piece of software application to simulate some specific aspects of the final product.

Alternative Labels

develop software prototype develop software throw-away simulation

develop software mockup

Skill type

skill

Skill reusability level

sector specific skills and competences

Source: European Commission 2024

2.1.4 Lessons on using national data and combining them with international data

This chapter distils key lessons learned from the experience of working with national and international data sources in the context of Senegal and Nigeria. Through the process of collecting, analysing and combining national labour market data with international datasets, our research revealed a number of advantages and challenges that can inform future efforts to leverage these data sources.

Changes in data sources and definitions, and the importance of data harmonisation

The integration of national and international labour market data sources is crucial for comprehensive analysis of labour market trends. However, this integration is often hindered by data harmonisation issues. National labour force surveys may employ different methodologies, classifications and definitions, making it challenging to compare data across countries. Differences in survey design, sampling frames and questionnaires can lead to variations in the measurement of key labour market indicators, such as employment and unemployment rates. Additionally, the classification of sectors, occupations and skills may differ between countries, making it difficult to compare data on labour market outcomes, such as employment by sector or occupation. This underscores the relevance of aligning national LFS to international standards.

In the case of our analysis of labour migration opportunities between the EU, Nigeria and Senegal, the fact that both origin (Nigeria and Senegal) and destination (the EU) countries use the international classifications of both sectors (i.e. ISIC) and occupations (i.e. ISCO) was key. However, this is not always the case.

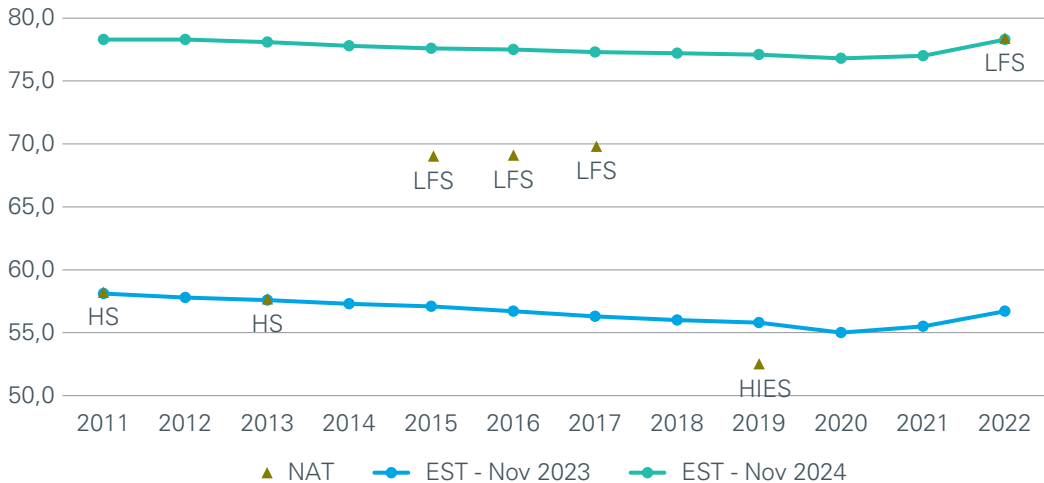
For Nigeria, for instance, the national labour force survey has only been aligned to international standards since 2022, thanks to the implementation of a new methodology with ILO support (National Bureau of Statistics, 2023b). Among the changes implemented, the definition of occupations along the ISCO classification and the one-hour criterion for defining employed people were among the most significant. In the previous methodology, people were considered to be employed only if they had worked for at least 20 hours in the previous week (i.e. reference period), while under the new methodology everyone who worked at least 1 hour in the previous week is classified as being employed. This ensures that all forms of employment are accounted for and that the three labour market status categories (i.e. employed, unemployed, and out of the labour force) are mutually exclusive and exhaustive categories.

The result of this methodological change is captured in the different ILO indicators of employment-to-population ratio, namely those based on national sources with discontinuous observations and those based on ILO's own estimates providing complete time-series. JRC(2024)a was based on ILO's estimates from November 2023, which showed an average employment rate of approximately 57% between 2011 and 2022 (Figure 8). The ILO's indicator based on Nigerian national sources, however, reported significantly different values from one observation to another depending on the underlying data source. At the beginning of the series in 2011 and 2013, ILO's estimates were in line with ILO's figures based on the Nigerian General Household Survey, while a significant gap is observed in the three-year period 2015-2017 where the ILO's figures based on the Nigerian LFS reported a value of 69% compared to 56.5% of the ILO's estimates.

Finally, ILO's figures based on national sources change abruptly from 2019 to 2022, passing from 52.6% in 2019 based on data from the Socio-Economic Survey (3 p.p. lower than the ILO's estimates) to 78.2% in 2022 based on the new Nigerian LFS (22 p.p. higher than the ILO's estimates). The updated version of the ILO's estimates of

November 2024 clearly accounts for the recent change of definition of employment from the new methodology of the Nigerian LFS, the 2022 figures aligning with those based on the national data (and with the time-series updated retroactively).

Figure 8: Employment-to-population ratio (%) in Nigeria – ILO's indicators

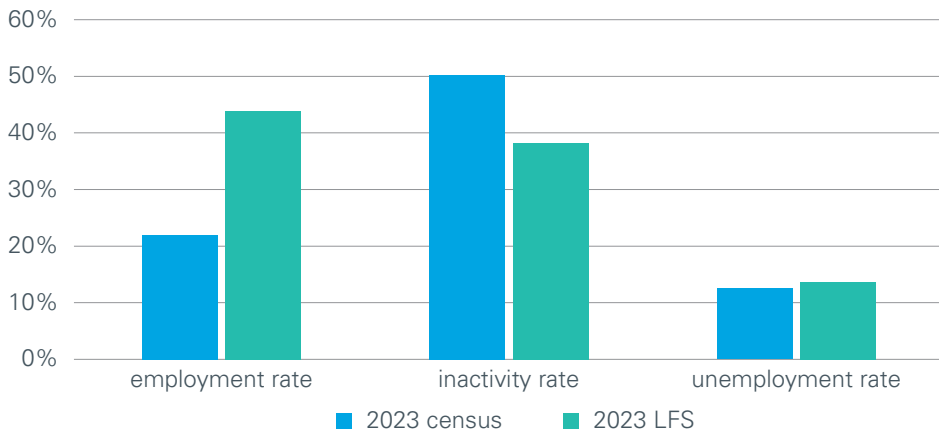


Note: HS (General Household Survey), LFS (Labour Force Survey) and HIES (Socio Economic Survey)
 Source: own elaboration based on ILOSTAT

The case of Nigeria shows how even general statistics such as the employment-to-population ratio can be significantly affected by definitions and data sources used. Different national surveys, such as the General Household, Socio-Economic and Labour Force can lead to significantly different results. It is thus important to promote data harmonisation. Until that is achieved, researchers need to strike a balance between, on the one hand, analysing as much information as possible from different data sources to ensure consistency of results (and, when existing, underlying discrepancies) and, on the other hand, the time and cost related to accessing and analysing several data sources, especially when these involve microdata collected with different methodologies and questionnaires.

Another example of differing results based on different data sources was found for Senegal, again on the general statistics of employment and inactivity rates. Different shares were calculated when using data from the population census and the LFS, even though both data referred to 2023 (Figure 9).

Figure 9: Employment, unemployment and inactivity rates (%) in Senegal – diverging results



Source: own elaboration based on ANSD, RGPH-5 (census) 2023 and LFS 2023 Q4

In this case, discrepancies can be partially attributed to different surveying tools. In the case of the census, respondents were given the option of responding “I don’t know”, while in the case of the LFS this was not possible. The slightly different time periods of data collection – with LFS being concentrated in the last quarter of 2023 – and the slightly different population groups included – with reported census data referring only to the native population, i.e. excluding immigrants and return migrants – can also contribute to the different results. However, such a discrepancy shows the importance of selecting the most reliable data source which, in our case, is considered to be the LFS for both its methodology and labour market focus⁷.

Leveraging respective strengths of national and international sources

Another key lesson learned was the importance of combining national and international sources to leverage their strengths in different areas. While international sources are helpful in providing long-term trends to analyse changing situations in the economies and labour markets of origin countries, national sources are essential to provide details of dynamics within the country and different socio-economic groups, as well as to better understand the country-specific context, for example in terms of reasons for unemployment and inactivity.

In the case of Senegal, for instance, the national statistical agency (ANSD) uses a different definition of unemployment from ILO’s as it considers the latter to be too restrictive for the labour market of Senegal which is “not well structured for job search”. The national definition considers unemployed as including people who are available to work (within two weeks) but have not searched an employment (in the previous four weeks) due to reasons judged to be independent from their willingness, classifying

⁷ Additionally, in the specific case of 2023 data, the Senegalese LFS dataset is larger than the census sample dataset made available to the public, which is only 10% of microdata.

this situation as “involuntary” unemployment. Hence, under the ANSD definition unemployment is higher than under the ILO definition, while inactivity is lower than under the ILO definition.

Such nuances within the national context are thus important to better disentangle reasons for unemployment and/or inactivity across different segments of the population. For instance, the incidence of “involuntary” unemployment in Senegal is higher for women than for men, at lower education levels, and in rural areas. This can be due to several reasons, either linked to personal situation (e.g. health, maternity, general personal reasons) or more to the labour market situation (e.g., lack of jobs in line with people’s competences and qualifications, lack of knowledge on how to search for a job or start a business, lack of funding).

Analysing these specific dimensions on underlying factors for unemployment and inactivity can be extremely valuable in informing the design of targeted programmes for migration and human capital development, and in supporting the reintegration of returnees. For instance, data from Senegal show how people in ‘involuntary’ unemployment consider entrepreneurship training as the most useful type of education to find a job and/or start a business, while people in unemployment (according to ILO’s definition) consider higher vocational training as more important (JRC, forthcoming).

Challenges for ‘triangulating’ the labour market data with migrants’ profiles

In order to adequately define and target labour mobility and training programmes, it is important to identify the profile of potential migrants. Aspects like gender, age, education level, residence area and occupational situation are key to make sense of the labour market analysis in a migration context. Unfortunately, there are very few national migration surveys that support this endeavour. For example, in Senegal the last survey on *Migrations et urbanisation au Sénégal* was carried out in 1992-1993. While many studies – e.g. degli Uberti et al. (2023), GERM & Faits de Sociétés (2019) – have been conducted on specific localities, they are geographically limited and do not provide a comprehensive understanding of migration flows and migrants’ profiles. Administrative sources are not commonly used to produce detailed statistics due to a lack of resources and because some information is considered confidential.

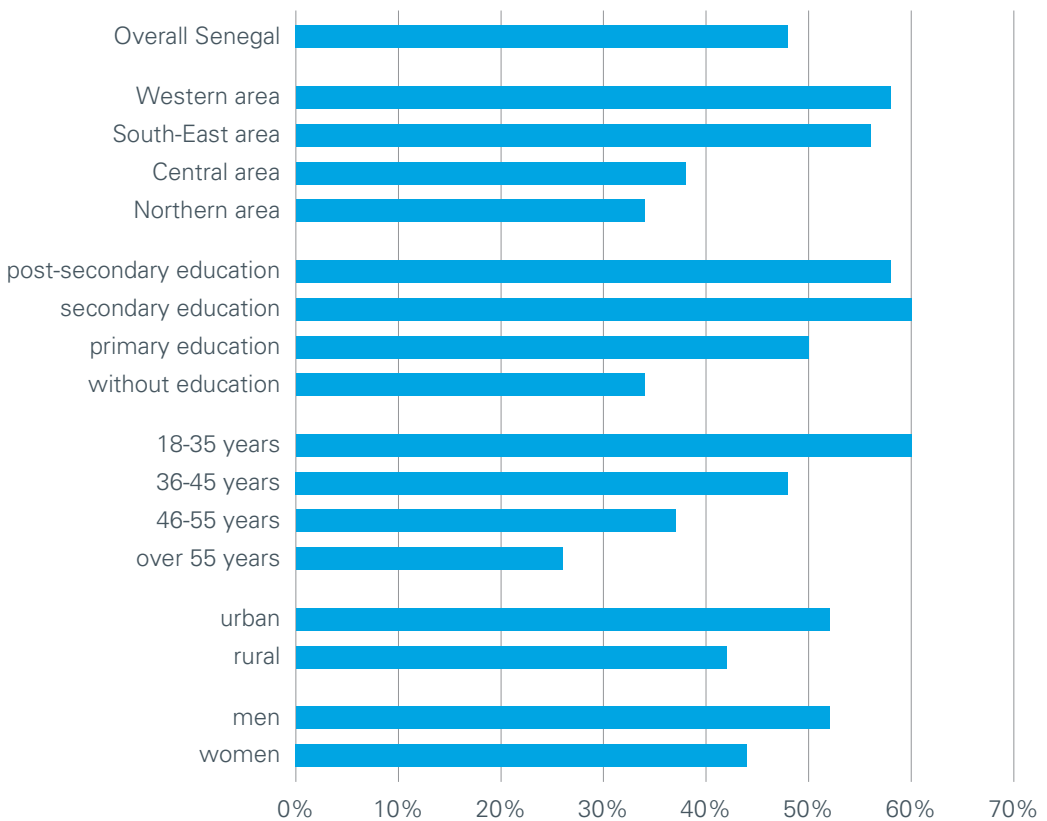
In our analysis for Nigeria, we relied on international data sources (United Nations Department of Economic and Social Affairs (UN DESA), European statistics on residence permits) and specific studies from the National Bureau of Statistics and the UN⁸. Additionally, the Gallup survey on migration aspirations was used to gain insights into potential migration and its reasons, mostly in connection to employment and economic conditions. For the analysis of Senegal, we could use estimates based on a recent census (2023). Census data provide information on immigrant stocks and nationals residing abroad, but not on flows, limiting its use to measure and analyse migration. Moreover, even the information of stocks is partial, as the questionnaire focuses on

⁸ These were: IOM, 2019, Migration in Nigeria: A Country Profile; United Nations Nigeria, 2023, Internal migration trend in Nigeria; NBS, 2022 and 2023, Awareness and perception of intending and returned migrants on the dangers of irregular migration

movements in the last five years only, thus underestimating the size of diaspora. In the case of Senegal, the 2023 census data estimate that 0.7% of the population has emigrated in the past five years. In comparison, the UN DESA 2020 data indicate that approximately 4% of the Senegalese population resides abroad. This percentage is still very low compared to the estimation of the Observatory of the Senegalese Diaspora, according to whom Senegalese emigration would involve over 20% of the country's population (EnQuete+, 2024).

Another weakness of the Senegalese census data on migration is that the regions of departure are identified, but not the regions of origin. This limits the possibility of thoroughly studying the well-known phenomenon of migration by stages, where people usually move from rural areas to urban centres, and from there to foreign countries. To partially compensate for this, we looked at the distribution of migration aspirations across Senegalese regions as reported in the 2025 Afrobarometer (Diagne 2025), which also provides some relevant details on other socio-economic conditions of aspiring migrants (Figure 10).

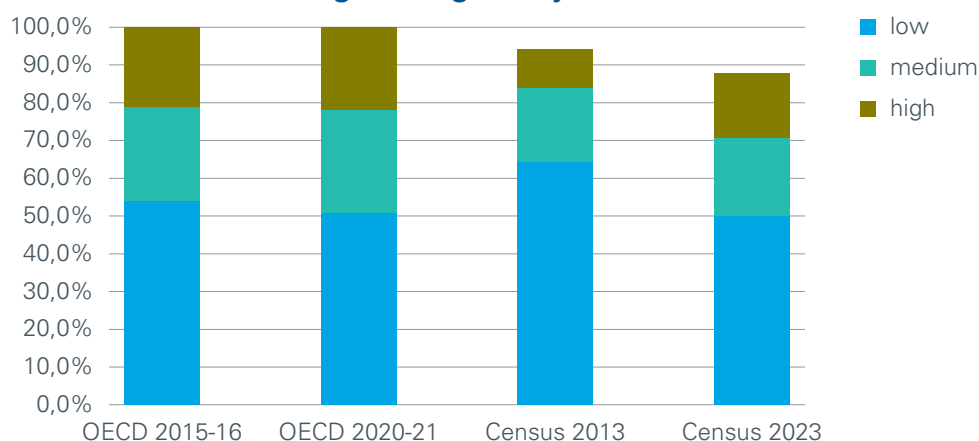
Figure 10: Migration aspiration by demographic groups



Source: Diagne 2025

Another strategy adopted to gauge the profile of potential migrants was to analyse the characteristics of existing migrants, for example in terms of education level. As seen in previous chapters, this is a crucial aspect for matching labour supply and demand, as well as for designing the most needed training initiatives. The analysis of both census data and data from the Organisation for Economic Co-operation and Development (OECD) revealed that the share of Senegalese migrants with medium to high education is increasing (Figure 11).

Figure 11: Distribution of Senegalese migrants by education level



Note: OECD data refer to Senegalese immigrants in OECD countries. Senegal census data refer to Senegalese emigrants to all countries. The Senegalese censuses allowed to register a “no answer” option, hence the percentages do not sum up to 100.

Source: own elaboration based on Senegal census data 2013 and 2023, and OECD data 2015-16 and 2020-21

2.1.5 Recommendations for policy

It is well recognised that successful labour mobility partnerships should promote a triple win: for the country of origin, the country of destination, and the migrant. The use of national data is of utmost importance to provide a balanced base of evidence, as a foundation for policy decision-making. The JRC’s experience in using national data for analysing labour migration opportunities between Nigeria, Senegal and the EU points to several recommendations for both the EU and partner countries. Building on the validated findings of the JRC studies on Nigeria and Senegal, the recommendations in this chapter represent a synthesis of the lessons learned and best practices identified in those contexts.

- **Plan for sufficient time and adequate capacity to fully leverage national data for policy decision-making.** The JRC’s experience shows that accessing and analysing national data sources is a time-consuming process. First, much of this data is not publicly available: access needs to be granted by the competent authority

based on an agreed purpose for the use of the data. Second, using national data entails understanding the specificities of data collection and metadata, for each dataset. Therefore, to ensure that the selection of sectors and occupations for labour mobility schemes is evidence-based, it is crucial to engage researchers in the policymaking process from the outset. Additionally, the analysis of national data is significantly enhanced by collaboration with national experts, who provide a nuanced understanding of country-specific dynamics and facilitate the integration of qualitative insights with quantitative analysis.

- **Encourage adherence to international standards and use of international classifications.** International standards and methodologies for labour market data, such as those established by the ILO and the OECD, facilitate comparability and harmonisation of data across countries. The EU could play a supporting role in this increasing uptake of international standards. Moreover, countries of origin and destination are encouraged to use international classifications, including ISIC for sectors and ISCO for occupations, in their data collection efforts. This allows the comparison of sector and occupation data ‘at home’ with the needs of the EU labour market or other destination countries. For the purpose of defining labour migration schemes and training programmes, accessing more granular information by occupation is especially important as it can help better identify where the highest potential for cooperation with countries of destination lies, and facilitate matching between potential supply and demand. The ISCO classification is structured over four levels, providing detailed descriptions of each four-digit level occupation and a comprehensive hierarchy that facilitates mapping at broader aggregations. Moreover, the flexibility of ISIC and ISCO enables analysis at a more granular level of detail in either direction, for instance by showing the sub-sectors where workers are mostly clustered, or, conversely, by identifying the most important occupations employed in a given sector under any broad category of occupation.
- **Support the establishment of competence frameworks, and the analysis of comparability** between national and EU competence frameworks to facilitate skill recognition and hence labour mobility. In the absence of a defined competences framework (for some origin countries) and comparability analysis, **consider using ISCO and ESCO information as a starting point to agree on a common definition of skills relevant for labour mobility.** While skills defined by ESCO for a given occupation might differ from those available in countries of origin, the link with ISCO can still provide a broad picture of the skill set under discussion. Once differences and skill gaps are identified, this approach can facilitate the design of specific training programmes based on a shared understanding of which skills are needed and how they are defined. This could be particularly important when it comes to very specific labour market needs at destination and, ultimately, the requirements of companies interested in hiring foreign workers.
- **Collect more migrant and returnee data, also leveraging existing surveys.** In countries of origin, national registries can be set up to collect data on prospective migrants, current migrants and returnees, and a dedicated migration module with a representative sample can be inserted in household surveys to provide

comprehensive information on current and past migrants. This would help better understand migration patterns and intentions, and inform evidence-based policies, such as those related to access to economic opportunities for migrant groups. Data collected could be expanded from basic characteristics (such as sex, destination/return country and area of origin) to include educational attainment, technical skills, and work experience in origin and destination countries. For returnees, intentions to stay in the origin country and labour market aspirations could also be surveyed. In the EU, national labour force surveys could be particularly valuable to determine the occupations of migrants in the EU by individual nationality. This would provide more granular insights than the current Eurostat LFS data, which only reports by region of origin. This could be particularly useful in identifying the profiles of potential migrants under labour mobility schemes, as the characteristics of current migrants can inform predictions about future migrant profiles. Moreover, at the EU level, it is recommended to augment the existing survey data on “reason” for migration by collecting additional information on “entry status/visa type” and migrants’ intentions regarding the length of stay at their destination (permanent, temporary or uncertain), both prior to migration and at the time of the survey. The integration of these data points would provide a more comprehensive understanding of migrants’ motivations and intentions, as well as the factors that influence their experiences at their destination.

- **Harnessing the knowledge of diaspora communities.** This could provide valuable qualitative insights into the main sectors and occupations of migrants in the EU. Although our attempt to tap into the Nigerian diaspora was unsuccessful due to limitations in the National Diaspora Commission’s database and a lack of response from contacted organisations, further efforts to engage with diaspora communities could prove fruitful.
- **Invest in analysing labour market needs and skill anticipation in countries of origin.** Reliable data on labour market and skill needs in countries of origin are often missing, hindering the design of training and mobility programmes with an adequate level of detail. Surveys of employers and associations could provide essential information on emerging skills needs and shortages, which could be combined with findings from AI applications (often partial/ skewed towards highly skilled profiles) to gain a more comprehensive understanding of labour market trends.

ANNEX

Table 5: Example of hierarchy of occupations – top twenty at ISCO four digits – Nigeria

Broad	ISCO lev 2	ISCO lev 2 label	ISCO lev 4	ISCO lev 4 label	Total
Services and sales workers	52	Sales Workers	5211	Stall and Market Salespersons	22.12%
Skilled agricultural forestry and fishery workers	61	Market-oriented Skilled Agricultural Workers	6111	Field Crop and Vegetable Growers	12.31%
Skilled agricultural forestry and fishery workers	61	Market-oriented Skilled Agricultural Workers	6114	Mixed Crop Growers	9.92%
Craft and related trades workers	75	Food Processing, Woodworking, Garment and Other Craft and Related Trades Workers	7531	Tailors, Dressmakers, Furriers and Hatters	5.44%
Services and sales workers	52	Sales Workers	5212	Street Food Salespersons	4.78%
Elementary occupations	94	Food Preparation Assistants	9411	Fast Food Preparers	3.29%
Skilled agricultural forestry and fishery workers	61	Market-oriented Skilled Agricultural Workers	6121	Livestock and Dairy Producers	2.71%
Skilled agricultural forestry and fishery workers	61	Market-oriented Skilled Agricultural Workers	6130	Mixed Crop and Animal Producers	2.60%
Plant and machine operators and assemblers	83	Drivers and Mobile Plant Operators	8321	Motorcycle Drivers	2.31%
Services and sales workers	51	Personal Services Workers	5141	Hairdressers	1.97%
Professionals	23	Teaching Professionals	2341	Primary School Teachers	1.61%
Craft and related trades workers	72	Metal, Machinery and Related Trades Workers	7231	Motor Vehicle Mechanics and Repairers	1.53%
Elementary occupations	92	Agricultural, Forestry and Fishery Labourers	9211	Crop Farm Labourers	1.46%

Broad	ISCO lev 2	ISCO lev 2 label	ISCO lev 4	ISCO lev 4 label	Total
Plant and machine operators and assemblers	83	Drivers and Mobile Plant Operators	8322	Car, Taxi and Van Drivers	1.06%
Plant and machine operators and assemblers	81	Stationary Plant and Machine Operators	8160	Food and Related Products Machine Operators	0.94%
Services and sales workers	52	Sales Workers	5221	Shopkeepers	0.90%
Craft and related trades workers	71	Building and Related Trades Workers (excluding Electricians)	7112	Bricklayers and Related Workers	0.70%
Services and sales workers	54	Protective Services Workers	5414	Security Guards	0.68%
Services and sales workers	52	Sales Workers	5243	Door-to-door Salespersons	0.68%
Professionals	23	Teaching Professionals	2330	Secondary Education Teachers	0.67%

Source: JRC 2024a

Table 6: Summary table of possible cooperation modalities on human capital development and migration – Nigeria

Sector	Occupation	Education level	Population groups	Nigerian geographical areas	Cooperation
Agriculture	Agricultural labourers, Farmworkers	Low	Men, Youth	North	Up- and re-skilling
Construction	Construction workers, Bricklayers and related workers	Low Medium	Men, Youth	South (esp. South East)	Global Skill Partnership
Hospitality (accommodation and food services)	Food preparation assistant, Personal service workers	Low	Women, Youth	All	Up- and re-skilling
ICT	ICT technicians and professionals	High	Youth	South	Global Skill Partnership

Sector	Occupation	Education level	Population groups	Nigerian geographical areas	Cooperation
Manufacturing	Metal and machinery workers	Medium	Men	South (esp. south west)	Global Skill Partnership
Transport and storage	Drivers and vehicles operators	Low Medium	Men	South	Global Skill Partnership
Wholesale and retail	Sales workers, Stall and Market and Street Food salespersons	Low Medium	Women, Youth	All	Up- and re-skilling

Source: JRC 2024a

Figure 12: Complete list of Skills, Competences and Knowledge for Software developers (2514.2) defined by ESCO

Essential Skills and Competences

analyse software specifications	create flowchart diagram	debug software
define technical requirements	develop automated migration methods	
develop software prototype	identify customer requirements	
interpret technical requirements	manage engineering project	
perform scientific research	use an application-specific interface	
use software design patterns	use software libraries	
use technical drawing software	utilise computer-aided software engineering tools	

Essential Knowledge

ICT debugging tools	computer programming	engineering principles
engineering processes	integrated development environment software	
project management	technical drawings	
tools for software configuration management	web services	

Optional Skills and Competences

adapt to changes in technological development plans
collect customer feedback on applications design user interface
develop creative ideas do cloud refactoring integrate system components
migrate existing data use automatic programming use concurrent programming
use functional programming use logic programming
use object-oriented programming use query languages utilise machine learning

Optional Knowledge

ABAP AJAX APL ASP.NET Ajax Framework Ansible
Apache Maven Apache Tomcat Assembly (computer programming) C#
C++ COBOL CoffeeScript Common Lisp Drupal
Eclipse (integrated development environment software) Erlang Groovy
Haskell IBM WebSphere ICT security legislation Internet of Things
Java (computer programming) JavaScript JavaScript Framework
Jenkins (tools for software configuration management) KDevelop Lisp
MATLAB ML (computer programming) Microsoft Visual C++ NoSQL
Objective-C OpenEdge Advanced Business Language
Oracle Application Development Framework PHP
Pascal (computer programming) Perl Prolog (computer programming)
Puppet (tools for software configuration management) Python (computer programming)
R Ruby (computer programming) SAP R3 SAS language SPARK
SQL STAF Salt (tools for software configuration management) Scala
Scratch (computer programming) Smalltalk (computer programming)
Swift (computer programming) TypeScript VBScript Visual Basic
WordPress World Wide Web Consortium standards Xcode
blockchain openness blockchain platforms cyber attack counter-measures
data visualisation software defence standard procedures
object-oriented modelling screen reader smart contract software anomalies
software frameworks trading software

Source: European Commission 2024

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2.2 Sustainability of the skills partnerships between the origin and destination countries of migration in Lithuania, Italy and Germany

Vidmantas Tūtlys, Lina Vaitkutė, Ida Kristina Kühn, Andreas Saniter, Francesco Vittori, Paola Dusi, Angelica Progetti, Ivan Toscano

2.2.1 Introduction

Transnational skills and mobility partnerships are aiming “to share the benefits of migration through a modality that is both defined and supported by the involved partners” (European Migration Network, 2022). Skills partnerships can also involve long-term investments from the private actors in human capital (Van de Pas, Hinlopen 2020). The European Commission’s sustainable model of skills mobility partnerships is based on the principles of: 1) the individualisation of skills requirements when supporting the integration of migrant workers by providing individualised training and skills formation for them; 2) complying with sectoral requirements for skills when designing recruitment and training measures; 3) long-term investment in skills formation of the countries involved; and 4) long-term partnerships with a joint approach, sharing the costs and benefits (European Commission, 2020). However, there is a lack of evidence as to how these principles of sustainability are executed and maintained in real cases of skills partnerships, and what the implications are for the migrant workers and stakeholders involved, in the countries of origin and destination. This article seeks to explore the potential of skills partnerships to achieve sustainability, both in the area of skills matching in the labour market, and in the development of migrant workers’ skills.

Considering the above, this study investigates the following research questions:

- How do skills partnerships mitigate skills shortages in destination countries and unemployment in origin countries?
- How do skills partnerships enhance the skills development of migrant workers (in destination countries) and youth (in origin countries)?
- How do skills partnerships align with economic, educational, employment and migration policies?

This article presents an analysis of the three cases of skills partnerships identified when conducting a research study on dealing with skill mismatches in the framework of Horizon Europe research project Skills4Justice (<https://www.skills4justice.eu>).

The research covers three countries of destination (Lithuania, Italy, Germany) and four countries of origin (Egypt, Tunisia, Morocco, Uzbekistan).

The applied research methods used include a literature review, content analysis of the policy documents, and case studies of indicated skills partnerships including interviews and focus groups with involved stakeholders. The article reveals how the selected skills partnerships are targeting the skills shortages of enterprises in the destination countries

and providing solutions for youth unemployment problems in the countries of origin. It considers the training opportunities these skills partnerships create for young people in the countries of origin and how accessible these training opportunities actually are. The research also identifies the sustainability factors and risks of these skills partnerships related to the employment of trained migrant workers. The article also sheds light on how the applied approaches of training and competence assessment contribute to enhancing the skills development of migrant workers and empower them to achieve employment and social integration. Finally, the article discusses how these skills partnerships are aligned with the economic, employment and education policies of the involved countries of origin and destination, and considers implications for the achievement of related policy goals.

2.2.2 Definition, principles and factors of the sustainability of bottom-up skills partnerships involving migrant workers

Looking into different concepts of skills partnerships, several key features can be distinguished related to the mitigation of skills shortages in the destination countries, and structural unemployment in the countries of origin (European Commission, 2020):

1. Skills partnerships are based on the skills needs and requirements in the economic sectors of the destination countries. Skills needs and shortages in the destination countries, which for different reasons cannot be satisfied by the internal supply of skills in their own labour markets, create interest among employers in these countries to establish skills partnerships with the countries of origin, or at least to take an active part in such partnerships (Acosta et al, 2025; Clemens et al, 2019). From the origin countries' point of view, alignment of skills partnerships with the skills needs of their economies could also be a highly important sustainability factor for these partnerships enabled by reciprocal benefits (Di Salvo, 2022). For example, when a country of origin has a large supply of young people, alignment and orientation of skills partnerships to satisfy coinciding skills needs brings benefits for enterprises in all involved countries. Nevertheless, bottom-up skills partnerships initiated by stakeholders in the destination countries obviously create a high risk of brain drain for the origin countries. Subsequently, the brain drain exacerbates skills shortages in different sectors of economy. When bottom-up skills partnerships are driven and dominated only by the economic interests of labour market actors in the countries involved, these partnerships may overlook the interests and needs of the migrant workers, and contribute to violations of their fundamental human rights.
2. Adopting an individualised/personalised approach to skills formation of students and migrant workers, alongside the enterprise-oriented recruitment of migrant workers and development of human capital after their employment, enables smooth and efficient training and employment processes supported by the coinciding interests of companies and migrant workers (Clemens et al, 2019; Schneider, 2023). For example, the smooth and fair recognition of skills and competencies of migrant workers and students acquired through different pathways in their origin countries

can help reduce the scope and duration of training required for employment, while also mitigating the risks of overqualification and underutilisation of migrant workers' human capital.

3. Long-term investment in skills formation in both the origin and destination countries is one of the key factors supporting the sustainability of skills partnerships. In particular, long-term and sustainable investment in skills formation in origin countries is necessary to ensure that migrant workers achieve the level of work readiness required prior to their departure (Kim, 2018; Lulle et al, 2021). Such investment helps stakeholders reduce training and integration costs, and alleviates social anxiety in the destination countries regarding unskilled and low-skilled immigration. Long-term investment in skills formation in origin countries also delivers key benefits of partnerships for local stakeholders in terms of the availability of adequately skilled workers and expanding access to high-quality education and training opportunities for young people and enterprises (Clemens et al, 2019; Ibourk 2020).
4. Long-term partnerships based on a joint approach and the sharing of costs and benefits are essential as skills formation and development of human capital are continuing, long-term processes which yield returns only over the long-term (Brown et al 2020). For these reasons sustainable skills partnerships require the engagement of partners and stakeholders who share long-term visions and strategies for activities and human resource development. The engagement of corporate/company, sectoral, and national stakeholders is an important factor for effectiveness and sustainability of skills partnerships (Acosta et al, 2025). The institutional diversity of stakeholders engaged in skills partnerships in both the origin and destination countries, and reliance of these partnerships on well-established institutional settings and formats of skills formation, can help mobilise resources and political support for these partnerships (Clemens et al, 2019).

One of the central issues in the design and implementation of partnerships involving the training of migrant workers is the distribution/sharing of responsibilities for investment in skills formation and training of migrant workers among participating stakeholders. According to human capital theory, this distribution of responsibility should be proportional to the received returns of investment in the human capital of the migrant learners and workers (Blair, 2011; Winterton and Cafferkey, 2019). From this perspective, the beneficiaries of investment in skills and the human capital of migrant workers within skills partnerships include employers in the destination country, migrant workers, their families, and education and training providers in both the origin and destination countries.

The transparent and sustainable sharing of responsibility for investment in the employment and training of migrant workers within skills partnerships can reduce the harm of losing skilled workers in origin countries by taking into consideration the interests of stakeholders from those countries. Co-investment in vocational training and skills development in the origin countries generates benefits for these countries by improving local capacities and quality of training provision. This is demonstrated by the skills partnerships cases analysed in this article. Moreover, transparent co-investment in training and skills formation in origin countries also facilitates a positive impact of

migration on investment in human capital for both local and migrant workers in the origin countries (Chowdhury, 2014; Wickham, 2017). In this way, skills partnerships can bring clarity and transparency to the highly chaotic and diverse relationships between employment, migration and human capital development. Skills partnerships provide a clearer structure to the spatial-temporal outcomes of the acquisition, recognition and deployment/utilisation of human capital, including adjustments required when workers return to their countries of origin (Lulle et al 2021). Skills partnerships also support the integration of migrant workers and the quality of their working lives by providing training and work experience for the 'host country's' human capital (Zwysen, 2019)

However, employer-led skills partnerships are primarily focused on the employment of migrant workers in specific jobs and workplaces. This can lead to the narrowing of the scope of skills formation to the functional skills and competences required for particular workplaces, limiting the agency of migrant workers in choosing training, skills development and employment pathways (Kim, 2018). From this perspective, skills partnerships can also be defined as systems of 'institutional' pumps and filters of the migrant human capital, driven by the human resource management and development strategies of enterprises and institutional settings of skills formation and deployment in destination countries (Boeri et al., 2012; Wickham, 2017).

The implications of labour immigration for the local working population are also a highly important consideration in exploring international skills partnerships (Cremers, 2022; Motomura, 2025). One key issue in this context is how skills partnerships affect access to skills formation and employment for the local population, especially socially vulnerable groups, who often experience various obstacles to these opportunities. One central concern is the extent to which migrant workers employed through skills partnerships complement the existing local workforce, including its vulnerable segments.

When skills partnerships are based on mutual investment in the human capital of migrant workers by all stakeholders, they create the space for mutual trust in skills formation and deployment in both the origin and destination countries. Shared investments by stakeholders from both countries create incentives for the long-term orientation of skills partnerships, while facilitating more equal distribution of the gains from these investments in terms of skilled labour for the economies involved. As a result, skills partnerships can contribute to the resolution of tensions between existing international migration frameworks – which deprive origin countries of essential workers, such as nurses and other health professionals – and sustainable development goals, including access to training, and orderly and responsible migration (Thompson and Walton-Roberts 2019).

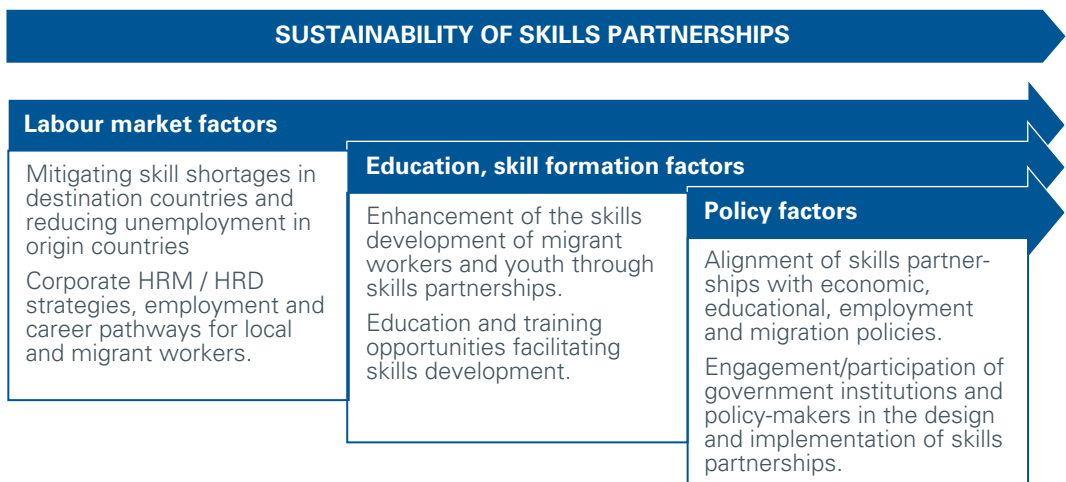
Many skills partnerships targeting the employment of migrant workers include arrangements facilitating the distribution of responsibilities and benefits between stakeholders in the origin and destination countries. Despite this, such skills partnerships still contribute to the global trend of filling labour shortages in wealthier countries with migrants from economically poorer countries (Acosta et al, 2025; Clemens, 2015; Clemens et al, 2019). Selective procedures for the search, recruitment, investment in training, and recognition of migrant worker competencies, reinforce the interests of

companies in retaining migrant workers, as well as the interests of migrant workers in remaining with the companies who trained and employed them. As a result, the process favours retention of migrant workers in destination countries, thus weakening the potential for circular migration to benefit countries of origin.

The development of skills partnerships, skills formation and employment of migrant workers largely relies on the institutional and organisational models and approaches of skills formation used in their origin and destination countries (Schneider, 2023). These partnerships draw on the range of institutional and organisational skills formation instruments available in these countries, including: processes and mechanisms for the assessment and recognition of skills, competencies and qualifications; existing practices and instruments of dual apprenticeship and work-based learning; education, training and skills formation infrastructure (e.g. practical training centres); and formal channels of partnership between Vocational Education and Training (VET) providers and employers (Acosta et al, 2025).

Referring to the discussion above, it can be presumed that the sustainability of skills partnerships involving migrant workers is determined by the balanced interaction of three major groups of factors: 1) labour market factors, especially the mitigation of skill shortages in destination countries and the reduction of unemployment in origin countries; 2) education and skills formation factors, especially enhancement of the skills development of migrant workers and youth through skills partnerships, and didactic and organisational supportive measures that facilitate skills development; and, 3) policy factors, especially the alignment of skills partnerships with economic, educational, employment and migration policies (Figure 13).

Figure 13: Sustainability factors of skills partnerships



Labour market factors help mitigate skill shortages in migrants' destination countries and reduce unemployment in their origin countries. They also affect corporate human resource management and development strategies, and the employment/career plans of local and migrant workers. Education and skill formation factors refer to the creation of, or improved access to, skills education and training opportunities for migrant workers. Lastly, policy factors include alignment of skills partnerships with economic, educational, employment and migration policies of the engaged countries, as well as engagement of policymakers in the design and implementation of these partnerships.

2.2.3 Research methodology

The selection of skills partnerships for this research is based on criteria derived from the key features of sustainable skills partnerships discussed above:

1. Skills partnership aims to solve the skills shortage in the labour market or economic sector;
2. Skills partnership includes the recruitment and skills formation of migrant workers;
3. Skills partnership involves institutions and/or stakeholders from the origin and destination countries.

A mixed-method research methodology was applied to collect data for the exploration of skills partnerships. The secondary data analysis was undertaken through a literature review and critical content analysis of relevant policy documents. Primary data were collected using qualitative research methods – semi-structured interviews and focus groups with the representatives of stakeholders and bodies involved in selected skills partnerships. Primary data collection and analysis were conducted in Italy and Lithuania. In Germany, skills partnerships were explored exclusively through secondary data analysis, because the available secondary data were sufficient to address the research questions.

Semi-structured interviews and focus groups with labour market stakeholders conducted in Lithuania and Italy contain the following topics: 1) skills mismatches and shortages targeted by the skills partnership and their reasons; 2) key interventions related to skills partnerships and the division of roles between partners; 3) problems and challenges faced in implementing and sustaining skills partnerships. Interviews with migrant workers in Italy cover the following topics: 1) reasons for participation in the training and emigration schemes suggested by partnerships; 2) content and organisation of the training and skills development activities provided; 3) satisfaction with provided training and employment conditions; 4) future career and mobility plans.

Data collection methods were selected depending on the specific conditions and requirements of research participants in each country (Table 7 in Annex), which accounts for the differences in the sets of research methods applied in different countries. In Lithuania, in the period between July and November 2024, interviews were conducted with representatives of international road freight transport associations and road freight transport sector trade unions, as well as human resource managers of road freight

transport companies. In Italy, in the period between September and November 2024, a Focus Group was organised involving VET providers, NGOs, employers' organisations and non-profit associations. Subsequently, between May and July 2025, interviews were conducted with migrant workers hired through the relevant Skills Partnership.

The research data were analysed by applying thematic analysis and, based on the findings, national reports were prepared and used for the comparative analysis.

The following section presents the skills partnerships cases examined in this study.

2.2.4 Cases of skills partnerships

This section introduces the skills partnerships cases by outlining their rationale and targeted problem, indicating the aims, explaining institutional arrangements used in the implementation of skills partnership, and outlining responsibilities and mutual benefits of stakeholders.

The analysed skills partnerships involve four countries of origin of migrants – the Arab Republic of Egypt, the Kingdom of Morocco, the Republic of Tunisia and the Republic of Uzbekistan, and three countries of destination – the Federal Republic of Germany, the Italian Republic and the Republic of Lithuania. The socio-demographic and labour market contexts in both the origin and destination countries generally create favourable conditions for the establishment of sustainable skills partnerships. The labour markets of Egypt, Morocco, Tunisia and Uzbekistan are characterised by comparatively high youth unemployment rates and significant levels of emigration (Table 8 in Annex). Germany, Italy and Lithuania are characterised by high employment rates, low unemployment, significant job vacancy rates and high immigration indicators (Table 9 in Annex). Furthermore, migrant diasporas from the selected origin countries are more or less established in the destination countries (Table 10 in Annex).

Skills partnership between the road freight transport associations of Lithuania and Uzbekistan

Over recent decades, the international road freight transport sector in Lithuania has experienced highly dynamic growth, with Lithuanian companies taking every significant share of the EU market of these services. In 2023, while most EU countries recorded a decline in the total volume of road freight transport, Lithuania recorded the highest growth (+17.3%) (Official Statistics Portal, 2025). In the first half of 2024, the sector included 6,089 transport companies and entities with the EU licence for goods transport operating more than 82,000 of licensed trucks (Šilobritis, 2024). Notwithstanding the current challenges affecting the development of this sector brought by geopolitical tensions and the EU Mobility Package (which imposes stricter requirements on transport companies regarding the welfare of drivers and mandates regular returns of trucks and drivers to the registration country), a shortage of drivers remains the key challenge for development. The shortage of drivers in road freight transport in Lithuania is expected

to increase from 12% in 2024 to 18% by 2028 (Šilobritis, 2024). The interviewed representatives of road freight companies and sectoral organisations also link the persistent shortage of international road freight drivers to an exponential growth in freight volumes over the past decade. This relationship was noted by a representative of the sectoral employers' association:

“Looking more closely at the labour shortage in the transportation sector, it is obvious that this is related to the extremely rapid, and even disproportionate, unbalanced growth of this sector, when this sector now generates 12-14% of GDP.” (Respondent IT1, representative of the sectoral employers' organisation)

From the point of view of employers' organisations, the disproportionately high demand for drivers cannot be met by the shrinking supply of local human resources, making the recruitment of third-country nationals the only feasible solution for sustaining the growth and competitiveness of the sector's enterprises. This is reflected in an interview with a representative of the sectoral employers' organisation:

“According to our calculations, currently about 88,000 international road transport drivers work in Lithuania, of whom only about 10,000 are citizens of Lithuania. This, in our opinion, is a natural situation, because demographic indicators, the size of employed population in the market and changes in labour supply just do not allow for higher numbers. We have 1,400,000 employed persons, therefore 10,000 is about a tenth of the total workforce. When politicians recommend that we should retrain and employ Lithuanian citizens, we ask: should we aim to train and employ every second citizen as a driver?” (Respondent IT2, representative of the sectoral employers' organisation)

This solution to addressing labour shortages conflicts both with national economic policy priorities to attract high-skilled professionals to high-value-added economic sectors as a driver of economic development, and with the conservative and restrictive immigration policy adopted in the context of geopolitical tensions in the neighbourhood. The Russo-Ukrainian war and other geopolitical tensions in eastern Europe and the Middle East have contributed to a turn towards more restrictive immigration policies, especially with regard to origin countries maintaining intensive socioeconomic partnerships and cooperation with the Russian Federation and the Republic of Belarus, such as Central and South Asian countries.

Nevertheless, enterprises and sectoral organisations are seeking to solve the skilled driver shortage by directly cooperating with migration origin countries, especially in Central Asia. Uzbekistan has experienced dynamic road freight transport sector growth, driven by overall economic growth in recent years leading to a shortage of skilled drivers. Despite the country's large youth population and strong interest in acquiring a driving qualification (unlike the situation in Lithuania), Uzbekistan's VET system lacks the capacity to train drivers for international road freight transport. This situation creates opportunities for cooperation with partners from other countries interested in investing in VET provision in Uzbekistan to address the sector's shortage of skilled workers. The Association of Road Freight Transport of Uzbekistan, in cooperation with the Lithuanian Road Transport

Association (Linava), established a specialised training centre for road freight drivers in Uzbekistan in 2023 (TransInfo, 2022). Lithuanian experts provide training curricula and learning materials, train local teachers, and conduct theoretical and practical training. Lithuanian partners have also provided ICT tools, trucks for training, and other materials, as well as advisory support in developing training facilities according to EU standards. Training drivers according to EU requirements, and issuing the corresponding certificates, at this centre is far less costly than training in EU countries, making it more accessible for local young people. The training course lasts a minimum of two weeks and covers training for ADR (Accord Dangereux Routier), MAP-21 (Moving Ahead for Progress in the 21st Century Act) certificates (provided locally) and Code 95 certificates (issued following an examination in Lithuania). Upon completing training, graduates have a choice of being employed by the local transport company or seeking employment in Lithuania or another EU country. Cooperation agreements with transport sector associations in the EU help prevent cases of exploitation and risks of illegal employment when moving to work in the EU. However, the further operation of this training centre was soon impeded and discontinued by Lithuania's restrictive immigration policy, as well as the high risk of losing EU certified drivers from Uzbekistan to competitors in Germany and other western European countries.

Skills partnership between Italian and Egyptian VET stakeholders in developing skills of vulnerable young people in Egypt

The shortage of skilled workers with vocational qualifications in the manufacturing sector in Italy was one of the key reasons for the establishment of this partnership. Another reason was youth unemployment in Egypt, contributing to irregular emigration to European countries. This skills partnership seeks to establish and develop vocational training opportunities in Italian companies for socially vulnerable youth in Egypt, thereby addressing both irregular migration to this EU country and the socio-cultural marginalisation of incoming people.

The partnership involves Italy's national employers' organisation, Confindustria, SBE-VARVIT Spa, the CNOS-FAP federation, and the 'Don Bosco' vocational schools in Cairo and Alexandria (Egypt) in recruiting VET students/graduates, assessing their competencies, arranging apprenticeships in Italian companies and subsequent employment. Thanks to recent regulatory innovations, this opportunity can be implemented even outside the national immigration quota system, in cases where individuals requesting a working visa hold a VET or secondary school diploma that is officially recognised. In fact, the Decreto Legge 10 marzo 2023, n. 20 (converted into Law 5 May 2023, n. 50), also known as the Decreto Cutro, establishes specific provisions for legal entry flows of foreign workers into Italy (Gazzetta Ufficiale Della Repubblica Italiana, 2023). Article 3 of the decree introduces so-called 'extra-quota' channels. These are additional visa quotas reserved for third-country nationals who have completed professionally profiled training programmes and language courses approved by the Ministry of Labour and Social Policy. These provisions allow individuals to apply for a work visa even if the initial quota limits have been reached. There are also other active skills

partnerships in place between the Italian Government and foreign countries (Sant Egidio, 2024).

An Italian company helps assess candidates' competencies and arranges apprenticeship courses to address any skills gaps, leading to subsequent employment. The NGO VET providers federation, CNOS-FAP, together with their training centres, take care of the search and recruitment of candidates, evaluation and comparison of their VET curricula and skills portfolios, provision of theoretical training, and pre-and post-arrival guidance for young people from Egypt. The key direct and immediate beneficiaries of this partnership are young students and young adults. As thoroughly discussed during the focus group, Italian companies face significant challenges in securing qualified labour, particularly amid an increasing demand for emerging skills, especially in the industrial and manufacturing sectors. Representatives of Italian employer organisations emphasised the importance of providing training opportunities to migrant workers in their countries of origin. The skills partnership developed by the Don Bosco VET centres located in both Cairo and Alexandria (Egypt), together with the CNOS-FAP federation and Italian enterprises, aims to meet Italy's demand for qualified technicians in the manufacturing and industry sectors. A focus group participant representing an employers' organisation emphasised the benefit of exporting high-quality VET provision to origin countries for the recruitment of skilled workers from these countries:

“The Salesians [founded by Don Bosco] are the most structured. However, that is the point we tried to convey to the Egyptian government; they see Don Bosco as a sort of excellence they strive to emulate. They attempted to do so through FEIG, the Egyptian Confederation of Industry, which has established seven academies with substantial funding across Egypt, inspired by the work of Don Bosco. We have also attempted to establish connections with these academies. It is precisely the Salesians' method that has somehow been accepted and further propagated. It will take more time there; it is not immediate.” (IF1, representative of employers' organisation in the focus group)

In interviews, focus group participants from the employers' organisation stressed the importance of disseminating advanced VET provision to third countries to create the space for future skills partnerships. This process is highly complex, time consuming and resource-intensive. Therefore, the benefits of the skills partnership for the skill formation ecosystem and stakeholders in origin countries appear more long-term, focusing on improving the image and attractiveness of VET, as well as addressing youth unemployment issues.

THAMM Plus project (Towards a Holistic Approach to Labour Migration Governance and Labour Mobility in North Africa)

The THAMM Plus project (2023-2027) addresses skills shortages faced by German companies – and high youth unemployment rates in Egypt, Morocco and Tunisia. It aims to counteract irregular migration between northern Africa and Europe by expanding

employment opportunities for young people from northern Africa. Relevant sectors for apprenticeships and skilled workers are electrical trade, plumbing, heating, air conditioning technology, information technology (IT), metal industry and logistics.

The THAMM Plus project focuses on implementing fair and safe recruitment of trainees and skilled workers from Egypt, Morocco, and Tunisia in the context of development aid and needs-oriented labour migration between North Africa and Europe. The project also targets sustainability by strengthening local (German) employment authorities so that the developed infrastructure can be maintained after the end of the project (German Agency for International Cooperation; *Deutsche Gesellschaft für Internationale Zusammenarbeit*, GIZ, 2024a). THAMM Plus is funded by the Federal Ministry for Economic Cooperation and Development (*Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung*, BMW) and co-financed by the EU. GIZ coordinates the project activities in cooperation with the Federal Employment Agency (*Bundesagentur für Arbeit*, BA).

Egypt is involved through the Ministry of Foreign Affairs, Emigration and Egyptian Expatriates (MoFAEEEE); Morocco is represented by the Ministry of Economic Inclusion, Small Business, Employment and Skills (MIEPEEC) as well as the National Agency for the Promotion of Employment and Competencies (ANAPEC); and Tunisia participates with the Ministry of Employment and Vocational Training (MEFP) and the National Agency for Employment and Self-employment (ANETI) (GIZ, 2024b).

GIZ is responsible for process design and support, e.g. by identifying suitable candidates based on a set of mandatory requirements according to the Skilled Immigration Act (*Fachkräfteeinwanderungsgesetz*, FEG, 2024). Moreover, the organisation provides guidance for companies and assures the fulfilment of employer-related requirements, which aim at securing livelihood and formal integration (visa, recognition of learning achievements) of migrants (the ‘employer pays’ principle). In certain cases, GIZ provides professional development measures for skilled workers.

In its role as project partner, the Federal Employment Agency (BA) coordinates employers’ demands according to the placement of applicants who wish to migrate to Germany for apprenticeship or employment. According to the BA, partner countries benefit from a ‘triple-win’ effect, i.e. improved employment opportunities, better education prospects for labour migrants, and the reduction of skill shortages in the destination countries. Countries of origin would “offer new job prospects and benefit from remittances sent home as trainees and skilled workers, as well as from their new skills and experience” (BA, 2025). The benefit for partner countries is described through long-term implementation of training content in selected apprenticeship programmes at a local level as well as in the development of holistic competence-based assessment measures to enable visualisation of abilities. As another benefit, the BA mentions institutional networks between origin and destination countries, which is not further specified (ibid.).

2.2.5 Findings of comparative analysis of skills partnerships

This section presents the key findings of comparative analysis of the skills partnerships in relation to research questions outlined above.

Mitigating skills shortages in destination countries and unemployment in origin countries through skills partnerships

Skills partnership between the road freight transport associations of Lithuania and Uzbekistan targeted shortages in international road freight drivers in both countries, albeit for different reasons. In Lithuania, the occupation lacks attractiveness among young people and there is a shortage of available candidates, while in Uzbekistan capacities of VET providers to deliver relevant training and qualifications are insufficient (TransInfo, 2022). Therefore, this partnership strongly focused on meeting the skills needs of road transport enterprises, with the training content and agenda driven by employers. Training at the established training centre was provided by trainers from the companies and followed apprenticeship principles, leading to the acquisition of qualifications recognised in the EU. This training centre was expected to supply a sufficient number of drivers with EU-compliant qualifications for transport companies in both countries, i.e. high supply of potential trainees. This partnership aimed to create a pool of skilled drivers in Uzbekistan who could work for enterprises of both countries.

The skills partnership between the Italian and Egyptian stakeholders explicitly targets the training and employment of young people from Egypt facing employment difficulties in their country. The partnership involves adjusting curricula between employers in Italy and VET providers in Egypt. The Italian companies provide work-based learning whose content is based on the comparison and analysis of the skill profiles of Egyptian VET students and the skill requirements/profiles of companies. The skills partnership aims to enhance the professional skills of incoming VET graduates from Egypt, while also providing opportunities for career advancement within the company and improving living conditions. The sustainability of this partnership is enhanced by the attractiveness of the training and employment opportunities at Italian companies for the VET graduates from Egypt in the context of challenging labour market conditions for young people in Egypt in recent years. On-the-job training of Egyptian workers during their internship year ensures complete acquisition of the skills required by the company. Given the strong demand for labour, many participants are likely to consider the opportunity of remaining in Italy with a regular employment contract once the paid internship period is over. However, it will be necessary to verify, after the first year, how many trainees are retained by the participating companies.

Several interviewees openly stated that, given the favourable working, living, and inclusion conditions offered by the company hosting training internship, they have an intention to stay and work in Italy beyond the expiration of this initial employment contract:

“Until now I will stay here [...] I decided this when I had arrived here. 2-3 months have passed... I’ve made this decision...” (Respondent I_1, migrant worker)

“Yes, but when I have a family (at this point we asked if he had a girlfriend) she lives in Egypt, and you need a lot of money to live.” (Respondent I_2, migrant worker)

This shows the desire of migrant workers to reunite with their family members once they obtain a formal employment contract that is more stable and better paid than the initial internship position in the company. The participants of these internship schemes undergo continuous assessment throughout the internship period, followed by a final on-the-job evaluation. The final assessment serves as the basis for the company’s proposal to offer continued employment to those who have successfully met the required performance and skill standards.

In the case of the partnership of the THAMM Plus project in Germany, approximately 10% of the population of the origin countries live abroad, aiming to improve their employment prospects, either due to high population growth or the misfit of many professional qualifications and needs in their home countries’ labour markets (GIZ, 2024b). The North African partner countries involved in this project are expected to benefit from knowledge transfer by returning migrants and the commitment of the diaspora (ibid.). Partnerships with German employers, which might serve to create sustainable qualification and labour mobility pathways between the countries, should lead to a “development- and needs-oriented migration governance in the long term” (GIZ, 2024b). The key opportunity for origin countries within this partnership lies in the provision of safe, regular and clear perspectives, and guidance support for migrant workers.

Moreover, the training curricula developed through this partnership contribute to the provision of high-quality vocational education and training (VET) for future migrants and individuals seeking to enter the local labour market. Germany has a long-standing tradition of involving multiple partners in (dual) VET and has the potential to support institutions in partner countries to better coordinate labour market needs and training structures. A holistic, and not purely competency-based, (in the Anglo Saxonian understanding) assessment of learning strengthens the trust of both the German employers and local enterprises in the origin countries in qualifications awarded to migrant workers. This, in turn, fosters their employment in Germany, as well as in the origin countries. In this way the project also improves the image of VET in the migration origin countries.

Enhancement of the skills development of migrant workers and youth through skills partnerships. Didactic and organisational support facilitating skills development

In the case of skills partnerships between the road freight transport sectors of Lithuania and Uzbekistan, key didactic approaches in training migrant candidates from Uzbekistan by road freight transport companies include initial theoretical and basic practical training at the training centre in the origin country. This is followed by on-the-job training upon

arrival in Lithuania, and subsequent assessment of competences and awarding of certificates. Companies apply on-the-job training to integrate new drivers from third countries. Such training takes place exclusively within the company and ends with an assessment of competencies.

“We have developed our own apprenticeship in the company for the training of drivers, transport managers, forwarders and other employees. We apply this system to both ‘local’ employees and foreigners who want to get a job in the company. Training begins with theoretical training and at this stage, third-country nationals who have passed the preliminary selection study in their own countries using distance learning tools. After this stage, candidates who arrive at the company perform various auxiliary tasks and learn to work in an assisted mode in the company’s garages and office departments. In the third stage, they move on to practical training in driving a truck. The entire training programme and material is prepared by the company. Competencies are also assessed in the company itself.” (Respondent IT3, HR management specialist of the road freight transport company)

In order to ensure the sustainability of training, and employment of third-country nationals, as well as the rational use of resources, theoretical training takes place in the origin country – and only after this stage does the candidate arrive in Lithuania to continue practical training in a transport company.

“Based on the experience of such apprenticeships, for the sustainable employment of third-country nationals in transport companies, it is important to properly organise their high-quality preparation for work, when theoretical training is carried out in the countries of origin, the training material is prepared in the Lithuanian company, and the training is also carried out by representatives of the Lithuanian company. After passing the theoretical exam, successful candidates can arrive in Lithuania, where practical training continues in the workplace and competences are assessed in the company. Only after passing these stages should candidates receive work permits and sign employment contracts.” (Respondent IT4, HR management specialist of the road freight transport company)

This work-based learning of the migrant workers in the road freight transport companies usually covers only the essential professional competences and is not comprehensive in terms of volume, as it is quoted by a HR manager:

“In our training centres, the candidate is initially checked, and his/her competences are assessed. Later, the candidate is trained, aiming to provide the missing competences needed to work in the EU, if his/her competence deficit is small. We do not teach from scratch, we are not a school for basic knowledge, but a competence development centre.” (Respondent IT6, HR manager of the road freight transport company)

In the case of skills partnership between the Italian and Egyptian VET stakeholders, high quality training opportunities are also created and provided to prospective migrant

workers in their home countries. The Salesian Federation of VET centres, having established and opened VET centres recognised by both the Egyptian and Italian governments⁹, through this Skills Partnership, has consolidated the training provision already available in Egypt for young students and adults, offering the opportunity to complete their training process with an advanced training experience with the Italian partner. One of the distinguishing features of this applied didactic approach is the strong emphasis on individualised support tailored to specific skills needs and requirements of the potential migrant workers. Each migrant trainee is accompanied throughout their training process by a tutor (a work colleague) who guides them in acquiring the necessary skills to perform job tasks independently, as noted by one of the interviewed workers:

“Yes, yes, I learned a lot from my boss [...] Sometimes I work alone, sometimes I have to work with him [...] Yes, because the machine is not small [...] it has a screen for the machine, a normal thing (.) like software for the machine [...] It is not the same in Egypt ... But I did a similar job, I was assembling the ovens, the machine (here) is bigger.” (Respondent I3, migrant worker)

Participating Italian companies focus not only on the development of professional skills, but also on the acquisition of transversal skills needed for easier integration into the local socio-cultural context (North-East Italy). To support this process, companies provide room and board for teachers and instructors training these skills in the areas surrounding the workplace. Although the attention to skills development is central to the structure of the skills partnership, enterprises also take care of creating training-supportive living infrastructure and conditions for migrant trainees. This includes the provision of shared housing and easy access to the city centre, such as rail transport, and communications, allowing trainees to move independently, and get to know and experience the area around their internship, as reported by interviewed workers:

“All Egyptians, Serbs, Croats [...] all foreigners who are here do not pay anything.” (Respondent I4, migrant worker)

“I eat in the company canteen. I do not pay anything, just something only on the two days of the week [when they do not work].” (Respondent I6, migrant worker)

In the case of the THAMM Plus project implemented in Germany, the choice of the organisational and didactic approaches in training migrant workers is strongly influenced by the requirements of the federal legislation on labour immigration. The evaluation report of the THAMM project, which was a pre-cursor of the THAMM Plus project implemented in 2019-2023, stated the positive effects of this project in creating clear migration pathways, which fit to the regulations of the German law (the Skilled Immigration Act) and are adopted within THAMM Plus. The reported effects of the THAMM project on competence development of involved migrants were less evident. At the same time, policy-makers were reported to have “displayed a notable shift in attitude, recognising the importance of integrating labour migration considerations into national employment strategies and vocational training programmes” (ILO, 2024). As a consequence, THAMM

⁹ <https://donboscocairo.org/about-us/history/> Retrieved 09.10.2025.

Plus continues with the elaboration of skills development structures according to needs in migration processes. The German Skilled Immigration Act provides three labour migration pathways, i.e. through recognition of skills, apprenticeships and professional experience – and is based on a chance-card. To use these options, planned legal migration to Germany needs to refer to one of these legal pathways. Planning of legal migration is implemented through attaining core requirements within the country of origin, including language courses, further education courses, and intercultural training as preparation before the migration process (GIZ, 2024a). The THAMM Plus project starts with strengthening employability at an individual level. Partner institutions from the countries of origin and Germany develop measures together for those who are interested in migration to improve job chances in the domestic market or abroad. These measures include technical qualifications, language courses and soft skills training with the focus on intercultural understanding to strengthen migration opportunities on an individual level.

Alignment of skills partnerships with economic, educational, employment and migration policies

In the case of skills partnerships between the road freight transport associations of Lithuania and Uzbekistan, the weak alignment of this partnership with the national policies of the destination country is a crucial factor of its unsustainability. While formally this initiative fits within the national economic development policy for sustaining and fostering development of the important and dynamically growing economic sector, alignment with the educational, employment and, especially, migration policies is much weaker. Public vocational education and training has not been involved in this partnership, because the after-arrival training of migrants was provided by the companies, and the partnership did not foresee any educational interventions for the development of transversal skills for socio-cultural integration of the trainees (considered as not necessary due to short periods of stay in the country of destination). The monopolisation of training for road freight transport drivers by company-based training centres limits access to this training for other local learners and jobseekers. The opportunities for local residents to obtain a driver's qualification are greatly limited by the concentration of vocational training and qualification examinations in this area by private business structures, thus significantly increasing costs for learners. This is well illustrated by the following statement of a trade union representative in an interview:

“In addition, training to obtain a driver's qualification is now largely privatised. Once there was an opportunity to study for free to obtain the DE driver category (I myself received additional categories through the Employment Service courses). Now, in order to acquire this category you need to contact companies, the exam costs 5,000 EUR at private training centres. In addition, employers require practical experience. All this further reduces the attractiveness and accessibility of the profession for local residents.” (Respondent IT7, representative of the sectoral trade union).

However, the biggest obstacle for the training and employment of third country nationals is the conflict of these skills partnerships with the conservative and restrictive immigration policy, which is not in favour of the employment of middle-and-low skilled migrant workers, especially from the former Soviet Union regions (except war refugees from Ukraine). Employers' organisations consider this conflict as a strategic obstacle for the development of the sector. From the point of view of the employers' organisation representative, the overly restrictive national immigration policy, while legitimately prioritising national security, also contradicts EU immigration policy trends favouring sustainable economic immigration:

“In this area (the employment of third-country nationals), there is a clear incompatibility of the political agenda between the EU goals and the goals of Lithuania’s national policy. (...) There is a great lack of clear national policy and guidelines on this issue – what does Lithuania, as a state, strive for? Now we are investing in the employment of third-country nationals, the EU is implementing cooperation initiatives with these countries, such as migration and skills pacts, but Lithuania’s political agenda is working in the opposite direction. The Ministry of Foreign Affairs, the Ministry of Interior, and the Ministry of Foreign Affairs claim that we do not need human resources from Central Asia, we do not need to bring in Russian-speaking people, although not all countries in Central Asia have Russian as the dominant language, for example, in Tajikistan. We understand this perfectly well; we understand the reasons for such position (national security). But what is the alternative? Where, in which countries should we invest in the search and attraction of human resources? Which countries would be safe for Lithuania in terms of finding workforce? We do not hear a clear answer to these questions.”
(Respondent IT2, representative of the sectoral employers’ organisation).

The skills partnership between the Italian and Egyptian VET stakeholders is in line with the provisions of the *Decreto-Legge n. 20/2023 (Decreto Cutro)*, which promotes extra-quota entry channels for migrant workers trained through programmes recognised by the Italian Ministry of Labour. The partnership focuses on aligning training and recruitment pathways with the specific skill needs of the manufacturing and mechanical components sectors. The Salesian training centres in Cairo and Alexandria design and deliver pre-departure vocational and language training that aligns with Italian labour market standards, ensuring that participants acquire competencies directly relevant to the needs of the Italian companies. The involvement of national policy bodies of the origin and destination countries in the design and implementation of the skills partnership also significantly contributes to its sustainability. The skills partnership entails close cooperation between the Salesian vocational training institutions in Egypt and their Italian counterparts, with coordination and oversight provided by national authorities in both countries. The collaboration with the Italian Ministry of Labour, the Embassy of Italy in Cairo, and Confindustria, as the representative body of Italian industry, supports the alignment of training profiles with national industrial priorities and the recognition of programmes under the Decreto Cutro framework. This multi-actor governance model ensures that recruitment, training, and integration processes are coherent, transparent and conducive to long-term regular migration and sustainable labour mobility pathways.

The THAMM Plus project executed in Germany pursues “a holistic approach to migration for work and vocational training” (GIZ, 2024b). The alignment of this project with the policies of the destination and origin countries is based on pursuing a ‘triple-win’ effect (for migrant worker, country of origin and destination country). The core goal of THAMM, as well as THAMM Plus, is to introduce fair and safe migration pathways. This goal was evaluated positively for THAMM (ILO, 2024) and is followed up in the THAMM Plus project. The clear focus on selected industries, in contrast to an across-the-board-approach, provides a realistic frame for the development of the sector-specific identification of job requirements and education programmes to meet the needs of local companies and companies abroad. Both projects have raised awareness in the partner countries of labour-related migration as (one) promising solution for reducing irregular migration, and have led to the developing of emerging structures to facilitate migration. The successful introduction of skill-based and sector-specific assessments would also help facilitate migration efforts as it eases recruitment. To date, institutions in the partner countries are building structures to enable legal migration. As procedures continue to be established, North African countries may gain greater confidence to demand more space or support for local VET infrastructure to mitigate brain-drain. Cross-country agreements, following Clemens (2015), may view such ambitions as a sign of the growing maturity of a healthy skills partnership and further strengthen cooperation.

2.2.6 Discussion and conclusion

A comparison of the selected cases of skills partnerships according to the suggested research questions (see Table 11 in Annex) leads to several insights into the implementation and development of skills partnerships that involve migration.

The extent to which skills partnerships focus on addressing skills shortages can shape how they enhance and develop the skills of migrant workers, and how they align with policy and legal frameworks. The skills partnership between employers’ bodies of road freight transport in Lithuania and Uzbekistan seeks mainly to solve skills shortages in the enterprises of both countries, while strictly following only corporate interests. This implies a rather narrow focus on providing training in professional competencies leading to the award of a vocational qualification, largely leaving behind the provision of transversal skills and personal development needed for the sociocultural integration of migrant learners. This narrow focus on the interests of companies also implies exclusive involvement of employers’ bodies and enterprises in both origin and destination countries in implementing the skills partnership, but excludes policy-makers and other social partners. This significantly contributes to the misalignment of the skills partnership with national policies on education, employment and migration, provoking subsequent challenges in ensuring the partnership’s continuity and sustainability. In contrast, the other two skills partnerships explicitly target broader goals which reflect both corporate and societal interests. The skills partnerships implemented by the Italian and German stakeholders explicitly target broader goals related to public, socioeconomic issues in the countries of origin, such as youth unemployment and the low quality of accessible

skills formation. These partnerships also aim to train and recruit the excessive (surplus) workforce of the origin countries.

Work-based learning is a central approach for skills formation in the selected skills partnerships. Again, the potential of this approach in these partnerships is largely defined by the scope of its application. In the case of the skills partnership between the road freight transport associations of Lithuania and Uzbekistan, work-based learning is applied into company/sector-based training and leads to the award of a vocational qualification. Work-based learning is limited to satisfying the skills needs of enterprises in the destination country. The narrow scope of training provision limits its impact for the learners and societies of the countries involved, while at the same time compromising the sustainability of its provision. The skills partnership between the Italian and Egyptian VET stakeholders provides work-based learning in Italian companies in addition to participants' previous training in VET schools in their origin country. It also enriches work-based learning with the development of socio-cultural skills for integration in the destination country. This combination significantly expands educational impact for the migrant learners. The most ambitious scope in this area is demonstrated by the THAMM Plus project, which seeks to apply the dual VET approach to enable the employability of migrants in various sectors of the economy, as well as improve VET provision and its image in the origin countries.

Recognition of the skills and qualifications of migrant workers is one of the central elements of skills formation and employment in all the selected skills partnerships. The recognition of skills and qualifications within the skills partnership also requires a mutual trust in these skills and qualifications by the stakeholders. In the case of the skills partnership between road freight transport stakeholders from Lithuania and Uzbekistan, the development of such trust is alleviated by their orientation towards the provision of an international (cross-border) EU qualification for road freight drivers. In the case of the skills partnership between the Italian and Egyptian VET stakeholders and the THAMO Plus project, trust in the recognition of skills and qualifications is created via an inter-country comparison of VET curricula from both the origin and destination countries when planning and implementing training.

The skills partnership run by stakeholders from Lithuania and Uzbekistan lacked coherence with public policies, because they were designed and implemented without the involvement of policy-makers and civil society. The skills partnership between the Italian and Egyptian stakeholders strictly follows the policies and legal regulations of the destination country, whereas the partnerships implemented by the stakeholders from Germany seek to create the potential for capacity building in skills formation, employment and migration policy institutions in the countries of origin. The latter two skills partnerships also apply multi-agent governance approaches, which ensures important political and societal support for their implementation and continuity.

One of the most challenging impacts of the skills partnerships that were analysed, is to facilitate skills formation that would benefit the countries of origin. Circular migration in these cases is not supported by the enterprises involved and, indeed, the migrant workers themselves, as they seek maximum return on their investments in human

capital. However, participation of the state/governmental agencies from the origin and destination countries in a skills partnership (like GIZ in the case of the THAMM Plus project) at least makes this intention explicit and creates the space for the introduction of the different measures and actions that enhance mutual benefits (triple win) from the skills development of migrant workers.

Several limitations can be identified in this research study. First, the comparison includes only three cases of skills partnerships involving migration. Second, the object and scope of research are more focused on the broad sets of 'macro-level' factors of sustainability of skills partnerships clustered around the matching of demand and supply of skills, skills formation and training, as well as policy-alignment. This research does not cover financial sustainability of skills partnerships, protection of the rights of engaged stakeholders and migrant workers, or dealing with public discourse on their implementation. In addition, engagement of migrant workers in the empirical study is limited due to difficulties in accessing this research population.

2.2.7 Recommendations for policies and practice

Orientation of skills partnerships to mitigate skills shortages in the destination country and unemployment in the country of origin

What works?

Reciprocal consideration of skill-matching needs in both origin and destination countries. Special attention should be given to how skills partnerships can help solve labour shortages in destination countries while dealing with issues of structural unemployment in origin countries.

What does not work?

Focusing skills partnerships narrowly on immediate skills needs in a specific sector or occupational area can lead to very limited and narrow stakeholder engagement in their design and implementation, putting their sustainability at significant risk.

What improvements could be made?

When seeking sustainable skills partnerships focused on the skills development and employment of migrant workers, it is important to consider the compliance of these partnerships with public interest and public good in both origin and destination countries. Compliance with private or corporate interests can be sufficient for initial steps of the design of skills partnerships, but their implementation and sustainability require reference to public interest and good, such as preventing or addressing unemployment, poverty, exclusion or irregular migration. This requires developing constructive and open dialogue between stakeholders from origin and destination countries in the design of skills partnerships, paying special attention to the engagement of stakeholders from origin countries, providing them with necessary capacities and support.

The establishment of mutual trust between the parties engaged in skills partnerships (including migrant workers) regarding the skills, competencies and qualifications of migrant workers, is one of the key factors affecting skills partnership sustainability. Comparison of VET curricula, standards and qualifications of the origin and destination countries is an essential starting point for planning migrant worker training in skills partnerships. In these processes, the use and development of international and multi-country comparability instruments – regional qualifications frameworks, international qualifications, multi-country professional profiles – could help facilitate the comparison and establishment of mutual trust in skills and qualifications between the engaged parties and countries.

Enhancement of the skills development of migrant workers and youth

What works?

The cases analysed reveal the effectiveness of a combination of individualised schemes of work-based learning, language education, and the development of transversal competencies and inter-cultural communication skills, while providing possibilities for the recognition of prior learning in origin countries. Providing structured training courses that target the employability of learners in relevant economic sectors (e.g. by integrating work-based learning in enterprises with the development of transversal skills and inter-cultural communication abilities) is also effective.

What does not work?

Narrowly focusing migrant workers' training on developing occupational and professional skills and competencies helps to reduce immediate costs related to implementing skills partnerships. However, it also limits the capacities and scope of migrant workers who need successful and sustainable labour market integration. At the same time, it makes these workers highly dependent on employers, especially when the skills partnership only provides company-based training.

What improvements could be made?

The sustainability of skills partnerships, especially their impact on the employment and socio-cultural integration of migrant workers, requires supplementing work-based learning with the development of the transversal skills necessary for sociocultural integration. The selected skills partnerships between Italian and Egyptian VET stakeholders and the THAMM Plus project show that the development of migrant workers' transversal skills can be effectively integrated with work-based learning. The culture of enterprise and sociocultural context of work processes can support the development of different transversal competences necessary for work and the social inclusion of migrant workers.

Alignment with economic, educational, employment and migration policies

What works?

Skills partnership sustainability can be achieved by applying a multi-actor governance model along with the participation of policy institutions and civil society stakeholders. This ensures the coherence of necessary recruitment, training and integration processes with policy priorities and requirements of both origin and destination countries.

What does not work?

Sustainability of skills partnerships can be compromised by downplaying or ignoring the policy context of their implementation, and by not involving policy-makers in their design and implementation.

What improvements could be made?

The recommendation is to strengthen the participation and engagement of policy stakeholders from origin countries in the design and implementation of skills partnerships. This should include investment in building their capacities. At present, such intentions are only clearly evident in the THAMM Plus project partnership.

2.2.8 Acknowledgement

This article is based on the findings of research funded by the European Union and conducted within the framework of the Horizon Europe research project Skill partnerships for sustainable and just migration patterns (Skills4Justice) Horizon-CL2-2023-TRANSFORMATIONS-01-03 No. 101132435. Views and opinions expressed in the article are however those of the author(s) only and do not necessarily reflect those of the European Union or the granting authority. Neither the European Union nor the granting authority can be held responsible for them.

ANNEX

Table 7: Research population

Countries	Data collecting methods	Research population	
		Identification	Characteristics
Lithuania	Semi structured interviews (face-to-face and online) – 10	IT1, IT2	Representatives of a road freight transport organisation
		IT3, IT4, IT5, IT6	Human resource managers of a road freight transport company
		IT7	Representative of the road freight transport trade union
		IT8	Representative of the national trade union organisation
		IT9, IT10	Manager of a small and medium road freight transport company
Italy	Focus group	IF1	Representative of the national employers' organisation
		IF2	Representative of the employers' organisation, social cooperative
		IF3, IF4	Representatives of the national labour market intermediaries
		IF5, IF6, IF7	Representatives of public/regional VET providers
		IF8	Representative of the NGO working in the integration of migrants
	Semi-structured interviews - 9	I_1	Migrant worker, male, 27 years of age, car mechanic, country of origin- Egypt
		I_2	Migrant worker, male, 22 years of age, welder, country of origin- Egypt
		I_3	Migrant worker, male, 27 years of age, turner, country of origin- Egypt
		I_4	Migrant worker, male, 27 years of age, turning and boring machine operator, country of origin- Egypt
		I_5	Migrant worker, male, 28 years of age, mechatronic technician, country of origin- Egypt
		I_6	Migrant worker, male, 19 years of age, turner, country of origin- Egypt

Countries	Data collecting methods	Research population	
		Identification	Characteristics
		I_7	Migrant worker, male, 24 years of age, CNC operator, country of origin- Egypt
		I_8	Migrant worker, male, 24 years of age, mechanical engineering technician, country of origin- Egypt
		I_9	Migrant worker, male, 25 years of age, maintenance worker, country of origin- Egypt

Source: drafted by the authors

Table 8: Labour market and emigration in the analysed origin countries

Migration origin countries involved in the analysed skills partnerships	Unemployment rate, share of total workforce	Youth unemployment rates, share of the total workforce, 2024	Total number of emigrants in mid-2024
Egypt	6.8 (2023)	18.7	4.8 million
Morocco	11.8 (2022)	22.1	<u>3.6 million</u>
Tunisia	15.1 (2023)	40.1	715.2 thousand
Uzbekistan	5.3 (2020)	10.9	2.1 million

Sources: Youth unemployment share of the total workforce 2024, ILO Modelled Estimates database (ILOEST), International Labour Organization (ILO), uri: iloostat.ilo.org/data/bulk, publisher: ILOSTAT, type: external database, date accessed: 7 January 2025

World Bank Group Data <https://data.worldbank.org/indicator/SL.UEM.1524.ZS?locations=TN>

International Organization for Migration. The Global Migration Data Portal:

<https://www.un.org/development/desa/pd/content/international-migrant-stock>

https://www.migrationdataportal.org/international-data?i=stock_abs_&t=2024&cm49=860

https://www.migrationdataportal.org/international-data?i=stock_abs_&t=2024&cm49=818

https://www.migrationdataportal.org/international-data?i=stock_abs_&t=2024&cm49=788

https://www.migrationdataportal.org/international-data?i=stock_abs_&t=2024&cm49=504

Table 9: Employment, unemployment, job vacancy and immigration in the analysed destination countries (2024)

Migration destination countries	Employment rate, %	Unemployment rate, share of the total workforce, %	Job vacancy rate, %	Net migration, total volume
Germany	81.3	3.4	3.2	36,954
Italy	67.1	6.5	2.1	95,246
Lithuania	79.2	7.1	2.0	9,448

Sources:

Eurostat: https://ec.europa.eu/eurostat/databrowser/view/une_rt_a/default/table?lang=en
 Macrotrends <https://www.macrotrends.net/global-metrics/countries/deu/germany/net-migration>
 Macrotrends <https://www.macrotrends.net/datasets/global-metrics/countries/ita/italy/net-migration>
 Migracijos Departamentas prie Lietuvos Respublikos Vidaus reikalų ministerijos (2025) Migracijos metraštis 2024. <https://migracija.lrv.lt/public/canonical/1750415196/1330/MM%202024%20LT.pdf>

Table 10: Immigrants from analysed origin countries in the destination countries (2024)

Population of the citizens of Uzbekistan in Lithuania	Population of the citizens of Egypt in Italy	Population of the citizens of Tunisia in Germany	Population of the citizens of Morocco in Germany
9,773	161,551	58,260	102,925

Sources:

Migracijos Departamentas prie Lietuvos Respublikos Vidaus reikalų ministerijos (2025) Migracijos metraštis 2024. <https://migracija.lrv.lt/public/canonical/1750415196/1330/MM%202024%20LT.pdf>
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Table 11: Summary of the analysis of the skills partnerships

Explored features of the skills partnerships	Skills partnership between the road freight transport associations of Lithuania and Uzbekistan	Skills partnership between the Italian and Egyptian VET stakeholders	THAMM Plus project (Towards a Holistic Approach to Labour Migration Governance and Labour Mobility in North Africa)
<p>Orientation of skills partnerships to the mitigation of skills shortages in the destination country and unemployment in the country of origin</p>	<p>Aimed to solve the shortage of road freight transport drivers by training and employing migrant workers in cooperation with sectoral employers' bodies from the country of destination.</p> <p>The focus is on dealing with skills shortages of companies in both the origin and destination countries.</p>	<p>Skills partnership explicitly combines the aim to mitigate skills shortages in the destination country with the intentions to alleviate the problems of structural youth unemployment in Egypt, which contributes to irregular emigration.</p>	<p>Skills partnership seeks to develop sustainable migration pathways and to foster the quality of skills formation in countries of origin through provision of high-quality VET in the origin countries with their consistently high rates of youth emigration.</p>
<p>Enhancement of skills development for the migrant workers and the youth</p>	<p>Strong focus on the provision of the professional competences needed for work by providing the basic competencies in the country of origin and developing these competences with on-the-job training in the destination country.</p>	<p>Consolidation of the vocational training offer for learners in the origin country with an advanced apprenticeship experience at the Italian enterprise. Individualised attention to the skills needs and requirements of the potential migrant workers by providing each learner with a tutor (a work colleague) who guides them in work-based learning. Attention to the development of transversal skills for easier integration into the local socio-cultural fabric.</p>	<p>Applied skills development structures follow three labour migration pathways foreseen by the German legislation: through recognition of skills, apprenticeships, and professional experience.</p> <p>Strong focus on pre-departure education in the country of origin, including language courses, further education courses and intercultural training. Strengthening the employability of candidates at an individual level in both origin and destination country, including training for technical qualifications, language courses and training of intercultural understanding.</p>

Explored features of the skills partnerships	Skills partnership between the road freight transport associations of Lithuania and Uzbekistan	Skills partnership between the Italian and Egyptian VET stakeholders	THAMM Plus project (Towards a Holistic Approach to Labour Migration Governance and Labour Mobility in North Africa)
Alignment with economic, educational, employment and migration policies	<p>Misalignment with national policies due to narrow orientation to the skills needs of business and failure to involve policy-makers, public providers of skills formation and social partners in the skills partnership.</p> <p>Negative implications for sustainability of skills partnership.</p>	<p>Strong alignment of the skills partnership with the legal framework of the destination country.</p> <p>Applying multi-actor governance model ensuring coherence and transparency of involved recruitment, training, and integration processes.</p>	<p>Seeking the 'triple-win-effect' (for migrant workers, destination country and country of origin).</p> <p>Long-term aim of fostering fair and safe migration pathways.</p> <p>Development of education offers that fit both the needs of domestic companies as well as companies in the countries of origin.</p> <p>Building up structures and capacities in the origin countries to enable legal migration.</p>

Source: drafted by the authors

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2.3 'Virtuous' labour migration? Skilling, migration and development in Bangladesh and EU policy

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2.3.1 Introduction and theoretical framework

Labour migration and skilling for migration, how it is approached and what it entails, has been debated in both academic and policy circles for decades. Research on labour migration informs how migration theory has developed, expanding from its initial economic focus, to cover many disciplines today, including sociology, anthropology and geography (Arango, 2000). It has evolved from neoclassical economic theory to more recent transnational theories, with specific lines that address macro-, meso-, and micro-levels (Arango, 2000; Oso et al., 2022). Throughout this development and across diverse migration theories, the conceptualisation of skills remains contested, especially as concerns how skills are defined, recognised, and valorised across different institutional contexts (Oso et al. 2022; Neronov and Bircan, 2025).

The EU and its Member States reflect this diversity and contestation around skills definitions, varyingly identifying certain categories of migrant skills as a priority (Hooper and Sloomies, 2025). At the same time, ample literature, development organisations and migrant advocates, among others, criticise their lopsided skilling and migration policies, which prioritise destination countries to the detriment of origin country and migrant interests (De Lange et al., 2022; Ioannides et al., 2024). While global skills partnerships have purportedly attempted to design a triple win that remedies these asymmetrical power imbalances, sending countries often remain at a disadvantage (Triandafyllidou, 2013). The question that often arises in these questions surrounding skills, migration and development is: does migration drive development, prompting migration in a virtuous cyclical manner; or, does underdevelopment trigger migration, which itself mutually reinforces underdevelopment, in a vicious cycle (King and Collyer, 2016).

To address the larger challenge of addressing labour migration in a way that avoids reinforcing underdevelopment, while at the same time meets the shortage needs of the EU, we zoom in on the timely and significant case study of Bangladesh. An emigration country statistically, it is facing even further increasing emigration flows as a postcolonial migration state. In the European context, migratory dynamics with Italy are substantial and relevant (Morad and Sacchetto, 2019). Importantly, the EU Commission under its Talent Partnership framework has launched Supporting a Talent Partnership with Bangladesh. This is intended to run from 2024 to 2027, implemented by the International Labour Organisation (ILO) (European Commission, 2024). Its objectives include to promoting dialogue between Bangladesh and the EU, in order to support safe, legal migration pathways while reducing irregular migration, improve job matching for Bangladeshi workers, upgrade skills in key sectors, enhance skills recognition between the regions, and align Bangladeshi training systems with EU standards (European Commission, 2024; ILO, 2025b). These goals claim to achieve a "triple win" for migrant

workers, Bangladesh, and participating EU Member States. It builds on the ILO Skills Project 21, discussed in Part 4. At the time of writing, it has spent 61% of its budget, but no project outputs or evaluations are available yet (ILO 2025b).

As this is ongoing, our EU Horizon funded project, Global Strategy for Skills, Migration and Development (GS4S) (2023-2026), examines: which skilled migration schemes or alternatives businesses prefer to address their skilled labour shortages; and what types of public/private policies are needed to facilitate addressing (future) skills needs in a sustainable way. As part of this, it works with Ovivashi Karmi Unnayan Program (OKUP), a community based migrant workers' organisation in Bangladesh, to map and analyse skilling, migration and development initiatives in Bangladesh.

Thus, given the EU-Bangladesh dynamics and the timely data from our project, we ask: how do current policies and programmes for skilling and migration in Bangladesh align with those of the EU, and what opportunities there are for vicious versus virtuous cycles? We anticipate that, as in other examples, EU interests and policies may fall short of addressing more holistic sustainable development, mitigating inequalities and strengthening competitiveness for all stakeholders.

In embarking on this analysis, we would highlight how Awad (2023) signals the way migration studies in general (including labour migration) are conducted from a Western European perspective, where the dynamics surrounding emigration are largely ignored. In particular, in the case of Bangladesh, it is worth considering how it might seek to maintain ties to its (emigrating or emigrated) mobile workers. Our study is also designed according to Arango's (2000) pragmatic point that the nation state remains a key player in migration studies. Finally, we draw on a gendered and intersectional lens – with attention to how dimensions of difference including but not limited to gender, race, class, ethnicity and legal status – impact the patterns and populations under study (Crenshaw, 1989; Kofman et al., 200).

The paper proceeds as follows. First, we offer context sections: historical and current migration trends in Bangladesh; labour market patterns as well as relevant skilling and migration policies in Bangladesh; and the EU policy context. Then we explain how we set out to map Bangladeshi policies and programmes relating to skilling, migration and development, ultimately finding initiatives that largely did not combine skilling for migration, and elaborating on a few that came up in later stakeholder interviews. This is followed by an analysis of stakeholder interviews regarding such initiatives and the potential intersection of such policies. In total, in this paper we present an analysis of 9 Bangladeshi stakeholder interviews that took place from 13 November 2024 to 23 December 2024. The interview analysis codes are related to Bangladeshi and EU priorities outlined in the context section (related to development, inequalities, competitiveness), and as part of this gender and intersectional specific considerations. Moreover, we consider an expert discussion held within the project of the current EU–Bangladesh Skills Mobility Partnerships to provide supplementary stakeholder perspectives (GS4S, 2024). The one-hour webinar transcript was not coded, but key takeaways from the discussion complement the stakeholder analysis, with particular view to the European arrival context; these include perspectives that corridors like the

Bangladesh-Italy route are crucial for EU labour needs, but require reform and support for migrants to achieve sustainable labour migration frameworks (Ibid). Finally, AI was used for assistance in reference formatting, including Mendeley software and Claude.

Throughout our enquiry and data analysis, we continued to ask how policies and programmes for skilling and migration in Bangladesh match up with EU policy priorities, and whether any challenges to reach sustainable labour migration goals could be remedied. In sum, findings include that due to existing legal rights and restrictions, significant mismatches persist – often to the detriment of both Bangladeshi workers and the country’s development – frequently resulting in gender-specific impacts or compounded intersectional disadvantage. As such, we provide recommendations in Part 6 to both Bangladeshi and EU policymakers.

2.3.2 Part 1: Context, historical and current migration trends in Bangladesh

Bangladesh’s modern migration patterns date from the 1970s, with significant emigration to the Gulf countries, driven by the oil boom in the Gulf Cooperation Council (GCC) throughout the decade (Riaz and Rahman, 2016). This labour demand coincided with Bangladesh’s 1971 independence, as the new state leveraged labour migration as a strategy to address unemployment and poverty (Ibid). Beginning in the 1980s, migration flows expanded beyond the Middle East region to include irregular migration routes to Europe, and Italy in particular, with Bangladeshi communities establishing via family reunification policies (Rahman and Kabir, 2012). Migration to Southeast Asia and Eastern Europe increased later, reflecting the global diversification of labour demand (Islam, 2007).

It is notable that the COVID-19 pandemic triggered a temporary labour migration halt in 2020. At the same time, the Bangladeshi government’s efforts to restore flows resulted in over 3 million workers heading abroad between 2021 and 2023; this represents an 85% increase compared to the pre-pandemic period (2018-2020) (Bureau of Manpower, Employment and Training [BMET], 2024a). The year 2023 marked a record high with 1.2 million workers deployed abroad. These workers predominantly migrate to the Middle East (GCC countries), Southeast Asia, and increasingly to Southern and Eastern Europe (Ibid.). The demand for Bangladeshi workers spans sectors such as construction, domestic services, manufacturing and hospitality. While approximately 50% of these migrants are unskilled, there is a growing trend of migration for higher-skilled positions (Siddiqui, 2024).

A 2020 report by the International Organization for Migration (IOM), based on a questionnaire administered to approximately 11,500 migrants, from 2019 and 2020, illustrates irregular migration trends. The report illustrated that prior to migration, 40% of respondents reported unemployment. Among unemployed Bangladeshi potential migrants, 53% could be classified as regular migrants, while the remaining 47% could be identified as irregular (IOM, 2020). Specific trends for Europe as a destination are highlighted at the end of this section.

Student migration is also on the rise: in 2023, around 120,000 Bangladeshi students were enrolled in higher education institutions abroad, primarily in the United States, United Kingdom, Australia, Canada and Germany; it is argued that this amounts to ‘brain drain’ (Islam, 2024). Moreover, in addition to labour and student migration, climate-induced migration has emerged as a critical issue for Bangladesh, one of the world’s most climate-vulnerable nations (Sakapaji, 2023). Recurrent natural disasters – such as cyclones, flooding and river erosion – have displaced millions, leading to increased internal migration, to cities such as Dhaka and Chattogram (Uddin, 2024).

Regarding current migration stocks and trends, the Middle East continues to be the dominant destination for Bangladeshi workers, with Saudi Arabia hosting 35% of total Bangladeshi labour migrants in 2025 (BMET, 2025a). Among female migrants, nearly 98% migrate to the Middle Eastern countries for domestic work and caregiving, with 47% of those female migrants going to Saudi Arabia (BMET, 2025b). Southeast Asia represents the second-largest destination region, accounting for 16% of Bangladeshi migrant labour (World Bank, 2018).

Outside these regions, 4% of Bangladeshi workers have migrated to 168 other countries globally. Europe – particularly Southern and Eastern Europe – has become an increasingly prominent destination. Italy is home to the second-largest Bangladeshi diaspora in Europe after the United Kingdom, with most of this migration having occurred through irregular routes since the 1980s (Morad, 2024). More recently, legal migration pathways have been established through Memoranda of Understanding (MoUs) with Eastern and Southern European countries such as Romania, Croatia, Bulgaria and Greece (Ejaz, 2024).

Finally, in the context of Europe, we would point out the difference in educational attainment in terms of Bangladeshi migrant aspirations. A 2020 IOM survey found that potential Bangladeshi migrants planning to travel to Europe and the Americas were more likely to have attained at least secondary school education (67%) than those with planned destinations in Asia and the Pacific (51%). Fewer than 25% of potential migrants seeking to move from the Middle East and Africa had completed secondary education (Ibid).

Below are two tables describing flows to Europe from Bangladesh, based on an IOM report that combined various sources (2023). Regarding the skill profiles of these flows, out of 254 Bangladeshi migrants recently arrived in six European countries by land or sea, the majority were surveyed in Italy (80%), 98% were male, 88% were young adults aged 18 to 34, with 45% having at least lower secondary education and 72% reporting being employed or self-employed before departure. Percentage totals may include the same individual crossing through more than one country.

Table 12: Bangladeshi Nationals Arriving in Europe by Land and Sea (2023): Southern Europe

Country	Number	Percentage
Italy	12,776	93%
Malta	237	2%
Greece	379	3%
Spain	73	1%
Cyprus	310	2%

Source: IOM, 2023.

Table 13: Bangladeshi Nationals Arriving in Europe by Land and Sea (2023): Transit through Western Balkans and Eastern Europe

Country	Number	Percentage
Slovenia	3,842	39%
Albania	667	7%
Croatia	2,557	26%
Montenegro	542	5%
Romania	1,137	12%
North Macedonia	20	Less than 1%
Bosnia and Herzegovina	1,093	11%
Kosovo	5	Less than 1%

Source: IOM. 2023

2.3.3 Part 2: Context, labour market patterns and relevant skilling and migration policies in Bangladesh

Labour market patterns

Bangladesh is still on the path to recovery post-COVID-19, with inflation increasing and real gross domestic product (GDP) growth slowing substantially to 5.8% in fiscal year 2023, as compared to 7.1% in 2022. This is attributed to lower levels of private consumption and investment (World Bank, 2024). The World Bank recommends economic diversification, integration into Global Value Chains (GVCs), a strengthened

framework for foreign direct investment, and the need for public investments in energy, transportation, municipal infrastructure and human capital development (2024).

Bangladesh's labour market faces persistent structural challenges, including slow job creation, skill mismatches, high unemployment and significant underemployment, all impacting emigration flows (Asian Development Bank, 2024). Bangladesh's working-age population is growing, with over 108 million individuals aged 15-64 in 2022, making up 65.63% of the total population (Hasan, 2023). Nearly two million people enter the labour market annually, with a lack of adequate domestic employment resulting in surplus labour supply (World Bank, 2021a).

Particularly affected demographics include youth and women. Approximately 12.4% of individuals aged 15-24 remain unemployed, linked to labour market skills mismatches (World Bank, 2024). Bangladesh has made progress in expanding vocational and technical education, producing 689,745 vocational graduates and training 1.8 million youths in 2023 alone; however a disconnect between the skills taught and the needs of employers, both locally and globally, results in continued unemployment or underemployment (BANBEIS, 2024; CPD, 2025). Graduate numbers are rising, but skills often do not align with labour market demands (Assadekjaman and Afroz, 2025). Underemployment affects 13.8 million workers, with the highest rates in the service sector (54.3%), agriculture (30.6%) and industry (24.1%) (Ministry of Labor and Employment, 2019) (Biswas et al., 2021). Women make up only 35% of the employed labour force, highlighting persistent gender disparities in labour market access (World Bank, 2021b).

Regarding sectors, the agriculture sector, which employs 40% of the workforce, is experiencing a declining GDP contribution and continues to be characterised by high levels of informal employment (85%); the sector often lacks social security and job stability (Mujeri, 2020). The Ready-Made Garments (RMG) sector, a major source of formal employment, primarily benefits women but falls short of fulfilling the broader aspirations of the labour force (Matsuura and Teng, 2020). Meanwhile, emerging sectors such as information technology (IT), healthcare and construction are showing growth potential, but face critical shortages of skilled workers or are marked by informality and job precarity. For example, women predominate in the care sector but face job insecurity and poor working conditions (Community Paramedic Training Institute, 2017). Shortages in healthcare professionals are acute, as trained nurses seek work abroad (World Bank, 2021b).

Although migration patterns were described previously, any discussion of the Bangladeshi labour market should note these dynamics. Migrant workers make a substantial contribution to the national economy through remittances, which constituted 4.56% of GDP in 2022 (Bangladesh Bank, 2022). Between 2019 and 2023, Bangladeshi migrant workers remitted a total of USD 105,406.05 million (BMET, 2024b). Over the same five-year period (2019-2023), remittances were 7.11 times higher than net Foreign Direct Investment (FDI) (Bangladesh Bank, 2023).

Relevant policies

Skills policies

Bangladesh has made efforts to integrate vocational training into its education system through policies like the National Education Policy 2010, which introduced pre-vocational training at early education levels and created a tiered certification system for skill levels (Ministry of Education, 2010). However, data shows regional disparities persist, with urban youth participating more actively than their rural counterparts. For instance, Dhaka (9.9%) and Chittagong (8.4%) report the highest proportions of trained workers, while regions like Rangpur (5.8%) lag behind despite having the highest demand for training (30%) (Asian Development Bank, 2016).

The National Skills Development Policy (NSDP) 2011 and its revised version in 2020 emphasise creating a coordinated, competency-based training system (Ministry of Education, 2011) (National Skills Development Authority, 2020a). These policies established the National Technical and Vocational Qualifications Framework (NTVQF) and promoted partnerships with industries to address the skills mismatch (National Skills Development Authority, 2020b). The National Skills Development Authority (NSDA) Act 2018 institutionalised these efforts, streamlining training programmes and fostering collaboration between training providers and industries (Rahman, 2019).

To prepare for the Fourth Industrial Revolution, the revised NSDP (2020) highlighted the importance of flexible and digital competency-based training (National Skills Development Authority, 2020a). It introduced initiatives to develop skills in green technologies and digital transformation, focusing on inclusivity for underserved communities and migrants. The accompanying National Action Plan (2022-2027), yet to be approved, prioritises these goals. The National Education Policy (2010) is also meant to promote market-driven, inclusive and competency-based training, with special attention to youth, women and marginalised groups (Ministry of Education, 2010). The lack of alignment with the specific needs of destination countries limits the success of vocational training in improving migration outcomes.

Migration policies

The Overseas Employment and Migrants Act 2013 and its revised version in 2023, and the Overseas Employment and Expatriates' Welfare Policy 2016, provide frameworks to promote safe and dignified migration (Parliament of the Peoples' Republic of Bangladesh, 2013; Ministry of Expatriates' Welfare and Overseas Employment, 2019). Key provisions include transparent licensing of recruitment agencies, monitoring employment contracts, and bilateral agreements with destination countries to ensure fair treatment of workers.

In this context, Bangladeshi migration policies recognise economic motivations as a primary driver of migration, but often fail to address the financial and societal barriers women face (e.g. through adapted training schedules or childcare support). Only 30% of vocational training participants are women, and those who migrate tend to work in lower-paying sectors like domestic work, while men secure higher-paying roles in construction or IT (Nurunnabi, 2021).

Two further policies are noteworthy in the context of Bangladeshi labour migration. The Prevention and Suppression of Human Trafficking Act (PSHTA) 2012 combats exploitative recruitment practices by defining forced labour and servitude as forms of trafficking (Government of the People’s Republic of Bangladesh, 2012). Then, the Eighth Five-Year Plan (2020-2025) aligns migration governance with the Sustainable Development Goals (SDGs) and the Global Compact for Migration (GCM), and targets the creation of 11.33 million jobs, including 3.25 million overseas (General Economics Division, 2020). It promotes orderly migration through targeted action plans developed by the Ministry of Expatriates’ Welfare and Overseas Employment (Ibid).

Intergenerational policies

Finally, Vision 2041 positions human capital development and well-governed labour migration as foundations for Bangladesh’s transition toward a high-income, knowledge-based economy (General Economics Division, 2020). It lays out plans to become a developed country by 2041, as well as ambitions to align with the SDGs, and in particular to eradicate poverty. It notes that the strategy is designed for future generations of Bangladeshis (Ibid).

2.3.4 Part 3: EU policy context

While addressing the subjects of skilling, migration and development, in terms of the EU context, this paper explores the question of labour migration in tackling EU skills crises, as well as the EU’s approach to policy coherence for development (PCD).

At the same time, EU labour migration policies remain fragmented, with global competition for talent increasing (Hooper et al., 2025). Directives like the Blue Card allow Member States wide discretion in implementation, resulting in varied admission requirements and coexisting national schemes; this creates confusion for employers and migrants, especially as rules frequently change, and given issues of slow visa processing, complex qualification recognition, and inconsistent long-term residence rules (Ibid).

This is the point at which the concept of PCD should be emphasised. The EU is recognised as a key institutional advocate for promoting PCD. This concept involves aligning foreign aid with other development-related policy areas – such as trade, agriculture, environmental policy, human rights and migration – to ensure they work together in a mutually supportive way (Berger, 2022). De Lange (2024) has recently analysed how EU policies regarding legal pathways for migration take into account PCD. In summary, the report demonstrates that while there is political will for PCD across institutions, efforts to comply with the PCD commitment are inadequate.

Moreover, as explained in the introduction, a key consideration in this report is the progress of the Talent Partnership launched in 2024 in collaboration with the ILO. It emphasises development of human capital in what Michael Miller, Ambassador and Head of Delegation of the European Union to Bangladesh, claims to “be transformative and win-win” (Administration Team of the Delegation to Bangladesh, 2024). Bangladesh’s designation as a “safe country of origin” by the European Commission, as well as its

decades-long development and trade partnership with Bangladesh, entails that the EU is Bangladesh's strongest trade partner. Most recently, the European Parliament's Subcommittee on Human Rights (DROI) visited Bangladesh in September 2025, in light of the democratic transition in 2024 and upcoming elections in 2026 (News European Parliament, 2025).

For this endeavour to be successful, it is imperative to acknowledge and expand upon the importance of ensuring that Bangladeshi training and certification systems fully align with EU labour requirements. This will facilitate the development of human capital that meets the needs of the host and home countries, as well of those of Bangladesh's potential migrants. Moreover, the dynamic legal and political environment across EU Member States, combined with scrutiny from human rights organisations, could affect the speed and scale of implementation. Continuous monitoring, flexible programme design, and strong coordination between Bangladeshi, EU and international organisation (like ILO, IOM, etc.) stakeholders will be essential to maximise the strategic gains of the Talent Partnership.

Finally, we would highlight that the European Commission is in a consultation phase regarding a strategy on intergenerational fairness meant to ensure that policymaking avoids harming future generations, and instead facilitates solidarity and engagement between all generations (European Commission, 2025). We argue that if this is a long-term, interconnected policy strategy, international cooperation and development inherently falls within the scope, and should be taken into consideration in this enquiry. For example, it can be linked to the Bangladeshi Vision 2041 (Government of Bangladesh, 2020).

2.3.5 Part 4: Skilling, migration, and development programmes in Bangladesh

The Government of Bangladesh has launched several skills development initiatives and signalled a strong commitment to strengthening vocational skills for both local and international job markets, as well as broadening access to vocational education and reaching targeted groups like youth, women and disadvantaged communities. Yet, industry leaders and investors still report a shortage of job-ready professionals (Hossain, 2022). This is later described in the analysis section.

Here, we briefly point to the initiatives related to skilling, migration, development or the confluence of those that were mapped from March to December 2024 as part of the GS4S project (Abdel-Fattah et al., 2024). It was found that most skilling initiatives are not directly linked to migration policies. The mapped initiatives were grouped into those that addressed or emphasised: Bangladeshi skills for the labour market; TVET for the local labour market; fostering labour market inclusion with development and sustainability goals; upgrading Bangladeshi skills for the global market (or combined domestic and global); and certifying for the care sector, particularly targeting the global market.

The mapping revealed several recurring issues, including but not limited to mismatches, sustainability challenges, gender inequalities and short-term outlooks. It primarily highlighted that despite the widespread implementation of training programmes, a persistent gap remained between training curricula (including expanding vocational training opportunities) and actual labour market demands. Absence of internationally recognised accreditation further limited career advancement for migrants, often confining them to low-wage employment cycles. Initiatives that focused on sustainability and development largely relied heavily on donor funding, making them susceptible to disruptions (Abdel Fattah et al., 2024). Furthermore, although numerous programmes aimed to enhance women’s participation, entrenched societal and workplace barriers – such as discrimination and harassment – continued to restrict their access to quality employment. Lastly, only a few programmes offered post-training support such as career counselling or mentorship (Abdel Fattah et al., 2024).

Finally in this section, we provide some context to three initiatives referenced in the following analysis. Two of these initiatives focus on enhancing the skills of the Bangladeshi workforce for the domestic market. The Skills for Industry Competitiveness and Innovation Program (SICIP) targets emerging sectors such as IT, energy and agriculture (SICIP, 2022). It also promotes inclusivity by prioritising women and marginalised groups, aiming to bridge technical and digital skill gaps. However, its wide-ranging focus may reduce its overall effectiveness across different industries. Similarly, the Skills for Employment Investment Program (SEIP) sought to build workforce capacity in areas like IT and healthcare but faced challenges due to outdated training materials and inconsistent funding (SEIP, 2022).

Thirdly, the Skills 21 project was an EU-funded, ILO-implemented TVET reform project that successfully implemented reforms to the TVET system and became the foundation of the National Skills Development System (NSDS). Designed to run from January 2017 through June 2027, this was a partnership between the Government of Bangladesh, employer and worker organisations, with, again, the EU as a development partner. In addition to improving the strength of the TVET and skills development system in Bangladesh, as well as establishing a more conducive legislative and regulatory environment, it seeks to offer access and equity (ILO, 2025a).

2.3.6 Part 5: Bangladeshi stakeholder interview analysis

Methodology

The nine interviews were conducted with representatives from government agencies, training institutions, migration-related departments and civil society organisations (see Table 14).

Table 14: Stakeholder list

Stakeholder number	Affiliation	Years of Experience	Educational Background	Gender
KII1	Skill for Industry Competitiveness and Information Program (SICIP)	40 Years (Senior Level)	PhD	Male
KII2	Dhaka Technical Teachers' Training Institute (DTTTI)	20 Years (Senior Level)	PhD	Male
KII3	Swiss Agency for Development and Cooperation	18 Years (Senior Level)	Master's	Female
KII4	GIZ (German Agency for International Cooperation)	12 Years (Mid-Level)	Master's	Female
KII5	Skill 21 project	16 Years (Mid-Level)	Master's	Male
KII6	The BRAC organisation (implementing partner of SEIP)	30 Years (Senior Level)	Master's	Male
KII7	Technical Training Center (TTC)	20 Years (Senior Level)	Master's	Male
KII8	Private recruiting agency (licensed agency for labour recruitment)	17 Years (Senior Level)	Master's	Male
KII9	Bureau of Manpower, Employment and Training (BMET), government authority for labour migration	14 Years (Mid-Level)	Master's	Male

Source: Authors' own elaboration

These interviews aimed to capture national perspectives on the priorities, challenges and opportunities in relation to skills development, migration governance and labour mobility in Bangladesh, as per the GS4S research line objectives (Abdel-Fattah et al., 2024). The interview guide (see Annex), meant to be semi-structured, was thus organised around key thematic sections reflecting the core analytical domains in these project objectives.

Potential interviewees were contacted by phone to introduce the study and explain its overall purpose. They received the interview questionnaire and an official information sheet explaining the study's objectives and institutional affiliation, expected interview duration, and the role of the interviewees in the research, in advance. At the beginning of each interview, a consent form on voluntary participation, right to withdraw, confidentiality and data protection was read aloud to the interviewees, a copy was provided for their reference, and verbal informed consent was obtained before the

interview commenced. Interviews lasted between 47 and 75 minutes with two conducted online and the rest in person.

To ensure analytical coherence with this paper's research question, analysis was then conducted by combining deductive and inductive coding (Braun and Clarke, 2006) according to the research question, with the following coding categories applied: Bangladeshi priorities of facilitating development and competitiveness; both parties' views on mitigating gender and intersectional inequalities; and policy priority alignment or discord between the EU and Bangladesh. In the following analysis and recommendations the overall EU context as described in Section 3 and insights from the expert seminar were also taken into account.

Limitations included that access to interview participants was partly constrained by institutional gatekeeping and the availability of key informants, particularly those in senior or decision-making positions. The qualitative findings are not intended to be statistically generalisable. Moreover, we note that given the importance of TVET and practical, concrete involvement in education in our findings, there are a lack of voices or representatives that can speak to this.

The subsequent headings (as well as coding categories) present key insights into stakeholder interpretation of national priorities, emphasising the Bangladeshi view given Awad's (2022) call to better articulate the origin country perspective.

Bangladeshi priorities: development market patterns

Several stakeholders emphasised that human capital development lies at the core of Bangladesh's national growth and employment strategy, shaping both domestic progress and international labour mobility. They noted that government policies reflect this priority through a series of strategic initiatives, including those referenced in Part 2, like the Eighth Five-Year Plan (2020-2025), the National Education Policy (2010), the National Skills Development Policy (2011) and Vision 2041 (KII2 and KII5).

Within this policy framework, stakeholders highlighted that technical and vocational education and training (TVET) should not only focus on employment generation but also on equipping workers with the practical and soft skills required to thrive in competitive labour markets at home and abroad (KII3 and KII9). The interviewee of Bangladesh's Bureau of Manpower, Employment and Training remarked: "Our goal is not merely to train people, but to prepare them for decent and sustainable jobs, whether in local industries or overseas markets." (KII9)

However, stakeholders also pointed out a significant gap between policy formulation and implementation. While the NSDP 2011 emphasises competency-based and industry-aligned training, many technical training centres continue to offer outdated courses. The interviewee from the Dhaka Technical Teachers' Training Institute, a TVET training institute established by the Bangladesh Ministry of Expatriates' Welfare and Overseas Employment and funded by the Islamic Development Bank, offered the following observation:

“If we look at technology, the reality is that what’s modern today becomes outdated tomorrow. New tools and systems are emerging every day. But in our training centres, we’re still teaching technologies that were relevant a decade ago. As a result, our trainees enter the global market already behind, their skills don’t align with the current demands.” (KII2)

Similarly, the National Skills Development Authority (NSDA) (again, responsible for coordinating national skills initiatives), has struggled to implement a dynamic curriculum revision process, slowing adaptation to emerging skill demands, particularly in IT, healthcare and construction. Additionally, although the National Education Policy 2010 underscores the importance of vocational and technical education, stakeholders observed that TVET institutions remain underfunded, lack modern equipment, and maintain limited collaboration with industry partners, both domestically and abroad (KII 5 and KII 2).

These implementation gaps have direct consequences for Bangladeshi workers and migrants, many of whom are confined to ‘3D jobs’ (dirty, dangerous and demeaning) that fail to meet ILO standards for decent work. Inadequate technological training and poor recruitment practices exacerbate the problem, with workers sometimes sent to positions for which they are unqualified (KII2). The stakeholder highlighted that, in many instances:

“Employers of the destination countries requested electricians, but agencies sent drivers instead. This mismatch of skills often make migrant workers highly vulnerable and prone to exploitation. There are thousands of similar cases.”

Bangladeshi priorities: inequalities (gender and intersectional)

The disparities highlighted in Part 2 represent inequalities that intersect with issues of migration and skills development, shaping who can access opportunities and under what conditions. Stakeholders consistently affirmed that gender, geography and socio-economic status remain key determinants of unequal access to training, employment and upward mobility.

They explained that Bangladesh has introduced gender-responsive and inclusive strategies through the gender-sensitive curricula, mobile training centres in rural areas, targeted scholarships for women, community-based awareness programmes, and pre-departure safety and rights training for aspiring female migrants. At the same time, they felt that despite the government’s emphasis on inclusion, women, ethnic minority, rural youth and marginalised groups remain underrepresented in technical and vocational education and training (TVET) and migration programmes due to entrenched gender and social norms.

They flagged socio-cultural norms as the most persistent barrier, explaining families restrict women from travelling to distant training centres or staying overnight due to fears of social stigma. One stakeholder explained, “Parents do not allow their daughters to stay at training hostels. They believe it will damage the family’s reputation” (KII2). These restrictions severely limit women’s participation in residential training programmes offered by technical training centres, where most long-duration courses are conducted (KII2).

Moreover, early marriage, domestic responsibilities, and limited family support further reduce women's participation in TVET programmes. Nationally, only 1% of total TVET enrolments are women, with the Ready-Made Garment (RMG) sector being a notable exception, achieving near gender parity due to its proximity to urban centres and flexible work arrangements (KII2 and KII5). Despite the growing demand for trained domestic workers, caregivers and housekeepers abroad particularly in the Middle East and East Asia, Bangladesh has not been able to capitalise on these opportunities because of a shortage of female trainers, and the absence of gender-sensitive training facilities (KII1 and KII3). The implementing lead of the Skills 21 project explained that from an intersectional perspective, women from poor, rural and climate-affected areas face the most acute forms of exclusion.

In conclusion, an explanation is provided for the phenomenon of gender inequality, with particular reference to the opportunities and obstacles encountered in the care sector. Participants explained that women often receive training in low-paying sectors, such as domestic work, which offers limited opportunities for advancement. The SICIP Project interviewee articulated:

“Even after receiving training, many women end up in the same jobs without higher wages or an improved quality of life. This is because the training doesn't match the better job opportunities available globally.” (KII1)

They noted that sectors such as caregiving offer untapped potential for women's empowerment:

“Bangladeshi women already skilled in caregiving within their families could excel in this field, which is in high demand internationally. Unfortunately, this potential remains underutilised due to a lack of facilities and widespread misunderstandings about the nature of caregiving work.” (KII1)

Inequalities also extend to geographic and socio-economic factors, shaping who can access skills development and employment opportunities. Stakeholders point to how youth from rural or remote areas often face significant mobility constraints, as training centres are concentrated at sub-district or district level, making travel costly and time-consuming, with many families unable to afford transportation or related expenses (KII2). A lack of local training centres means that young people from these areas frequently miss out on technical and vocational education (KII2).

Another critical issue concerns how many training centres offer a narrow course range, restricting participants' ability to pursue training aligned with their interests or labour market demand. The admission process itself is often problematic. Applicants frequently face random selection due to limited seat availability, which undermines merit and discourages participation (KII2). For marginalised individuals, access is further constrained by financial hardship. Even when programmes eventually begin, the lack of functional machinery, modern equipment and practical sessions severely limits hands-on learning opportunities (KII1). In short, interventions remain small scale and limited.

In sum, in addition to the gendered dimensions of inequalities, donor-dependent, short-term projects limit programme continuity and scale. Participants stressed that sustainable inclusion requires permanent training infrastructure in rural areas, recruitment of female instructors, subsidised accommodation and childcare support to ensure equitable participation (KII5). We note that gender and intersectional equity in skills and migration will require long-term government commitment and institutional coordination between, among others, the Bureau of Manpower, Employment and Training, National Skills Development Authority, Bangladesh Technical Education Board and non-governmental organisations (NGOs).

Bangladeshi priorities: competitiveness

Stakeholders emphasised that the ability to meet evolving industry needs, acquire internationally recognised skills, and access safe migration pathways is critical for sustaining economic development. They explained that skills development initiatives are constrained by outdated curricula, fragmented implementation, and insufficient alignment with labour market demands (KII1, KII3, and KII5).

Technical training centres and NGO-led programmes often provide limited practical experience, compressed training durations, and curricula not fully reflecting domestic or international market requirements (KII2). While there is strong governmental and donor interest in skill development through programmes such as SEIP, and the Skills 21 project, the actual acquisition of market-relevant competencies is often hindered by insufficient engagement with the private sector and a lack of updated labour market intelligence (KII5).

Especially given the origin country viewpoint emphasised in the theoretical framework, migration is a key pathway for enhancing competitiveness, yet the link between training and international labour demand remains weak. Many potential migrants lack essential language, digital and soft skills, and pre-departure preparation is frequently insufficient. Certifications issued through TTCs or NGOs are not always recognised abroad (KII1 and KII2).

Coordination among government agencies, international partners, NGOs and private sector actors is also fragmented. Past successes, such as the Employment Permit System with South Korea and sector-specific programmes under SEIP, demonstrate the benefits of structured collaboration, clear selection processes and labour-market alignment. However, sustainability remains a challenge due to limited long-term commitment, fund shortage and overlapping mandates (KII1, KII2, KII3, and KII5).

Inclusivity is another critical dimension of competitiveness. Ethnic minority groups, climate-affected populations, and other marginalised communities remain significantly underserved, which limits the potential pool of skilled labour (KII5). Although numerous policy initiatives and training programmes formally commit to their inclusion, implementation gaps persist.

Bangladesh – EU policy overlap

The European Union and Bangladesh share several overlapping policy priorities in the areas of skills development and labour migration, which provide a foundation for cooperation. Both actors recognise the importance of developing a skilled workforce to meet labour market demands and enhance economic growth (European Commission, 2023; Government of Bangladesh, 2013; KII2 and KII3; UN Bangladesh, 2025). This shared emphasis on workforce preparation creates an opportunity to align training programmes with the requirements of international labour markets.

Another point of convergence is the focus on regulated, rights-based migration. Both the EU and Bangladesh claim they seek labour mobility through safe and legal channels (BMET, 2017; European Parliament, 2021; UN Bangladesh, 2025). The EU promotes structured migration frameworks, social protection for workers, and compliance with occupational standards, while Bangladesh emphasises pre-departure training, documentation, and bilateral labour agreements to safeguard the welfare of its citizens abroad (Wickramasekara and Ruhunage, 2018).

Gender equity and inclusion also represent a growing area of policy overlap. The EU actively encourages the participation of women in sectors traditionally dominated by men, and supports gender-sensitive migration policies (European Commission, 2023; European Parliament, 2021). Bangladesh has similarly initiated programmes to enhance women's participation in vocational training and overseas employment, particularly in domestic work, caregiving and other emerging sectors (KII1 and KII2).

The digitalisation and modernisation of skills training present another point of synergy. The EU prioritises digital and green skills to meet future labour market demands, while Bangladesh is gradually integrating technology and innovation into its TVET and migration training programmes (European Commission, 2025; Islam, 2025). We presume that EU-funded skill development projects like the current mobility partnership would leverage this common focus, supporting curriculum enhancement, capacity building and sector-specific training for Bangladeshi workers.

Bangladesh – EU policy discord

While both the European Union and Bangladesh share an interest in promoting skills development and facilitating labour mobility, their policy priorities often diverge, creating significant challenges for cooperation. One of the key areas of misalignment is the mismatch between labour market needs. The EU has expressed interest in highly skilled, technically specialised and digitally literate workers in sectors such as healthcare, information technology, green energy and advanced manufacturing (European Commission, 2025). Bangladesh, on the other hand, has historically focused on exporting low- to semi-skilled labour, particularly in construction, domestic work, garments and basic services (KII-01; KII-02). This disparity means that the qualifications and competencies of many Bangladeshi workers do not align with EU standards, limiting their access to legal migration pathways and formal employment in Europe.

Policy objectives in the two regions also differ. The EU emphasises attracting skilled labour to meet domestic shortages, promoting regulated and rights-based migration, and ensuring compliance with strict occupational, legal and social standards (European Commission, 2025; European Parliament, 2021). Bangladesh, by contrast, prioritises maximising overseas employment opportunities to increase remittance inflows, expanding access for low- and semi-skilled workers, and strengthening domestic skills infrastructure (Bossavie 2023; KII-08). While these objectives are complementary in principle, they are not always compatible in practice, creating gaps in effective migration pathways.

Regulatory and institutional differences further exacerbate this discord. The EU's approach relies heavily on compliance, mutual recognition of qualifications, and robust social protection mechanisms for migrants (European Parliament, 2021). Bangladesh, although equipped with a well-established migration governance framework, still faces challenges in standardising training, certifying skills, and monitoring the quality of pre-departure programmes (Bossavie, 2023; KII-05). Gender and inclusion considerations also reveal misalignment.

Another dimension of the discord is the technological and sectoral disconnect. EU policies increasingly prioritise digital literacy, green economy expertise and high-tech vocational skills, whereas stakeholders pointed to how Bangladesh's TVET system, though improving, still faces limitations in infrastructure, technological exposure and curriculum modernisation, meaning that Bangladeshi workers may not acquire the competencies required by EU employers (European Commission, 2025).

2.3.7 Part 6: Recommendations and ways forward

In sum, Bangladeshi and EU policy priorities sometimes coincide in terms of skills development, safe migration and gender inclusion. However, from the viewpoint of Bangladeshi stakeholders, both domestic complexities and obstacles and a lack of cohesion at the EU level present several divergences in terms of Bangladeshi and EU objectives. The EU seeks highly skilled, digitally literate labour, while Bangladesh continues to export low- to semi-skilled workers in traditional sectors like construction and domestic work. Differences in regulatory standards, skill certification and social protections further complicate alignment. These issues are particularly detrimental to Bangladesh and risk engendering the 'vicious' cycle. Nonetheless, areas of overlap – such as interest in regulated migration, women's empowerment, and modernisation of TVET – present opportunities for cooperation.

We note that the research design did not allow for a follow-up consultation process with stakeholders as part of the following policy points. However, the rich data allows roadblocks to be confronted at a particularly timely point in the Bangladesh and EU relationship. The current information and context of this study highlight the potential to build on past initiatives while shaping the way forward in ways that encourage a 'virtuous' cycle of migration and development. As such, we offer the following recommendations:

Leveraging the ongoing Talent Partnership initiative for virtuous cycles

While it remains to be seen how Talent Partnership will be implemented, the opportunity to leverage this initiative's funding support can help towards rectifying some of the obstacles highlighted in the stakeholder analysis. More sustained funding can go towards training trainers at local centres, and offering gender-sensitive curricula, mobile training units, equipment and course diversity on a larger scale.

Remote possibilities to address gender and intersectional needs and obtain virtuous cycles

As noted in the stakeholder analysis, persistent gender and intersectional inequalities indeed require improved cooperation. One tool we would emphasise here, reflecting the analysis, is the potential of remote training. Providing remote training programmes (and facilitating their recognition by both parties) could address gender and intersectional needs. For example, women who are unable to access training due to cultural or logistical hurdles could perhaps participate online. Moreover, populations at varying levels of intersectional disadvantage might also find online training more accessible and affordable given their limited resources or geographical constraints. The Bangladesh Government's Ministry of Expatriates' Welfare and Overseas Employment of Bangladesh and Bureau of Manpower, Employment and Training could take the lead in coordinating this.

Whole-of-government, intergenerational approach to avoid vicious cycles

Here we also reflect on the stakeholders' emphasis on a whole-of-government approach to avoid vicious cycles of migration, skilling and development. In short, the vicious cycle includes lack of development effects in Bangladesh as it stands now, and the potential for a vicious loop of low-skilled emigration of Bangladesh in a mismatch with EU demand for high-skilled labour. To accomplish the latter, there is a need to redouble efforts to standardise training curricula and certifications to meet EU requirements, mapping sectors with high labour demand to match Bangladesh's workforce potential, integrating gender-inclusive training, and modernising programmes with digital and green skills. In order to achieve these measures, a sustained dialogue of the Talent Partnership initiative, stronger institutional partnerships, and long-term investments in workforce development, may assist in better matching skills for both countries, and preventing particular disadvantage for Bangladesh's (actual and potential) workers. Moreover, given the need for better stakeholder alignment on gender and intersectional equity, it could be useful to implement a cross-institutional gender monitoring framework. Such an integrated approach is crucial in achieving the intergenerational goals flagged by both Bangladesh and the EU.

The private sector and its engagement is essential to remedying worker exploitation

In terms of linking skills development with market demand, projects funded by international actors have faced challenges due to insufficient engagement with the private sector. This is a widespread issue when troubleshooting both global skills partnerships and 'triple win' relationships (Poeschel et al., 2025). Time and time again, private intermediaries brokering for private actors have been flagged as enabling worker exploitation as well as disserving the companies at point of destination (Ibid). We would advocate that any future initiatives include a minimum threshold for private sector engagement, including an expression of interest at the outset in funding applications, in order to better address the reality of globalised markets and their role in skills, migration and development.

Exploring institutionalisation of TVET

Given how stakeholders highlighted the importance of modernisation of TVET, we would point to how the development of vocational teacher education and curricula demands a more active collaboration between employer representatives, nationally representative bodies and universities. Education providers at various levels (basic education, upper secondary education, higher education), both regionally and nationally, as well as with third-sector associations, could enhance knowledge-building and knowledge-sharing. Institutionalising TVET education, in a similar model to the pre-privatisation TAFE system in Australia, or the Finnish model of Universities of Applied Sciences (UAS), could be a concrete way forward (Virolainen et al., 2024; Wheelahan and Moodie, 2025).

ANNEX

These questions are designed to gather general insights into the stakeholders' perspectives on skills development, migration policies, and their role in the overall ecosystem.

Table 15: Semi-structured interview script/guide

Introduction and Background

- Can you briefly describe your role and responsibilities within your organisation?
- How does your organisation contribute to skilling, reskilling, upskilling, or migration initiatives in Bangladesh?

Objective: To establish rapport and understand the stakeholder's role and responsibilities.

Expected Outcome: Obtain a clear picture of each stakeholder's position within the skilling ecosystem.

Probing Questions: "Can you provide an example of a project or initiative your organisation has recently worked on related to skilling or migration?"

Perceptions of Current Initiatives and Policies

- How do you perceive the effectiveness of the current skilling and migration initiatives in Bangladesh? What are their strengths and weaknesses?
- In your opinion, are these initiatives aligned with the national strategy for skills development and labour migration? If not, where do you see the gaps?
- Do you think the existing policies adequately address the needs of the local and international labour markets? Why or why not?

Objective: To gauge stakeholders' views on the effectiveness and alignment of current initiatives.

Expected Outcome: Insights into perceived strengths, weaknesses, and gaps in the current skilling and migration ecosystem.

Probing Questions: "Can you elaborate on a specific initiative that you think is particularly effective or ineffective? Why?"

Stakeholder Coordination and Ecosystem Dynamics

- How would you describe the level of coordination between different stakeholders (government, international organisations, private sector, NGOs) involved in skilling and migration initiatives?

What are the main challenges you face in collaborating with other stakeholders?
How do you think these challenges can be addressed?

- Are there any specific examples where coordination between entities has been particularly successful or unsuccessful? What factors contributed to these outcomes?

Objective: To understand the level of collaboration between different entities.

Expected Outcome: Identify successful and challenging areas in stakeholder coordination.

Probing Questions: “Can you suggest any improvements to enhance coordination among stakeholders?”

Target Groups and Inclusivity

- Who do you consider to be the primary target groups for skilling and migration initiatives in Bangladesh? Are there any groups that are currently underserved?
- What measures are in place to ensure that these initiatives are inclusive, particularly concerning gender, geographic location, and socio-economic status?
- How does your organisation address gender-specific needs or barriers in the context of skilling and migration?

Objective: To assess the inclusiveness of current initiatives.

Expected Outcome: Information on which groups are targeted and which are potentially underserved.

Probing Questions: “What specific strategies do you use to reach marginalised groups?”

Data Utilisation and Evidence-Based Decision Making

- How does your organisation use data to inform the design and implementation of its programs?
- Are there any particular data gaps that hinder your ability to make informed decisions? How do you suggest these gaps be filled?
- How effective do you think the current mechanisms for data collection and analysis are in capturing the impact of skilling and migration initiatives?

Objective: To evaluate how data informs policy and program design.

Expected Outcome: Understand data gaps and potential improvements in data utilisation.

Probing Questions: “What specific types of data do you find most useful, and how could access to better data improve your decision-making?”

Policy Alignment and Coherence

- To what extent do you think the policies governing skills development and migration are coherent and aligned with one another? Are there areas where they contradict or overlap unnecessarily?
- What suggestions do you have for improving policy alignment to create a more unified approach to skilling and migration?

Objective: To explore whether current policies are well-aligned.

Expected Outcome: Identify contradictions or overlaps between policies and suggestions for better alignment.

Probing Questions: “Can you provide an example of a policy that you think is particularly well or poorly aligned?”

Future Vision and Recommendations

- What do you envision as the future direction for skilling and migration policies in Bangladesh?
- What are your recommendations for enhancing the impact of these initiatives, both at the national and international levels?
- Are there any innovative approaches or best practices from other countries that you believe should be adopted in Bangladesh?

Objective: To gather stakeholders’ views on the future direction of skilling and migration policies.

Expected Outcome: Recommendations for enhancing policy impact at both national and international levels.

Probing Questions: “Are there any international models or best practices you think should be adopted in Bangladesh?”

Section 2: Specific Questions by Stakeholder Type

Government Entities

Policy Formulation and Implementation

- Can you provide more details about the process of formulating policies related to skilling and migration within your ministry? Who are the key decision-makers?

Objective: To understand if their policies are based on identifiable gaps in the system and previous policy assessment or not.

Expected outcomes:

- Understand how they know that a new policy must be issued or an existing one should be updated?
- Identify their roles in policy/decision-making. If they are not the decision-makers, identify the roles of different departments or units within the entity who are in charge.
- Gain insights if at any stage of policy formulation, they incorporate feedback and then assess policy effectiveness in the short and long term.
- Understand their typical timelines for policy formulation and implementation.
- Gain insights into how often policies are reviewed or updated
- What are the main challenges you face in implementing these policies effectively?

Probing Questions: “Is it resource constraints/ insufficient funds/ fixed social mentality / long (regulatory) procedures to implement a policy/ logistical constraints/ lack of support from another entity?”

Coordination with Other Government Bodies and External Partners

- How does your ministry coordinate with other government bodies and external partners to align policies and initiatives? Are there any coordination mechanisms in place?

Objective: To understand inter-governmental and external partnership dynamics

- How do you handle conflicting priorities or objectives among different entities?

Objective: To gain insights about the effectiveness of current coordination efforts and be able to spot potential areas for improving coordination and collaboration.

Expected outcomes: Identify the strategies that have succeeded to resolve conflicting priorities. Be able to spot if there are common areas of conflict between entities or best practices from other countries that you believe should be adopted in Bangladesh?

Objective: To gather stakeholders’ views on the future direction of skilling and migration policies.

Expected Outcome: Recommendations for enhancing policy impact at both national and international levels.

Probing Questions: “Are there any international models or best practices you think should be adopted in Bangladesh?”

Sectoral Focus and Prioritisation

- Are there specific sectors that are prioritised in the skilling and migration policies? If so, why are these sectors prioritised?

Expected outcomes: Identify the criteria used for sector prioritisation.

- Understand how sector priorities align with broader economic/country goals
- How does your ministry address regional disparities in access to skilling and migration opportunities?

Objective: To understand entity's approach to ensuring equitable access to opportunities across different regions

Expected outcomes: Do they have strategies for addressing regional imbalances?

Probing question: Do they have plans for scaling an initiative across other areas?

International Organisations

Support for National Policies and Initiatives

Objective: To understand the organisation's strategy in supporting Bangladesh and the alignment of priorities and vision with that of the government

- How does your organisation support the Bangladeshi government in developing and implementing its skilling and migration policies?

Expected outcomes: Know how national priorities are identified and incorporated to receive the support. What is the role of the organisation in this process?

- Can you provide examples of successful collaborations with Bangladeshi ministries or other stakeholders?

Expected outcomes: Identify examples of successful collaboration and why (will be useful to then look for similarities/differences/ challenges)

Funding and Resource Allocation

Objective: To understand the organisation's funding priorities in Bangladesh and how they are determined

- What are the key criteria your organisation uses to allocate funding and resources to skilling and migration projects in Bangladesh?

Objective: To understand the criteria for funding allocation.

Expected outcome: Develop an idea if there are any geographic or thematic focus areas (sectors/ age groups) within Bangladesh.

- How do you ensure that the funded projects are aligned with both national priorities and international standards?

Expected outcomes: Understand if there is a systematic procedure to ensure coherency. Gain insights if there are specific international standards applied in project selection.

Coordination with Other Bodies and External Partners

- How does your organisation coordinate with government bodies and external partners to align policies and initiatives? Are there any coordination mechanisms in place?
- How do you handle conflicting priorities or objectives among different entities

**Same as above

Impact Measurement and Evaluation

Objectives: To understand the organisation's approach to measuring programs/ initiatives impact and explore the application of evaluation findings in current/ future work and decision making.

- What methods do you use to measure the impact of the initiatives you support? How do you ensure these methods are rigorous and reliable?

Expected outcomes: Get an overview about the impact measurement methodologies they use (quantitative, qualitative, mixed methods).

- Can you provide examples of any impact evaluations conducted, and what were the key findings?

Objective: To assess how previous findings were applied to current or potential future projects or policies

Expected Outcome: Specific examples of impact evaluations conducted and key findings

Non-Governmental Organisations (NGOs)

Program Implementation and Challenges

Objective: To assess the project or policy is maintained, managed, and how challenges or barriers are addressed (if at all).

- What are the key challenges your organisation faces in implementing skilling and migration programs in Bangladesh?

Expected Outcome: Specific examples of difficulties/barriers faced by the NGO during implementation.

Probing Questions: “Do you face challenges with insufficient funds? Lack of human/ physical capital (resources)? promotional insufficiencies? Constant restructuring leading to handover gaps? Poor management?”

- How do you ensure your programs are inclusive and reach the most underserved populations?

Expected Outcome: Insights on whether or not marginalized groups are taken into consideration.

Probing Questions: “What groups do you consider to be marginalized? How are they defined?”

Community Engagement and Feedback

Objective: To understand to what extent the community plays a role in both the implementation and design of the program, along with their strategies to target the correct demographic profile.

- How do you engage with local communities to understand their needs and incorporate their feedback into program design?

Expected Outcome: Insights on the process that informed the design of the initiative. What foundational elements incentivized the inception of the program - understand how need-based it is.

- Are there any innovative approaches you have used to engage target groups more effectively?

Expected Outcomes: Specific understanding of who their target demographic is and examine the strategies employed to ensure outreach to this group, along with understanding how they ease the programs accessibility,

Sustainability and Scalability

Objective: To gain insights on how the entity is aiming to increase the longevity of the project and ensure its continued success (if applicable in the sense that there is evidence-based success).

- What strategies do you employ to ensure the sustainability and scalability of your programs?

Expected Outcomes: Insights on the operational side of the initiative including management and maintenance. Gain insights on specific safety measures to ensure sustainability.

Probing Questions:

- Are any safety measures implemented to ensure the sustainability of the project following the end of funding? What about changes in organisational priorities - how will the initiative continue to be financed?
- Can you provide examples of any programs that have been successfully scaled or replicated?

Expected Outcomes: Insights on if there were any outlines/skeletons they drew inspiration from. Understand which elements were implemented/which were excluded.

Probing Questions: “How do you conclude the success of a program causing you to scale it up or replicate it. For example - did you perform an impact assessment?”

Coordination with Other Entities and External Partners

- How does your organisation coordinate with government bodies and external partners to align policies and initiatives? Are there any coordination mechanisms in place?
- How do you handle conflicting priorities or objectives among different entities?

**Same as above

Private Sector Entities

Industry-Specific Skills Development

Objective: To build an understanding of if and how firms address skills development both in a firm-specific sense and industry need locally and internationally.

- What specific skills or competencies does your industry prioritise when hiring new employees? How do you ensure these skills are developed through skilling programs?

Expected Outcomes: Insights how they aid employees in achieving the necessary skills needed to match demand/increase efficiency and productivity. What foundational skills are essential as a base, and how do they ensure employees maintain those skills to address any mismatches.

Probing Questions: “How are skill levels evaluated to subsequently provide the necessary training?”

- Are there any partnerships with educational institutions or government bodies to align training programs with industry needs? Are there any coordination mechanisms in place?

Expected Outcomes: Examples of cooperative efforts with other stakeholders to see whether or not they are aligning with national/international needs, along with the potential upskilling of their own employees.

Probing Questions: “How do you handle conflicting priorities or objectives among different entities?”

Talent Mobility and Migration

Objective: To assess to what degree the firm values mobility and migration and whether or not it is an area of focus for them.

- How does your organisation view talent mobility and migration? Are there any initiatives in place to support the migration of skilled workers?

Expected Outcomes: Insights on whether or not mobility and migration is something they take into account, and if yes, how they support and facilitate migration and what kind (circular? final?).

- What are the main challenges you face in recruiting and retaining skilled workers in Bangladesh/Bangladesh, and how do you address them?

Expected Outcomes: Insights on potential skill mismatches with a focus on mobility and migration. Overskilled? Underskilled? Skilled but not with the correct qualifications/quality? Insights on what they implement to address these gaps.

Probing Questions: “Do these efforts change if the worker participates in mobility or migration programs?”

Contribution to Policy Development

- Does your organisation have any role in contributing to policy development at the national level? If so, how do you engage with policymakers?

Objective: To assess the firms’ contribution to the policy development and potential coordination with government entities.

Expected Outcomes: An outline of their role in national policy implementation/formulation. Are their needs/inputs addressed? To what degree (input-only or drafting?)

Conclusion of the Interview

Final Thoughts and Additional Insights

- Is there anything else you would like to share that has not been covered in this interview?
- Are there any other stakeholders or organisations you think we should speak to for further insights?

Objective: To provide an opportunity for additional insights and suggestions.

Expected Outcome: Capture any final thoughts or ideas that could enrich the analysis.

Probing Questions: “Is there anything we haven’t covered that you think is important to discuss?”

TVET institutionalisation

The TAFE (Technical and Further Education) system in Australia is the government-run provider of vocational education, offering nationally recognised certificates and diplomas regarding practical skills for employment or pathways to university. It includes collaboration between state and territory governments, with numerous institutes, collaborating with industries to meet skill shortages. Wheelahan and Moodie (2025) argue that the system has been weakened by privatisation and neoliberal policies, but that institutionalised TVET holds merit.

The Finnish universities of applied sciences (UAS) developed a form of higher vocational education in the overall education system, with degrees that have a more vocational and practical emphasis than traditional science universities qualifications. Legislation in 2003 aims to establish a permanent UAS sector, focused on promoting regional development, building practice-oriented research profiles, and meeting quality assurance systems required by the European Union. UAS emphasise life skills and a competence-based approach (Virolainen et al., 2024).

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CHAPTER 3: RESILIENCE AND ADAPTATION IN CONFLICT AND HIGH-EMIGRATION CONTEXTS

3.1 Estimating the impact of emigration on labour force replacement demand in the Ukrainian labour market

Volodymyr Sarioglo, Mykhailo Rozbytskyi

3.1.1 Summary

Since the Russian Federation's full-scale invasion of Ukraine in February 2022, emigration has been unprecedented in terms of both scale and impact on the labour market. International organisations estimate that more than 6.7 million people have left the country, and at least 5 million more have become internally displaced persons (IDPs). These demographic shifts have drastically reduced the available labour force, and significantly changed its territorial structure and professional and qualification composition. Coupled with the destruction of businesses, changes in the structure of the economy, and uncertainty about the return of the population, this has created a new situation in the labour market that requires a rethinking of estimation approaches regarding labour supply and demand dynamics in the medium term. Existing tools for estimating labour supply and demand proved to be insufficiently flexible in wartime, so there is a need for an updated approach that takes into account the migration processes not only quantitatively but also structurally.

The article discusses a methodological approach to determine the impact of large-scale labour migration processes on labour demand, in particular those caused by the war, which allowed the estimation of occupational and qualification characteristics of emigrants and the scale of employment replacement demand in Ukraine. At the last stage of modelling, a microsimulation approach was used.

This paper considers the specific features of forming datasets to estimate labour demand based on microdata from state and non-state household sample surveys. The research database is formed from a combination of official and alternative data sources covering both macro and micro levels of analysis. The official statistical data included the 2021 Ukrainian Labor Force Survey, which was used to analyse the structure of the labour force before the start of the full-scale war. Operational reports from the State Border Service made it possible to assess the dynamics of Ukrainian citizens leaving the country and construct approximate estimates of external migration. Information from international organisations, in particular the UN, UNHCR, and IOM, was also used regarding the scale of external migration, migration patterns, and the socio-demographic composition of emigrants.

The modelling process yielded estimates of labour losses by occupational groups. In particular, it was found that the largest losses were suffered by groups of professionals, managers and specialists (over 940,000 people), as well as tool operators, equipment operators and workers in the simplest occupations (about 870,000 people). Potential employment replacement demand for more detailed occupational groups was also estimated.

Keywords: labour market, labour force, employment replacement demand, population emigration, modelling, occupational groups

3.1.2 Introduction

Ukraine is facing massive socio-economic upheavals that have radically changed national labour market conditions. In 2022, the full-scale invasion by the Russian Federation caused substantial external and internal migration, affecting not only the size of the economically active population, but also its professional and qualification structure. According to international organisations and national institutions, more than 6.7 million people left Ukraine, and at least another 5 million became internally displaced persons. As a result, the labour supply in different regions of the country has changed significantly. The eastern, southern and central regions suffered the greatest losses, with a massive outflow of skilled professionals – educators, doctors, engineers and technical workers. This has created significant asymmetries in the structure of labour supply and demand, particularly in the context of economic recovery, the need for infrastructure reconstruction, and the development of key sectors.

At the international level, migration processes related to Ukraine are analysed by the United Nations Refugee Agency (UNHCR), the International Organization for Migration (IOM), and IMPACT – a Geneva-based non-governmental organisation that is an independent provider of data in crisis situations – as well as other organisations that regularly publish reports on the numbers and characteristics of refugees and migrants. In Ukraine, such studies are conducted by the Ministry of Social Policy of Ukraine, the State Statistics Service of Ukraine, the State Migration Service of Ukraine (DMS), the Mykhailo Ptukha Institute for Demography and Quality of Life Studies of the National Academy of Sciences of Ukraine, and others. These sources generally make it possible to study the gender, age and professional structure, particularly relevant to assessing the loss of labour potential in the Ukrainian labour market in the context of war.

Despite the significant relevance and widespread attention to migration processes in Ukraine, the quantitative aspect of this issue in terms of the loss of skilled labour remains underdeveloped in scientific discourse. Existing studies lack reliable estimates of professional and qualification losses, and the absence of unified data complicates the accurate measurement of labour potential outflow and the **estimation** of labour supply and demand imbalances. Among the researchers who emphasise these challenges are E. Libanova, O. Pozniak and O. Tsymbal (2022) and V. Sarioglo (2021), who argue that the absence of unified monitoring systems for migrants' characteristics complicates the measurement of labour potential outflow. At the same time, initial estimates show

that the greatest losses are suffered by highly skilled groups (specialists, professionals, managers), and the majority of those who have left are workers of working age, mainly women with higher education. The uncertainty of the labour force situation is characterised, in particular, by discrepancies in estimates of the labour shortage in Ukraine in the coming years, from 4.5 million (Ministry of Economy of Ukraine, by 2030) (Cabinet of Ministers of Ukraine, 2024) to 8.6 million people (ILO, for the next 10 years) (International Labour Organization, 2023). At the same time, there are also more moderate expert estimates – up to 200,000 people per year. Moreover, the discussion focuses mainly on general estimates, rarely touching on the issue of sectors in which the imbalance between labour supply and demand will be most pronounced, not to mention specific groups of professions, qualifications and skills. In addition, there is widespread debate about the number of refugees who will return to Ukraine, what proportion of them will be able-bodied and economically active, and what qualifications they will have. Certain experts, politicians, and segments of the population, are particularly irritated by existing proposals to possibly attract foreigners – labour immigrants – to the Ukrainian labour market. Current issues requiring a reasoned solution regarding immigrants include how many are needed, in which economic sectors, with what qualifications, required skill level, and under what employment conditions. The Ministry of Economy of Ukraine is currently working on the development of a Population Employment Strategy, the main objective of which is to support economic development by reducing unemployment, ensuring equal access to quality jobs, and increasing the flexibility of the labour market in Ukraine. An important aspect of this strategy is the task of ensuring a balance between labour supply and demand.

Under such conditions, the use of modelling becomes particularly important. Simulation and statistical models allow for the reconciliation of disparate sources and the refinement of loss estimates. As researchers note, the effectiveness of assessing migration losses can be significantly improved by applying distribution modelling methods, in particular using microsimulation models. The modelling makes it possible to anticipate labour force demand and supply imbalances, conduct scenario analyses, and plan the recovery of the labour market in a well-founded manner.

3.1.3 The purpose of the article

The purpose of the article is to develop and substantiate a comprehensive methodological framework for modelling labour demand changes under intensive war-induced emigration. This study offers a multi-level microsimulation approach to quantify occupational-qualification losses and determine the resulting employment replacement demand required for economic recovery.

3.1.4 Methodology

The development and use of models to estimate labour supply and demand, taking into account the qualification and professional characteristics of the labour force, is common

practice in many countries around the world. Models are used both at the national level including the ONS Labour Market Overviews in the UK (Office for National Statistics, 2022), the BIBB-IAB Qualification and Occupational Field Projections (QuBe) in Germany (Maier, 2017), and the ROA forecasts in the Netherlands, and at the meso level – the level of regions or economic sectors. The estimation methodology usually involves taking into account macroeconomic assumptions for the development of economic sectors, which is used as the basis for building and using the model. This forecast generally determines the main trends in labour force development within the principal (most numerous) occupational and qualification groups, the number of which can range from several dozen to several hundred, depending on the level of modelling.

It also provides an opportunity to assess the labour supply, taking into account levels of labour force participation among graduates of higher education institutions, general education schools and other educational institutions, as well as immigrants. Thus, the results of estimating labour demand and supply by occupation in the labour market make it possible to identify imbalances in terms of occupations and qualifications in advance, and to develop public policy measures to address them.

Modern labour market models clearly take migration processes into account when assessing labour demand. Methodologies such as stock-flow modelling and pseudo-cohort analysis are widely implemented by Cedefop and the European Commission to anticipate skill needs (Cedefop, 2023). Forecasting systems increasingly integrate emigration and immigration indicators into both demand and supply components. For example, in the Canadian COPS (Canadian Occupational Projection System) model, the departure of labour abroad is modelled as a need for replacement: a simple emigration forecast and the application of labour force participation rates to it provide an estimate of the additional demand for labour resources due to the departure of workers (Thomas, 2015). On the other hand, the influx of labour migrants is taken into account on the supply side: their numbers are forecast using labour force participation rates and typical occupational distributions, based on census data and surveys on immigrant employment (Thomas, 2015). In addition to classical econometric approaches, the latest scenario modelling methods are also used. For example, in Italy, the Excelsior system uses a vector autoregressive (VAR) model that takes into account alternative economic scenarios for a five-year forecast of labour demand (Awad et al., 2023). In countries that do not have established forecasting systems, adapted approaches are being implemented: a World Bank study (KNOMAD) for Costa Rica, for example, uses an ARIMA model based on time series of employment, population and GDP to estimate future demand for migrant workers (Awad et al., 2023). These modern methods make it possible to predict changes in labour demand caused by migration, taking into account both demographic factors and economic trends.

Forecasting labour market processes in wartime requires consideration of both short- and medium-term consequences. One of the key tasks is to determine which professions and skill groups will be most in demand after the war, particularly for the country's reconstruction. At the same time, it is necessary to develop scenarios that take into account not only labour migration but also overall population migration. It is important to assess the level of education and professional orientation of those who left during the

war, as this will allow for better estimation of which specialists will be in short supply in the coming years. The longer the war lasts, the less likely it is that a significant proportion of migrants will return, which creates additional challenges for assessing future labour market needs. Therefore, developing tools to estimate changes in labour demand is one of the main areas of research in the current environment. It is important to note that these tools must be flexible, adaptive, and take into account both economic and social factors, as the labour market is becoming increasingly unstable.

Modern methods for assessing and forecasting changes in labour demand can be divided into two groups: traditional and alternative. Traditional methods include:

- Labour market supply and demand models that analyse the interaction between the number of vacancies, wage levels, and the size of the labour force. Key implementations include the Office for National Statistics (ONS) Labour Market Overviews in the UK and the Cedefop Skills Forecast (Cedefop, 2023), which provides quantitative projections of employment trends by occupation and sector across the EU.
- Regression models that study the impact of various factors, such as unemployment and migration rates, on supply and demand. These are fundamental for assessing labour market resilience during crises and for calculating individual probabilities of migration based on socio-demographic traits.
- Computable general equilibrium (CGE) models, which assess interactions between economic sectors and the labour market. Representative examples are the E3ME and Hermin models used by the European Commission and Cedefop to anticipate skill needs under changing economic policies.
- Sectoral indexation models, which analyse employment and job losses in different industries. The BIBB-IAB Qualification and Occupational Field Projections (QuBe) in Germany represent a hybrid approach, disaggregating data into 141 occupational groups and 63 economic sectors.
- Time series models, which are used to forecast trends based on historical data. A prominent case is the World Bank's KNOMAD study for Costa Rica (Awad et al., 2023), which implements an ARIMA model to project migrant labour demand based on long-term time series of GDP and employment.

Alternative methods include:

- Analysis of data from alternative sources, such as social networks and job search sites. Research in Ukraine utilises automated web-scraping scripts (Python) to extract real-time vacancy data from portals like Work.ua and Robota.ua.
- Use of Big Data and machine learning to build predictive models. The European Training Foundation (ETF) manages a database of over 4 million Ukrainian job advertisements, enabling granular analysis of skill requirements using the ESCO classification.
- Scenario approaches that take into account the uncertainty and multiplicity of developments during wartime. The Excelsior system in Italy integrates Vector Autoregressive (VAR) models to simulate labour demand under alternative recovery scenarios.

The methodology for modelling and forecasting labour market demand in Ukraine should be based on adapted methodological approaches used in EU countries. As Ukraine's labour market information system is gradually being brought into line with European standards, this allows for the integration of advanced methods of analysing labour supply and demand. European approaches are different in that they take into account structural changes in the economy and allow for more accurate forecasting of the need for skilled professionals. Adapting these approaches to the Ukrainian labour market will contribute to more effective human resource management, taking into account both internal and external migration processes.

Employment replacement demand is a natural process that occurs when an employee leaves their job. Within the framework of the overall demand for labour, this component reflects the need to replace employees who have left during a certain period of time. However, total employment demand is defined as the sum of replacement demand and expansion demand (new job openings created by economic growth or structural shifts). Employees leave their jobs for various reasons: retirement; change of profession or place of work; temporary withdrawal from the labour market; emigration, etc. If the overall demand for a particular profession does not decrease, such departures create additional vacancies that need to be filled with new personnel. In most economies, demographic factors, primarily the age of the employed, contribute most to the demand for replacement: older workers retire and need to be replaced by younger personnel. Thus, analysis of the age structure of the labour force is a standard tool for forecasting demographically driven demand for replacement.

In wartime Ukraine, a powerful new factor of replacement demand has emerged: mass external migration of the working-age population. In terms of impact on the labour market, it significantly exceeds traditional demographic factors. In particular, according to preliminary estimates, the demand for replacement caused by emigration during the war is several times greater than that caused by the retirement of employees. For example, before the war, it was predicted that over five years, the departure of workers due to age would create a need to replace about 0.2 million people (and about 0.6 million over ten years). Instead, in the first year of full-scale war alone, the estimated loss of labour due to emigration reached several million people, which led to a much greater demand for new labour resources. This indicates the need to develop special methodological approaches to assessing replacement demand in conditions of intense migration.

3.1.5 Methodological approach to the study

To assess the impact of emigration on the demand for labour replacement, a comprehensive scientific approach was used, combining step-by-step economic and mathematical modelling and micro-simulation methods. In other words, a new multilevel model was developed that allows for a quantitative assessment of the extent of the need for new workers to replace those who have left the labour market, as well as the professional and qualification profiles of these departed workers. For the first time, it was proposed to take into account the processes of large-scale emigration (in particular,

migration outflow caused by war) when forecasting employment demand and supply in the medium term. This approach allows the migration component to be integrated into labour market models and more accurate forecasts to be obtained in the current conditions. A detailed technical description of the datasets, assumptions and modelling steps is provided in the Annex.

The developed model for assessing and forecasting labour demand is implemented in several stages, which ensures a step-by-step simulation of the migration outflow process and its consequences for the structure of labour resources. The main stages of modelling can be described as follows:

- Estimation of the scale of emigration and characteristics of emigrants. At the first stage, the total number of economically active people who have left the country is determined, and information about their characteristics is collected, including distribution by gender and age, professional structure, region of origin – with maximum possible detail based on available data sources.
- Formation of a pre-war labour force model. In this second stage, a model of Ukraine's total labour force before the start of the war is constructed – a microdata set on employed and unemployed persons as of the beginning of 2022, containing a wide range of their characteristics (age, gender, profession, industry, education, etc.). The model is based on a representative microdata set from Ukrainian state household surveys, in particular the 2021 Labor Force Survey (LFS), which reflects the structure of employment and unemployment on the eve of the war.
- Updating the model at the time of the start of mass emigration. The third stage involves bringing the pre-war labour force model into line with the situation at the start of full-scale war, and the associated migration outflow. In fact, the model is updated for February 2022, taking into account the change in size and structure of the economically active population at that time – in particular, the first statistical data on mobilisation into the army.
- Simulating the departure of emigrants from the labour force. In the fourth stage, the modelled contingent of emigrants is removed from the updated labour force, i.e., the process of their departure from the labour market is simulated. This procedure allows us to reflect the direct losses of the labour market due to emigration by 'cleaning' the model of departed workers.
- Analysis of the 'residual' labour force in Ukraine. At the fifth stage, an analysis is carried out of the characteristics of the part of the total labour force that remained in Ukraine after the departure of emigrants. Changes in factors such as professional and qualification composition, and age structure, among those who continue to work or seek work in the country are determined. At the same stage, the volume of replacement demand is assessed; in fact, the number of vacancies or jobs that need to be filled to compensate for the departure of workers due to migration.

The micro-simulation approach plays a key role in such multi-level modelling. The use of representative microdata sets made it possible to accurately reproduce the structure of the labour force and perform detailed calculations for each group of employees. The model employs the Monte Carlo method to manage uncertainty in migrant

characteristics. By building multiple ‘replications’ of the labour force and assigning migration probabilities based on observed macro-trends, the model produces a stable estimate of occupational losses. Micro-level modelling makes it possible to simulate the processes of labour force attrition, return and recruitment, taking into account the individual characteristics of employees, such as age, gender, education and profession. This ensures the model’s flexibility and high adaptability to the non-standard conditions of wartime, when labour market parameters can change very quickly.

To implement the described approach, a broad information base was formed, combining diverse data sources. Both official statistics and alternative sources were used, including survey results and international estimations. In particular, the information base consisted of data from the State Statistics Service of Ukraine (including Labor Force Survey 2021 microdata), the Ministry of Economy, the Ministry of Social Policy, the State Employment Service, the State Migration Service, the State Border Service, as well as information from international organisations – the International Organization for Migration (IOM), Eurostat, the Office of the United Nations High Commissioner for Refugees (UNHCR), etc. Also taken into account were results of specific sociological and statistical studies conducted by domestic scientific institutions (in particular, the Institute of Demography and Social Studies of the National Academy of Sciences of Ukraine, and the Center for Economic Strategy), as well as data from destination countries on the number and characteristics of Ukrainian refugees.

The estimates presented in Figure 13 are based on anonymous microdata on labour force characteristics provided by the State Statistics Service of Ukraine with 2021 LFS results. In constructing the counterfactual labour force scenario, it was assumed that the level of economic activity in 2023 remained at the pre-war 2021 level. This assumption made it possible to isolate the migration component of labour force losses without introducing additional behavioural adjustments in participation rates.

Occupational and educational structures of migrants to western countries were estimated using available survey data. For migration flows to eastern destinations, it was assumed that emigration occurred predominantly at the household level; therefore, the demographic and qualification structures of these migrants were approximated by the pre-war structures of the Ukrainian population and labour force.

The integration of data from different sources required their prior harmonisation and mutual coordination. Data harmonisation involved aligning international classifications (ISCO-08, ESCO) with the Ukrainian Classifier of Occupations (DK 003:2010), whose major occupational groups are presented in Table 16. Calibration of statistical weights (reweighting) was performed using a distance minimisation function to match confirmed ‘control totals’ from administrative data and UNFPA estimates.

Table 16: Major occupational groups according to the Ukrainian Classifier of Occupations (DK 003:2010)

Code	Major occupational group
1	Legislators, senior officials and managers
2	Professionals
3	Specialists
4	Technical staff
5	Service and sales workers
6	Skilled agricultural, forestry and fishery workers
7	Skilled workers with tools
8	Workers involved in the maintenance, operation, and control of technological equipment, assembly of equipment and machines
9	Elementary occupations

Source: State Consumer Standards of Ukraine (2010), Classifier of Occupations DK 003:2010 (State Consumer Standards of Ukraine, 2010).

Data aggregation and calibration methods were used to reduce indicators of different levels (micro and macro) to a common denominator. The synthesis of such diverse information ensured a comprehensive estimation of labour losses and increased the reliability of the results obtained. It is important to emphasise that the use of microdata made it possible to analyse not only the quantitative but also the qualitative characteristics of emigrants and those who remained to work in Ukraine, such as age, gender, level of education, occupation and work experience. This made it possible to identify which categories of workers were most vulnerable to emigration, i.e. which specialists were lost in the greatest proportion. Such a detailed analysis would have been impossible based on aggregated statistics alone, so combining different data sources was essential for this study.

3.1.6 Results of estimating the impact of emigration on the labour market

Even before the full-scale war, the Ukrainian labour market was already feeling the effects of large-scale labour migration abroad, but the war has greatly intensified the population outflow. For example, the number of labour migrants from Ukraine to the EU in 2015-2017 was estimated at around 2.7 million (Sarioglu, 2019). In 2018-2021, a series of analytical studies conducted by the Ptoukha Institute for Demography and Quality of Life Studies of the National Academy of Sciences of Ukraine examined the structural and occupational

characteristics of external labour migration, providing an empirical foundation for assessing labour potential losses. In these conditions, it became particularly important to estimate the employment replacement demand, i.e. the need to attract new employees to fill vacancies arising from labour turnover, particularly as a result of emigration.

Traditional employment forecasting tools proved to be insufficiently flexible in wartime, so there was a need for updated approaches that take into account migration processes not only quantitatively but also structurally. Existing modelling approaches proved to be insufficiently effective in conditions where the labour market situation is rapidly changing under the influence of intense external migration. That is why the goal was set to develop a new methodology for estimating employment replacement demand, taking into account the mass emigration of the war period. The data in Table 17 illustrate the available estimates of population and labour force losses in 2023 compared to the pre-war situation. It should be noted that the 2021 estimates are based on data from the State Statistics Service. Indicators for 2023 are based on estimates of size and structure of the population of the Government Controlled Area (GCA) of Ukraine made by UNFPA and the Institute for Demography.

Table 17: Estimated population and labour force losses for the period 2021-2023

Age group	2021		2023		Losses	
	Population, thousand people	Labour force, thousand people	Population, thousand people	Labour force, thousand people	Population, thousand people	Labour force, %
Total, 15 years and older	31,877.3	17,405.0	26,122.5	14,262.9	5,754.8	18.05
15-70	28,028.5	17,321.6	22,790.5	14,084.5	5,238.0	18.69
20-64	23,669.4	17,018.3	19,051.6	13,698.1	4,618.8	19.51
Working age (15-60 years)	22,925.4	16,666.8	18,831.7	13,690.7	4,093.7	17.86

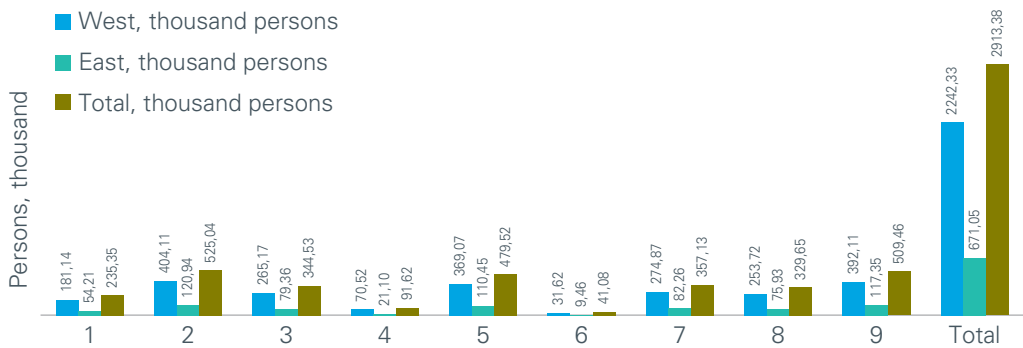
Source: developed by the authors based on data from the Institute of Demography of the National Academy of Sciences of Ukraine and the State Statistics Service (State Statistics Service of Ukraine, 2021).

According to the estimates obtained, the loss of the working-age population aged 15-70 by 2023 amounted to approximately 18.7% of the pre-war labour force recorded in 2021, which corresponds to about 3,237 thousand persons. Assuming that the pre-war unemployment rate was about **10%**, the estimated loss of employed persons amounts to approximately **2,913,400 people**.

The application of the above methodology made it possible to obtain approximate quantitative estimates of Ukraine’s labour force losses due to external migration caused by the war, broken down by major occupational groups. All calculations presented in Figures 13 to 15 refer to 2023. This choice is due to limitations in official refugee statistics. As stated by UNHCR, “As of mid-June 2023, an estimated 1.2 million Ukrainians were recorded in the Russian Federation under different legal forms of stay (other than refugee or temporary asylum status) and reported by UNHCR as persons in a refugee-like situation. However, this figure has not been updated since June 2023, and therefore can no longer be included in UNHCR’s official statistics for 2024.” Given the absence of updated data after mid-2023, 2023 was used as the latest year with comparatively consistent coverage of external displacement.

In other words, the scale of employment replacement demand in the labour market due to the outflow of workers of various specialties was determined (see Figure 13). The modelling confirmed that two key areas suffered the greatest losses: highly skilled professionals (white-collar workers); and manual laborers (blue-collar workers). In particular, the groups of managers, professionals and specialists lost more than 1.1 million people, while the groups of skilled workers, equipment operators and workers in the elementary occupations lost about 1.2 million people. Thus, the total loss of personnel in these two large segments of the labour market is estimated at around 2.3 million people. This is an extremely significant figure for the Ukrainian labour market, corresponding to roughly 13-14% of the pre-war economically active population, which amounted to about 17 million persons before the full-scale invasion.

Figure 14: Estimated number of employed people lost due to population migration, by sections of the Classification of Occupations as of August 2023, thousand people (see Table 16).



Source: developed by the authors based on data from (State Statistics Service of Ukraine, 2021; International Organization for Migration, 2016; Mykhailshyn et al., 2023; United Nations High Commissioner for Refugees, 2025).

In addition to these two categories, other professional groups also suffered significant losses. The developed model made it possible to assess potential demand for replacement for more detailed occupational groups. Although the largest absolute losses are observed among highly skilled personnel and industrial and craft workers, losses in other sectors of the economy are also significant. For example, a significant number of emigrants belonged to the trade and service sector (according to estimates, up to 0.5 million people), where there was also a noticeable shortage of workers. Overall, the results confirm the thesis that the mass emigration of the working-age population has disproportionately affected the highly skilled labour sector. It is precisely specialists with higher education (engineers, IT specialists, scientists, medical workers, teachers, etc.) and experienced managers who make up a significant part of those who have left. This points to the threat of a brain drain and a potential deepening of the labour shortage in areas critical to the country's recovery, such as science, technology, medicine, education and public administration.

The study provided estimates of the labour force size before the full-scale invasion and the volume of emigration flows during the military escalation, broken down by occupational groups formed according to the DK 003:2010 classifier (Table 18).

Table 18: Codes of occupational groups of the labour force, formed based on the results of formation of THE migrant population model

11 – Legislators, senior civil servants, senior officials of public and self-governing organisations	52 – Models, salespeople and demonstrators
12 – Managers of enterprises, institutions and organisations	53 – Workers providing other services to legal entities and individuals
13 – Managers of small enterprises without administrative staff	61 – Skilled agricultural workers and fishermen
14 – Managers (administrators) of enterprises, institutions, organisations and their divisions	71 – Workers in mineral extraction and construction
21 – Professionals in the field of physical, mathematical and technical sciences	72 – Workers in metallurgical and machine-building professions
22 – Professionals in the field of life sciences and medical sciences	73 – Workers in precision mechanics, manual crafts and printing
23 – Education and training professionals	74 – Other skilled workers with tools
24 – Other professionals	79 – Other professional titles for skilled workers with tools
31 – Technical specialists in applied sciences and engineering	81 – Industrial equipment operators
32 – Specialists in biology, agronomy and medicine	82 – Machine operators and assemblers

33 – Education and training specialists	83 – Drivers and operators of mobile machinery and equipment
34 – Other specialists	91 – Elementary occupations in trade and services
35 – Food and processing industry specialists	92 – Elementary occupations in agriculture and related industries
41 – Information-related clerical workers	93 – Elementary occupations in mining, construction, manufacturing and transportation
42 – Customer service clerks	94 – The simplest occupations common to all sectors of the economy
51 – Workers providing personal and protective services	

Source: developed by the authors based on State Consumer Standards of Ukraine (2010).

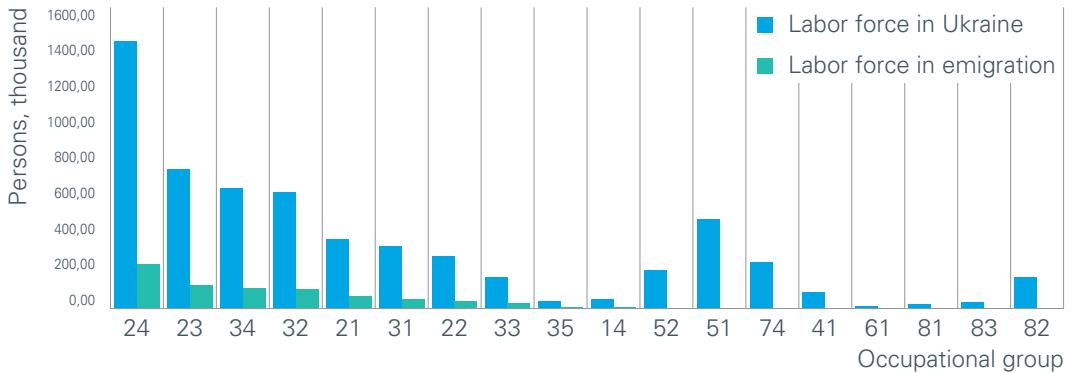
The largest pre-war occupational groups were: group 92 (the elementary occupations in agriculture and similar industries) – about 1,500 thousand people; group 52 (models, salespeople and demonstrators) – approximately 1,350 thousand people; and group 24 (other professionals) – around 1,100 thousand people. At the same time, total emigration volumes in these groups were significantly lower – approximately 120, 140, and 130 thousand people respectively – indicating relatively low labour mobility under crisis conditions.

These quantitative estimates should be treated as approximate (indicative), as there is no accurate data on all emigrants. However, they provide an important insight into the structure of losses. The most vulnerable to forced migration are: women of working age with higher and secondary specialised education (a significant proportion of refugees are women with children); young workers; and specialists in demand abroad (medical personnel, IT specialists, engineers, etc.). Geographically, labour migrants from Ukraine are concentrated mainly in EU countries, primarily neighbouring ones – Poland, the Czech Republic, and other central and eastern European countries. This leads to a certain brain drain from the western and central regions of Ukraine, which may have long-term consequences for their development (see Annex for data source).

Figures 15 and 16 present estimates of the number of people who remained in Ukraine, and left the country having been employed in the Ukrainian labour market before the war, by occupational group. For analytical clarity, the two-digit occupational groups are sorted in descending order according to the estimated number of emigrants in each group. The set and sequence of dominant groups differ between women and men, reflecting differences in the structure of migration losses rather than inconsistencies in classification. Fig. 2 presents the distribution of pre-war employment and emigration volumes among women by two-digit occupational codes. The largest pre-war qualification groups are 24, 23 and 34, numbering approximately 1,420 thousand, 740 thousand, and 640 thousand women, respectively. Emigration losses in these groups amounted to about 230 thousand (Group 24), 120 thousand (Group 23), and 110 thousand (Group 34).

In proportional terms, this corresponds to approximately 16% of the pre-war composition of Group 24, 16% of Group 23, and 17% of Group 34.

Figure 15: Estimated number of women with higher education in Ukraine and abroad by occupational group, thousand persons



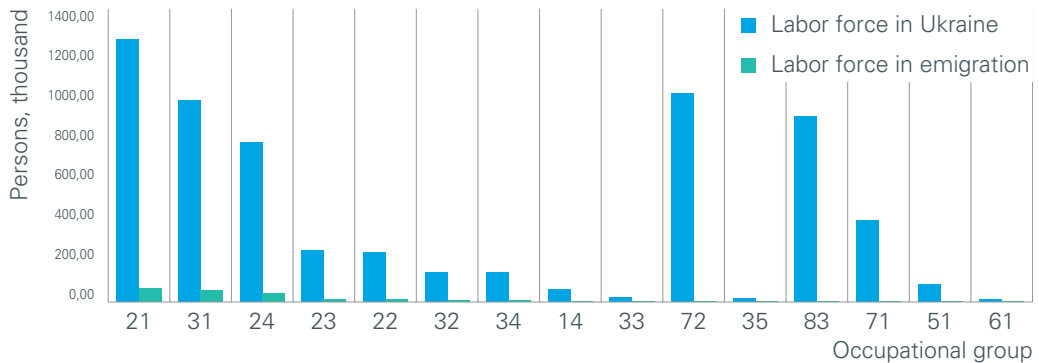
Source: developed by the authors based on data from (State Statistics Service of Ukraine, 2021; International Organization for Migration, 2016; Mykhailyshyn et al., 2023).

Figure 16 illustrates the distribution of pre-war numbers and emigration volumes among men by two-digit codes of occupational groups (see Table 18).

Groups 21, 72, 31, 83 and 24 were the largest male qualification groups before the full-scale invasion, numbering approximately 1,250, 1,000, 960, 890 and 760 thousand persons, respectively. The estimated number of men who emigrated from these groups amounted to about 60 thousand (Group 21), less than 10 thousand (Group 72), 55 thousand (Group 31), close to zero (Group 83), and 45 thousand (Group 24). In proportional terms, this corresponds to approximately 5% of the pre-war composition of Group 21, less than 1% of Group 72, 6% of Group 31, close to 0% of Group 83, and 6% of Group 24.

Thus, despite substantial absolute pre-war employment levels, the relative scale of male emigration within the largest qualification groups remained limited, indicating comparatively low migration mobility among highly qualified male workers during the war period.

Figure 16: Estimated number of men in Ukraine and abroad by occupational group, thousand persons



Source: developed by the authors based on data from (State Statistics Service of Ukraine, 2021; International Organization for Migration, 2016; Mykhailiyshyn et al., 2023).

When comparing the proportional indicators, the scale of emigration among women in the largest qualification groups (16-17%) significantly exceeded the corresponding rates among men in the dominant qualification categories (generally around 5-6%). This contrast demonstrates that war-induced migration had a disproportionately stronger impact on highly educated female labour. Such gender asymmetry in migration losses reinforces concerns about structural imbalances in the skilled segment of the Ukrainian labour market.

Thus, the war, and the migration processes it caused, generated unprecedented employment replacement demand in Ukraine. The results clearly highlight the scale of the problem: the country has lost a significant portion of its human capital in a short period of time. These changes have dramatically increased the burden on the labour market, creating a need to fill a large number of vacancies quickly as skilled workers leave.

3.1.7 Discussion of results and practical recommendations

The identified trends and estimates of labour force losses pose an unprecedented challenge for the Ukrainian labour market. On the one hand, there is already an acute shortage of workers in certain industries and professional fields, especially highly skilled workers. On the other hand, the continuation of emigration on such a scale could slow post-war economic recovery due to a lack of labour resources. Thus, the results of the study are important in developing policies and measures to respond to the labour crisis.

The analysis of the gender, age and professional characteristics of migrants is extremely important, not only from the point of view of the current estimation of the socio-economic consequences of external migration, but also as a critical element of long-term planning of employment policy and the restoration of Ukraine’s human capital. A deep understanding of the structure of migration flows allows us to identify the main groups

of people who have left the country, and assess the extent to which this has affected the labour market – particularly in certain economic sectors already experiencing skilled labour shortages. First and foremost, this concerns people of working age with higher education or high professional qualifications – that is, the most valuable resource necessary for successful economic recovery in the post-war period. Identifying the scale of losses in these categories of workers signals a threat of slowing the development of high-tech and knowledge-intensive industries, and requires an appropriate response.

Estimates obtained in this study can be used to develop a state strategy aimed at returning labour migrants to Ukraine and their effective reintegration into economic processes. The success of such a strategy will largely depend on understanding who exactly left the country and, accordingly, who could potentially return after the end of hostilities. Without a proper understanding of these processes, any policy measures to return or compensate for labour losses risk being superficial and ineffective. In this context, it is advisable to start developing programmes to encourage the return of the most sought-after specialists. Such measures may include creating attractive working conditions, establishing state grant and loan programmes for repatriated entrepreneurs, and promoting the mutual recognition of qualifications. It is also advisable to look for opportunities to compensate for losses by attracting immigrants and mobilising internal labour reserves – for example, by increasing the participation of under-represented population groups in the labour force.

The lack of complete and accurate official statistics on emigrants limits the accuracy of estimations. In these circumstances, the synthesis of data from various available sources – international surveys, information from partner countries on Ukrainian refugees, and special studies conducted by domestic research centres – becomes particularly valuable. Despite the shortcomings and fragmentation of such information, it enables us to form a general idea of the scale of losses and identify the most vulnerable professional and qualification groups that have been reduced due to migration. At the same time, the integration of heterogeneous data requires careful harmonisation – the coordination of indicators and classifications (national and international) and the reduction of different categories to a common denominator. In the course of further research, it is advisable to apply modern statistical approaches – methods of approximation, smoothing, trend analysis, and modelling based on incomplete or aggregated data. This will partially compensate for the lack of complete information and increase the reliability of analytical conclusions.

From a scientific and practical point of view, the results obtained can serve as a basis for improving the system of estimating labour supply and demand in Ukraine. The modelling approaches developed within the study can be implemented by state bodies (the Ministry of Economy, the State Employment Service, etc.) for the operational estimation of personnel needs. In particular, the practical significance of the results lies in the possibility of using them to: identify the most scarce professions and specialties; develop vocational training and retraining programmes taking into account new imbalances; make decisions on the feasibility of attracting foreign specialists in areas where domestic resources are exhausted. The quantitative estimates and models obtained allow for more informed planning of measures to balance labour supply and demand, taking into account current and possible future migration trends.

To ensure the effectiveness of these approaches in public administration, an institutional and organisational foundation is necessary. A labour resource estimation model that takes migration processes into account can be integrated into the existing employment forecasting system in a relatively short time and with moderate adaptation costs; however, such a system is currently under development in Ukraine by the Ministry of Economy and academic research institutions, including the Ptoukha Institute for Demography and Quality of Life Studies of the National Academy of Sciences of Ukraine. It is important to establish data exchange between agencies as well as regular monitoring of the migration situation and its impact on the labour market. Close coordination between central executive bodies and cooperation with stakeholders (employers, trade unions, educational institutions) is necessary to develop a relevant and flexible system for estimating labour supply and demand. Only under such conditions will the scientific results fully realise their potential and contribute to minimising the negative consequences of mass emigration.

3.1.8 Conclusions

Large-scale external migration caused by the war has significantly transformed the Ukrainian labour market, leading to a sharp surge in demand for labour replacement. This article presents a new methodological approach to assessing this phenomenon based on multilevel micro-simulation modelling. The results of the study show that labour losses due to emigration are unprecedented in scale and disproportionately large in highly skilled segments. In a short period of time, the country lost about 10% of its labour resources, mainly specialists and skilled workers, which created extraordinary challenges in meeting the demand for personnel.

The approach proposed in this study made it possible to quantitatively assess the need to replace departed workers, and identify the structure of these losses by professional, qualification and demographic characteristics. This lays the foundation for targeted management decisions. In particular, data on which categories of specialists are lacking as a result of emigration can be used in planning education and qualification policies, developing programmes to return migrants, and attracting additional labour resources.

At the same time, the study revealed a number of limitations, which should be addressed in further scientific research. A more detailed study of the socio-demographic profile of Ukrainian migrants is needed, in particular their educational level, professional experience and sectoral affiliation abroad. Another promising area is the modelling of various scenarios for the return and reintegration of workers, taking into account behavioural factors (motivation to return, level of integration abroad, etc.) to predict future trends. Further improvement of methods and expansion of the information base (including through the establishment of international data exchange on migrants) will allow for more accurate estimations, and the development of effective strategies to respond to the challenges facing the Ukrainian labour market. Thus, this work not only quantitatively describes the current situation, but also forms scientifically sound guidelines for labour and migration policy in the context of post-war recovery.

ANNEX: TECHNICAL DESCRIPTION OF DATA SOURCES AND CALCULATION PROCEDURES

Research information base

The information base for the labour force population model was derived from microdata of the Labor Force Survey conducted by the State Statistics Service of Ukraine (SSSU) in 2021, the last round of this survey before the war. It should be noted that after the beginning of the war the SSSU stopped conducting the LFS during martial law. The representative LFS microdata set contained data on the population aged 15 years and older with detailed characteristics of individuals, such as gender, age, level of education, qualification, status of economic activity and occupation.

To estimate the scale of external migration and the characteristics of migrants, data from international and national sources on the number and characteristics of persons who left Ukraine after the start of the full-scale war were used. At the same time, the structure of emigrants by gender and educational characteristics was assessed based on data from refugee-receiving countries. According to the longitudinal study of people from Ukraine who left due to the war, and those who returned conducted by IMPACT Initiatives (2024), approximately 71% of working-age emigrants are women, of whom about 70% have higher education. These parameters were used to form a model of the emigrant labour force.

Modelling labour force losses

The estimation of labour force losses was carried out on the basis of a specially developed micro-simulation procedure. The procedure involved:

1. Determining the total number of economically active people who are emigrants.
2. Forming a model of the total emigrant labour force in accordance with the estimated gender, age, occupational and qualification characteristics.
3. Simulating the removal of the relevant contingent from the pre-war labour force in Ukraine.

To reduce the estimation error, the Monte Carlo method was used with multiple replications of the removal procedure. The results were aggregated by broad occupational groups in accordance with the classification of occupations.

Limitations of estimates

The reliability of the estimates obtained may not be sufficiently high, due to the lack of accurate and detailed data on the population of Ukraine, including economic activity, occupational and qualification characteristics of emigrants before leaving Ukraine. At the same time, in our opinion, the approach can be sufficiently effective with the improvement of information support for such studies.

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3.2 Understanding and addressing the potential migration of medical doctors from Albania and Kosovo

Ilir Gëdeshi, Russell King and Isilda Mara

3.2.1 Abstract

In the last decade, Albania and Kosovo have witnessed some of Europe's most rapid accelerations in rates of skilled medical migration, with young and highly trained professionals leaving in increasing numbers. Accordingly, this paper aims to explore the intersection of highly skilled migration and public health capacity by examining the potential emigration of medical doctors from the Western Balkans, particularly Albania and Kosovo. The paper adopts a mixed-method approach. The main part of the analysis relies on a unique primary dataset gathered through online surveys conducted in 2023-2025, covering 729 medical doctors in Albania and 310 in Kosovo. These quantitative data are explored through descriptive statistics and regression analysis to identify the profile of potential emigrant doctors by demographic and professional characteristics. Qualitative data, in the form of face-to-face and online interviews, are analysed thematically to capture nuanced motivations and contextual drivers. The findings reveal an overall high level of potential migration, especially among younger doctors (aged 24-40), more than half of whom in Albania, and nearly two-thirds in Kosovo, intend to migrate. Germany and Switzerland are the main desired destinations for doctors from Kosovo; for Albanians the options are more numerous. In terms of motives, economic factors (income, living standards, etc.) are more prominent for the Albanian respondents, whereas the Kosovans' main reasons relate more to career development and further training and specialisation. Given the nature of the data, the findings should be interpreted as indicative of emerging trends rather than as definitive estimates of future migration flows.

JEL Codes: F22, J61, I18, J24, O15

Keywords: Skilled migration; medical doctors; brain drain; health workforce; Albania; Kosovo; Western Balkans; labour mobility; retention policies; push and pull factors; public health.

3.2.2 Introduction

In March 2022, reacting to news of an unprecedented number of Turkish doctors emigrating to Western Europe, President Recep Tayyip Erdoğan, in a moment of rhetorical braggadocio, declared "Let them go." One week later, at an event commemorating

Doctor's Day, he changed his tune: "This country owes a debt of gratitude to its doctors and needs them."¹⁰

Erdođan's *volte face* epitomises the ambiguities and contested arguments over the emigration of doctors – as well as medical personnel more broadly – from relatively poor countries to wealthier countries that have better salaries and working conditions for medical professionals. In synthesis, the two sides of the debate are as follows. On the one side is the widely accepted principle that emigration – the freedom to leave a country – is a fundamental human right. Closed autocratic regimes have often restricted this right, including, Albania between the end of the Second World War and 1991. On the other side is a moral argument: is it fair that relatively poor countries, such as Turkey, or Albania and Kosovo, should invest scarce resources in the education and training of doctors only for them to migrate – often through active recruitment – to richer countries like the United Kingdom, United States or Germany? Meanwhile, the health sectors in countries whose doctors emigrate are deprived of critical medical expertise, to the detriment of public health and wellbeing.

The broader context of doctors' emigration from Albania and Kosovo is that there is a global shortage of medical professionals, particularly highly trained and specialised doctors who form an elite niche in the globalised, mobile, medical labour market (Adovor et al., 2020; Grignon et al., 2013). This shortage is driven by a combination of supply and demand factors. On the supply side, the cost and duration of medical training (usually a five- or six-year general medical degree, plus further years for specialisations), the stringent academic entry requirements for medical degrees, and the heavy projected workloads for young doctors, mean that many countries do not have the numbers of doctors and other medical professionals that they need. On the other side of the medical labour market, increasing demand is driven by ageing populations, increasing longevity, new medical discoveries and complex treatments, and improving standards of living (and hence increasing purchasing power for medical insurance and private treatment) across many parts of the world.

In an even broader scenario, migrating doctors are part of a global-scale brain drain of highly skilled talent towards the richer countries of the world whose skills-driven development is in turn partly powered by these fresh supplies of 'brainy' migrants. The extent to which brain drain can contribute to the development of the countries of origin (for instance via 'brain return' or various kinds of remittances), or, conversely, affect the reproduction or exacerbation of inequality across the world, remains an open question.

This paper zooms in on the narrower, but no less important, topic of emigrating doctors from two Western Balkan countries which suffer from the broader syndrome of brain drain, Albania and Kosovo. It builds on earlier survey and data-analysis research by the authors on the migration of health professionals from this region (Gėdeshi, King & Ceka, 2024; Mara 2023). In this paper we focus on the notion of potential migration – surveying

¹⁰ See BIA News, 14 March 2022. According to the Turkish Medical Association, 1045 Turkish doctors emigrated in 2021, rising rapidly to 2153 in the first ten months of 2023, equivalent to seven doctors per day leaving the Turkish health system during that period.

doctors currently living in the two countries about their intentions to migrate via a mixture of online questionnaires and follow-up semi-structured interviews.

In earlier survey work on potential migration in Albania (Kosovo was not included in this research), King and Gëdeshi (2020) found that, while overall 28.6% of the 1421 people surveyed intended to migrate, the rates for both younger respondents (aged 18-40) and the tertiary-educated were much higher, at 52.0% and 52.3% respectively. This indicates that, compared with previous surveys of Albanian potential migration, a trend can be observed towards the intended emigration of the younger, more highly educated segments of the population.

Regarding the emigration of doctors from Albania and Kosovo to Germany, the main destination country in recent years, the German Medical Association records the following statistics: Albanian doctors registered in Germany increased from 149 in 2013 to 1,240 in 2024, and doctors from Kosovo grew from 113 to 554 over the same period.

It is the aim of this paper to investigate this phenomenon further. In the next section we specify four key research questions regarding the scale, demographics, destination countries and motivations of the doctors' intended migration from Albania and Kosovo. We answer these questions via a mixed methodology of surveys, in-depth interviews and secondary data – the details of which are spelled out in a section on methods. The four questions are then answered using a variety of research evidence, including quantitative analysis of the online survey responses to identify key socio-demographic characteristics of those most likely to express an intention to migrate abroad. Throughout the analysis, both similarities and differences between the Albanian and Kosovan findings are set out.

3.2.3 Research questions

Based on primary and secondary sources, this paper is structured around four key questions related to the potential migration of medical doctors from Albania and Kosovo:

- How big is the potential migration of medical doctors from Albania and Kosovo?
- What are the socio-demographic characteristics of those intending to migrate?
- Which desired countries are targeted by the migrants?
- What are the main reasons behind their intention to migrate?

These questions are essential to understanding the magnitude of the phenomenon, the socio-demographic composition of potential migrants, the geographic direction of potential migration flows, and the causes and consequences of this process. They also provide a basis for formulating effective policies to curb the actual and potential medical brain drain. In the following sections, after describing the research methods used, we address the above questions sequentially, drawing on survey results and interview excerpts. The comparison between Albania and Kosovo helps to highlight the specific characteristics and underlying causes of the phenomenon. The conclusions summarise the findings and offer relevant policy recommendations.

3.2.4 Methodology and survey data

This article is based on the use of three methods – quantitative, qualitative and secondary – to collect data and answer the research questions outlined above. The primary method was an online survey conducted among resident and employed doctors (or those seeking employment) in Albania (N = 723) and Kosovo (N = 318). The second method consisted of interviews, conducted mainly face-to-face, and in some cases online, with doctors in Albania (N = 19) and Kosovo (N = 12). The third method involved a review of the literature and statistical data from both local and international sources on Albanian and Kosovan doctors and their migration. However, this last method provided only partial insights, since the migration of medical doctors from Albania and Kosovo remains poorly documented (Druga, 2020; Murataj et al., 2022).

The survey in Albania was carried out between November 2023 and April 2024, while in Kosovo it extended until June 2025, for reasons explained later. The online questionnaire contained 28 individual questions, grouped into four thematic blocks:

- basic information about the respondent (age, gender, marital status, children);
- professional experience (education, specialisation, employment, income);
- intentions to migrate abroad (drivers, choice of destination country, reasons, timing);
- migration preparedness (language proficiency, prior migration experience, contacts abroad, etc.).

The online questionnaire, designed by the first two authors, took around 10-15 minutes to complete. It was sent via email to 2,100 doctors in Albania and 780 doctors in Kosovo, along with a cover letter explaining the purpose of the survey, assuring confidentiality and anonymity, and requesting participation. In cases of non-response, two further reminders were sent at one-week intervals. The response rate was 35% in Albania and 39% in Kosovo – acceptable figures for online surveys considering doctors' intensive and demanding workloads. Only 0.3% in Albania and 0.2% in Kosovo refused to participate, citing personal data concerns. A few emails were returned as undeliverable, and some medical doctors replied that they had already migrated. The rest did not respond.

The main difficulty in conducting the survey was obtaining valid email addresses. For this purpose, we used various contact strategies. Some addresses came from previous studies (Gëdeshi & King, 2018; Gëdeshi et al., 2022), while others were obtained through personal networks and searching on social media platforms like LinkedIn and Facebook. In Albania, we also used lists of medical doctors working in regional health centres, clinics and hospitals. After contacting them by phone and explaining the study, we requested their email addresses and subsequently sent them the questionnaire. To increase the number of responses, we conducted a second survey phase using the snowball method: respondents who completed the survey received a thank you email and were asked to share it with colleagues or provide their contact details. This method considerably increased the number of respondents. In Kosovo, the snowball approach was the main method used (alongside initial social-media outreach such as LinkedIn and Facebook), which explains the longer period of survey data collection compared to Albania.

A limitation of our survey is that it does not ensure a statistically representative sample of medical doctors in Albania and Kosovo. However, given the large number of completed surveys – representing roughly 14% of medical doctors in Albania and 9% in Kosovo¹¹ – and the supporting interviews, we believe the survey results provide a realistic assessment of the situation. Besides, while the response rates are acceptable for an online survey among medical professionals, we acknowledge that non-response bias cannot be excluded. Doctors who are more dissatisfied with their working conditions or more oriented towards migration may have been more motivated to participate. As a result, the estimates of migration intentions should be interpreted as indicative of prevailing tendencies rather than precise population parameters.

The second method involved semi-structured interviews with medical doctors in Albania and Kosovo during 2024 and early 2025. In selecting interviewees, we sought to maintain diversity in terms of gender, age, employment and income. As with the survey, we cannot claim statistical representativeness, but the semi-structured interviews, which were recorded and transcribed, provided additional valuable qualitative insights that complemented the survey data. Standard ethical procedures were followed throughout: informed consent, permission to record, and full anonymity. Excerpts from these interviews are cited in the article, using pseudonyms to protect confidentiality.

In the next sections, we present the research findings, combining data from the online survey with insights from the in-depth interviews. We take each of the research questions listed above in turn.

3.2.5 How big is the potential migration of medical doctors? Results from the survey data

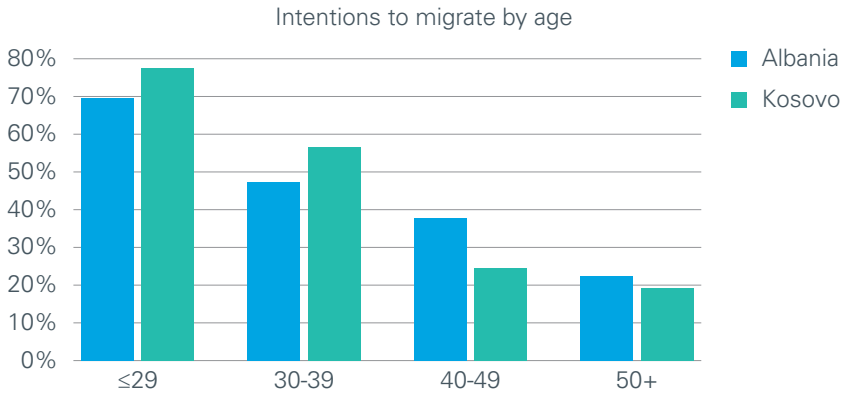
Our survey data show that 39.7% of doctors in Albania and 46.5% in Kosovo intend to migrate. This tendency is particularly high among the 24-40 age group, where 52.9% of doctors from Albania and 65.7% of doctors from Kosovo expressed an intention to leave. The lower age limit of 24 years corresponds to the earliest age of graduation following the six-year training in general medicine. As shown in Figure 17, the tendency decreases significantly after 40 years of age. In short, one in two young doctors from Albania and two in three from Kosovo plan to migrate.

This potential migration rate among medical doctors – at least in Albania’s case – is higher than that of the general population, which was measured in 2018 (King & Gëdeshi, 2020).¹² The difference in migration potential between Albania and Kosovo (6.8 percentage points overall, and 12.8 percentage points for those aged 24-40) can be explained by social and economic factors, which we discuss below.

¹¹ According to WHO data in 2020, there were 5,397 doctors in Albania. In Kosovo, according to the Kosovo Agency of Statistics (KAS), in 2024 the total number of doctors in public and private institutions was 3,486 (for more information see: KAS (2025) Health Statistics 2024. Prishtina).

¹² A survey of potential migration conducted by the first two authors in 2018 with the population aged 18 or above showed that 28.6% intended to migrate; but it was 52.0% for the age group 18 to 40 (King & Gëdeshi, 2020).

Figure 17: Potential migration of medical doctors (MD) from Albania and Kosovo by age (in %)



Source: Authors' surveys, 2023-2025

The indicator of potential migration is important because it provides insights into future migration trends and their policy implications. However, as other authors have shown (Laczko et al., 2017), in countries including Albania (King & Gëdeshi, 2020), the potential migration rate is significantly higher than the actual migration rate that follows. For potential migration to become real migration, several conditions must be met, including migration preparedness (Cassarino, 2008) and the ability to transform aspiration into actual migration (Carling & Schewel, 2018).

If potential migrants lack some or all of the necessary conditions, it becomes difficult for them to migrate – or to do so successfully. In earlier research on the general Albanian population, we found that the very poor, despite their desire to migrate, are often unable to do so due to a lack of financial resources or other constraints (Gëdeshi & King, 2022). In contrast, medical doctors – who belong to the upper segment of the middle class – face different preconditions, such as access to information about the destination country, employment opportunities matching their qualifications, possession of required documents (visas, diploma recognition, work permits), and proven proficiency in the destination country's language.

To approximate this reality more closely, in our survey we constructed two indicators: 'planning to migrate' and 'likely to migrate'. The first indicator is based on the intention of medical doctors to migrate 'within one year' or 'within the next three years'.¹³ As shown in Table 19, 23.7% of doctors from Albania and 35.8% from Kosovo intend to migrate within this timeframe. The remainder plan to migrate later or are uncertain. Because long-term intentions may fade or change over time, depending on socio-economic conditions, and since some respondents were unclear about their destination, we excluded these

¹³ Respondents who affirmed their intention to migrate were asked when they thought this would be as follows: (a) within one year, (b) in the next three years, (c) in the next 10 years, (d) longer than 10 years, (e) don't know.

from the calculation of this indicator. Consequently, only 19.4% of doctors from Albania and 31.1% from Kosovo fall under the ‘planning to migrate’ category.

Table 19: Potential MD migrants from Albania and Kosovo by the period they intend to migrate

Period	Albania		Kosovo	
	Against potential migrants	Against all MD	Against potential migrants	Against all MD
Within one year	22.7	9.0	34.5	16.0
In the next three years	36.9	14.7	42.6	19.8
In the next 10 years	14.3	5.7	7.4	3.5
In more than ten years	1.7	0.7	0	0
Don't know	24.4	9.6	15.5	7.2
Total	100	39.7	100	46.5

Source: Author’s surveys, 2023-2025

The second indicator, ‘likely to migrate’, builds on the first but includes more concrete actions, such as having a good knowledge of the destination country’s language, maintaining a network of relatives or friends in the destination country, and having gathered reliable information about the country.¹⁴ Based on this calculation, 16% of medical doctors from Albania and 21.4% from Kosovo are classified as ‘likely to migrate’. These figures are considerably lower than the general intention rates, but they are almost certainly closer to reality.

This raises the question: What approximate scale of doctor migration could be expected in the next few years? According to WHO (2025), there are 5,397 doctors in Albania, and according to the Kosovo Agency of Statistics (KAS) (2025), 3,486 doctors in Kosovo. Based on our estimates, around 860 doctors from Albania and 730 from Kosovo may migrate in the near future. However, these estimates should be interpreted with caution. They depend, on the one hand, on the evolution of socio-economic conditions, particularly in the health sector, in Albania and Kosovo; and on the other hand, on recruitment policies for medical personnel in several European countries.

The next question is: What influences the decision to migrate? Often, the decision to migrate results from both family encouragement and social pressure on potential migrant doctors. The following excerpts from interviews conducted in Albania – one with a young

¹⁴ In this indicator, we did not include possession of travel documents (passport, visa, etc.); since December 2008 citizens of Albania and since January 2024 citizens of Kosovo may travel visa-free in the Schengen area for stays of up to 90 days.

doctor and another with a middle-aged, well-established professional – illustrate this dynamic:

“I took the decision [to migrate] also with the encouragement of my family and friends... There is a great push in Albania for people to leave the country, and you are influenced by that.” (Kastriot, Tirana)

“I want to migrate to Italy because my son wants to study medicine there. It would be much easier for him if I also relocate. That’s why we are thinking of migrating to Italy.” (Agim, Tirana)

Our quantitative data show that the decision to migrate is generally shared between individuals and their family members – 49.1% in Albania and 42.3% in Kosovo. In Albania, there is gender parity in decision-making, pointing to higher levels of female emancipation and independence, while in Kosovo men tend to be more independent compared to women (a difference of 11 percentage points) in making migration decisions (Table 20).

Table 20: Decision to migrate (in %)

		Albania			Kosovo		
No		Total	Men	Women	Total	Men	Women
1	Entirely by you	47.0	46.9	47	54.2	59.5	48.5
2	Entirely by others	0.4	0	0.5	0.7	1.4	0
3	By both	49.1	50.6	48.5	42.3	37.8	47.1
4	Don’t know	3.5	2.5	4	2.8	1.4	4.4
	Total	100	100	100	100	100	100

Source: Author’s surveys, 2023-2025

Finally, how is such migration perceived in terms of its duration? Table 21 summarises the responses. Almost half of potential migrants from both Albania and Kosovo described their decision as “open-minded”, meaning that their eventual return will depend on the balance between improved socio-economic conditions at home and opportunities in host countries. About one third of potential migrants from Albania said they intend to migrate “permanently”; while in Kosovo, by contrast, most plan to migrate “for one or several years.” In other words, roughly twice as many respondent doctors in Albania intend to emigrate permanently than the share for Kosovo – 31.6% vs 17.2% for all potential migrant doctors, and 30.4% vs 15.5% for the younger cohort aged 24-40. Why this difference? The following excerpt from the interview with Shega, a doctor from Kosovo, helps explain:

“We don’t want to migrate forever, but to return after some time to Kosovo... Many doctors of my generation plan to go abroad for specialisation, stay a bit to

consolidate professionally and financially, and then return to contribute to Kosovo (...). We are a generation that also experienced the war; our families sacrificed a lot for the country (...), and we feel a responsibility to give something back to our home country. We also have stronger family ties."

Table 21: Doctors' perceptions of the expected duration of migration (in %)

Period	Albania		Kosovo	
	All PM	PM group-age 24-40	All PM	PM group-age 24-40
One or a few years	1.4	2.3	6.2	8.7
Several years	19.5	19.3	27.6	27.2
For good	31.6	30.4	17.2	15.5
Open-minded	47.5	47.9	49.0	48.6
Total	100	100	100	100

Source: Author's surveys, 2023-2025

3.2.6 Who are the potential migrants? An empirical assessment

As noted in the introduction, empirical work on push and pull factors and drivers of mobility among health professionals indicates that their decisions are shaped by multiple economic and social factors (Czaika et al., 2024; Gëdeshi & King, 2024; Mara, 2019, 2023). While these studies focused primarily on the outward mobility of health professionals – meaning those who left the country – and often from a macro perspective, our approach investigates potential migration. We look at the likelihood that a medical doctor intends to leave the home country under certain conditions, such as employment and income prospects, satisfaction with work conditions, and social or family-related factors. Following the work of Czaika et al. (20024) and de Haas (2021), we examine potential migration as an intermediate process between aspirations and actual migration by trying to understand what drives mobility, who is more likely to migrate, and how potential migration of medical doctors differs according to a number of individual demographic and social characteristics.

As de Haas (2021) and Czaika et al. (2024) highlight, migration intentions are closely tied to migration aspirations, representing a decision-making process that develops over time, meaning that it requires both conducive conditions and sufficient motivation. Certainly, while economic, work, or social- and family-related conditions can be observed relatively easily, the opposite is true for motivations inferred from behavioural indicators. Therefore, in our context, potential migration will be captured by the combination of two variables: the anticipated timing and the expected duration of intended migration. The timing indicator reflects when the person has indicated he or she might be willing to migrate.

Our assumption here is that the sooner the reported timing of intention to migrate, the higher the probability of actual migration. On the contrary, a longer reported timeframe for intended migration, such as “within 10 years” or “after 10 years,” is interpreted as a weaker intention to migrate. Accordingly, the timing of migration intention is a categorical ordered variable of four groups: within one year; within three years; within 10 years; and after 10 years. At the same time, the intended duration of migration is represented by four groups: intended duration of stay of at least one year; three years; 10 years; and forever. This variable captures the difference between short-term, long-term, and permanent migration intentions, and the interpretation of this response is that the longer such intentions are, the stronger the respondent’s commitment to migrate.

By combining the timing and duration of potential migration we construct an ordinal variable representing the propensity to migrate. This can be defined as low (if the person tends to migrate after a long period of time and for short periods), medium (if the person intends to migrate after a longer period and for medium-term stays), and high (the person has shown the intention to move within a year and for permanent or long-term periods).

The combination of timing and length of migration plans helps capture not only propensity to migrate, but also the intensity of migration potential and how likely the person is to move abroad. The theoretical underpinning for such a design of migration potential comes from Carling (2014), de Haas (2021) and Zimmermann and Zaiceva (2016), but we go a step further in the measurement of migration potential as a desire or choice, and we conceptualise it as a closer stage to an actual migration decision.

Accordingly, potential migration and the probability of moving abroad will be defined as follows:

$$PM_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \varepsilon_i \quad (1)$$

where PM_i . In this context, our dependent variable is categorical and ordered, where outcome 1 stands for ‘no migration potential’; outcome 2 stands for ‘low migration potential’; outcome 3 stands for ‘medium migration potential’, and outcome 4 stands for ‘high migration potential’. X_{1i} includes a set of indicators as controls for personal characteristics such as age, gender, education level, employment status, working place and specialisation, and also if the person has migrated in the past for at least one year. Another set of indicators, X_{2i} , includes the main push factors for potential migration which are related to work, family or social context, as well as expectations concerning the financial outcome of migration (a kind of pull factor). Firstly, we applied an ordered probit model which allows us to estimate the intentions to migrate as an ordinal decision for the total sample (see column 1, Table 22). Secondly, we estimated the specification separately for doctors in Albania (column 2) and in Kosovo (column 3).

Table 22 reports average marginal effects from ordered probit models estimating the probability that a medical doctor falls into higher categories of migration propensity. Positive coefficients indicate that a given characteristic increases the likelihood of belonging to a higher migration-potential group, while negative coefficients indicate a lower likelihood, holding all other variables constant. The size of the coefficient reflects

the strength of this association, whereas statistical significance indicates whether the observed relationship is unlikely to be due to random variation in the sample.

The estimation results indicate that there are no significant differences between men and women, and this is true for both Albania and Kosovo. In terms of age, the relationship is clear: intention to migrate decreases with age. The coefficients for age-groups 30-39, 40-49, and 50+ in column 1 (which combines both time and length) are strongly significant and have a negative sign. Thus, younger doctors are more likely to consider migration (refer also back to Figure 17). However, according to our regression analysis, there are differences between the two countries. In Albania, there are no significant differences in the probability of migration between age-groups 24-29 and 30-39, but propensity to migrate declines thereafter, for 40+ years. For Kosovo, the relatively young doctors in the 30-39 age-group are less likely to intend to migrate than their younger peers, whereas for the other, older, age-groups, these differences disappear. This pattern for Kosovo suggests that potential migration is similarly high both among young and older doctors, while mid-career doctors are less inclined to intend to migrate.

Overall, estimations indicate that although age is strongly associated with migration intentions in descriptive terms, not all age-group coefficients reach statistical significance in every model specification. This reflects both differences between Albania and Kosovo and the limited sample size in some sub-groups. Overall, however, the pattern is consistent: younger doctors show a systematically higher propensity to migrate, even when some individual coefficients do not attain conventional significance thresholds.

Moving on to family-related variables, being married or not makes no difference, while having children does seem to matter, especially for the Kosovo respondents. Having a certain autonomy to choose to migrate is seen to be highly significant across all three columns. Likewise, having migrated in the past also is positively correlated with the likelihood of further migration in the future; this applies especially to Albanian doctors.

Level of education shows a generally weak association with migration intentions across the board, with one key exception, those with a doctorate obtained in the home country. Our interpretation of this relationship is that having a doctorate fosters the desire for further research and specialisation abroad, as well as recognition issues. Especially in Albania, it seems that both having postgraduate experience, and having past experience of migration, can propel respondents to seek further mobility abroad.

Results for workplace and field of specialisation are relatively neutral, though potential migration seems to be lower among those working in public hospitals in Albania, and those working in primary care and family medicine in Kosovo.

Regarding income level, there is a negative relationship between potential migration and level of earnings, as might be expected: this association is true for Albania but not for Kosovo. Hence, better-paid doctors are less inclined to leave, especially in Albania. In Kosovo, the high migration potential of doctors is true across the income spectrum.

To sum up, we find substantial similarities, but also nuanced differences, in the drivers of doctors' emigration in the two countries. In Albania, the strongest push factors are

being unemployed or having difficulties finding a job, being unhappy with low earnings, poor working conditions and a low standard of living. However, in Kosovo, dissatisfaction with work conditions and job insecurity are the strongest push factors. On the whole, dissatisfaction with low salaries is not the main driver; more important – in both countries – is the push for further research, specialisation and good working conditions. The differences between the two countries suggest that potential migration in Kosovo is more deeply rooted in structural and systemic factors, such as weak professional development opportunities; while in Albania push factors are more evenly distributed across economic and working conditions.

In practical terms, the regression results suggest that age and prior migration experience are the most robust predictors of high migration potential. Compared with doctors under 30, those aged 40 and above are significantly less likely to express strong intentions to migrate. Conversely, doctors who have already lived abroad for at least one year are more inclined to consider further migration. Expectations of financial improvement abroad also emerge as one of the strongest and most consistent drivers across both countries.

Table 22: Estimation results

	Ordered Probit Total Sample	Ordered Probit Albania	Ordered Probit Kosovo
Female	0.000 (0.012)	0.003 (0.014)	0.012 (0.029)
30-39 age group	-0.052** (0.023)	-0.037 (0.025)	-0.108** (0.048)
40-49 age group	-0.065** (0.026)	-0.052* (0.028)	-0.103 (0.069)
50+ age group	-0.074*** (0.027)	-0.063** (0.028)	-0.113 (0.079)
Married	-0.007 (0.017)	-0.001 (0.022)	-0.036 (0.038)
No kids	0.042* (0.024)	-0.008 (0.032)	0.118*** (0.044)
Nr_Kids 1	0.035 (0.023)	-0.000 (0.029)	0.059 (0.059)
Nr. Kids 2	0.049** (0.020)	0.016 (0.024)	0.056 (0.045)

	Ordered Probit Total Sample	Ordered Probit Albania	Ordered Probit Kosovo
Migration decision_autonomy	0.074*** (0.013)	0.064*** (0.014)	0.075** (0.031)
University degree obtained abroad	0.001 (0.037)	-0.041 (0.042)	0.019 (0.064)
Postgraduate studies, >1 year, home country	0.023 (0.018)	0.020 (0.019)	0.030 (0.049)
Postgraduate studies, >1 year abroad	0.020 (0.029)	0.058* (0.033)	-0.085 (0.085)
Doctorate in the home country	0.061** (0.027)	0.059** (0.029)	0.099* (0.059)
Doctorate from a university abroad	0.011 (0.039)	-0.007 (0.049)	0.012 (0.071)
Ever lived >=1y abroad (P24==1)	0.026* (0.015)	0.031* (0.018)	0.040 (0.032)
Thinks Migration will improve financial situation	0.102*** (0.017)	0.111*** (0.020)	0.103*** (0.033)
610-900 EUR monthly income	-0.033 (0.026)	-0.130*** (0.034)	0.052 (0.043)
910-1200 EUR monthly income	-0.029 (0.027)	-0.114*** (0.034)	0.067 (0.060)
1210-1500 EUR monthly income	-0.027 (0.032)	-0.092** (0.039)	0.042 (0.067)
1510-2000 EUR monthly income	-0.048 (0.032)	-0.092** (0.040)	-0.023 (0.061)
above 2000 EUR monthly income	-0.009 (0.030)	-0.092** (0.037)	0.091 (0.058)
Reason_I don't/cant have/find a job	0.097*** (0.033)	0.128*** (0.035)	0.038 (0.057)

	Ordered Probit Total Sample	Ordered Probit Albania	Ordered Probit Kosovo
Reason_ not satisfactory job, working conditions, insecurity, instability at work)	0.100*** (0.014)	0.102*** (0.015)	0.157*** (0.038)
Reason_salary is unsatisfactory	0.031** (0.014)	0.045*** (0.015)	0.058 (0.045)
Reason_social security scheme is not sufficient/improve living standards	0.055*** (0.014)	0.056*** (0.015)	0.040 (0.043)
Reason_education / to specialise	0.093*** (0.014)	0.085*** (0.015)	0.131*** (0.030)
General practitioner	0.035 (0.030)	0.013 (0.032)	0.008 (0.082)
Internal medicine & sub-specialties	0.030 (0.028)	0.011 (0.029)	0.055 (0.084)
Surgical & related specialisation	0.036 (0.034)	-0.014 (0.035)	0.050 (0.084)
Diagnostics & Lab specialisation	0.064 (0.040)	0.056 (0.041)	0.000 (0.137)
Anaesth / Emergency specialisation	-0.006 (0.032)	0.009 (0.034)	-0.185* (0.103)
Public Health / Legal / Hygiene / spec.	-0.005 (0.033)	-0.020 (0.042)	-0.068 (0.084)
Workplace: Public hospital/clinic	-0.073 (0.044)	-0.149** (0.073)	-0.044 (0.069)
Workplace: Private hospital/clinic	-0.064 (0.046)	-0.120 (0.074)	-0.088 (0.072)
Workplace: Primary care/family medicine	-0.065 (0.046)	-0.090 (0.072)	-0.134* (0.077)
Workplace: Unemployed / not practicing	-0.083* (0.047)	-0.202*** (0.075)	-0.034 (0.076)

	Ordered Probit Total Sample	Ordered Probit Albania	Ordered Probit Kosovo
Workplace: Other/NGO/misc	-0.092 (0.059)	-0.122 (0.081)	-0.653*** (0.124)
N	849	616	233
AIC	1130.8	751.8	374.0
BIC	1320.5	928.7	512.0

Source: Own elaboration. Note: standard errors in parentheses* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Average marginal effects reported. Reference group for age is: age group 29 and below; non-married; having more than 2 kids; men; graduated from a university at home, working in a public university; specialisation: general practitioner; motives of migration: other; monthly income below or equal to EUR 600.

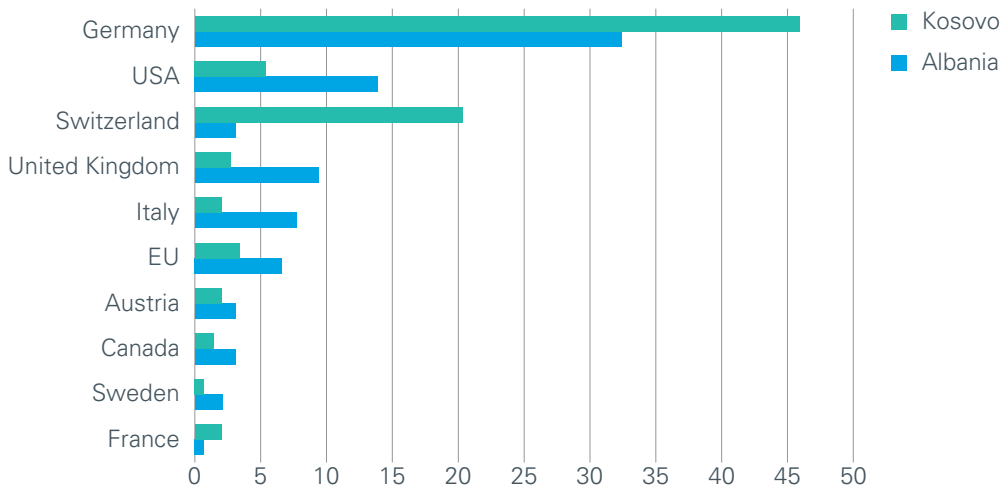
3.2.7 Desired destination countries

The first-choice destination for medical doctors from Albania and Kosovo intending to migrate is Germany – nominated by 32.4% of doctors from Albania and 45.9% from Kosovo. Germany stands well ahead of the second-ranked countries, with a gap of 18.5 percentage points from the United States in the case of Albania and 25.6 points from Switzerland in the case of Kosovo. Other preferred destinations, as shown in Figure 18, include the United Kingdom, Italy, Austria, Canada, Sweden, France and Belgium. Some respondents indicated “EU” instead of selecting a specific country. All these countries offer relatively high living standards and well-paid jobs in hospitals and medical centres, which are attractive to potential migrant doctors. A very small number expressed intentions to move to countries such as Turkey, the Gulf States, Australia or Japan.

An important institutional factor shaping destination choices is the recognition of medical qualifications. For doctors from Albania and Kosovo, access to EU labour markets varies considerably across countries. Germany has introduced relatively transparent and predictable procedures for diploma recognition, reinforced by the Western Balkan Regulation¹⁵. By contrast, recognition processes in some other EU countries, including Italy, are often perceived as more complex and lengthy, which reduces their attractiveness despite geographic proximity. The lack of automatic mutual recognition with EU Member States therefore constitutes a significant structural constraint on mobility options and partly explains the concentration of migration intentions towards a small number of countries.

¹⁵ Western Balkan Regulation as of January 2021: https://www.bmi.bund.de/SharedDocs/downloads/DE/veroeffentlichungen/themen/migration/anwendungshinweise-fachkraefteeinwanderungsgesetz.pdf?__blob=publicationFile&v=5

Figure 18: Top destination countries for intended MD migrants from Albania and Kosovo (in %)



Source: Authors' surveys, 2023-2025

Looking ahead, the migration flow of doctors from Albania and Kosovo toward Germany is likely to increase, supported by several factors. First, when potential migrant doctors are divided by age group, younger doctors (aged 24-40) are significantly more inclined to move to Germany than those aged 40 and over. The difference is 15.4 percentage points in Albania and 31.1 points in Kosovo (see Table 23). Second, there is a growing interest among young doctors in Albania and Kosovo in learning German, which suggests that many are actively preparing to migrate there (Ahmetxhekaj, 2019; Gashi, 2021; Gëdeshi, King & Ceka, 2024). Furthermore, previous studies on Albanian students abroad and the scientific diaspora (which also includes doctors from Albania and Kosovo), show a high degree of geographical mobility – moving from less developed to more developed EU countries – with a growing concentration in Germany (Gëdeshi & King, 2018; King & Gëdeshi, 2023, 2024).

Drini, who completed his studies in medicine in Romania, shares his experience:

“Of the friends on my course in Romania, many went directly to Germany or came back to Albania only for a transitional period. Our diploma is recognised in Germany; we only need to pass the test for specialised language. Only a very few of my friends are working now in Albania.” (Drini, Albania)

Furthermore, once the number of migrated doctors and contacts in their professional networks reaches a critical mass, they create a self-reinforcing mechanism that perpetuates migration flows – particularly to Germany, where there is a chronic shortage of medical personnel and a proactive policy of recruiting from abroad.

Table 23: Top desired destinations for doctors intending to migrate from Albania and Kosovo (%)

Destination countries	Albania		Kosovo	
	Doctors aged 24-40 years	Doctors aged over 40 years	Doctors aged 24-40 years	Doctors aged over 40 years
Germany	38.3	22.9	51.9	20.8
United States	12.2	16.2	2.9	16.7
Switzerland	3.9	1.9	22.1	12.5
The United Kingdom	8.9	10.5	1	8.3
Italy	7.2	8.6	2.9	0
EU	4.4	9.5	1.9	8.3
Canada	2.2	4.8	1	4.2
Austria	3.9	1.9	1.9	0
Sweden	3.3	0.0	0	0
France	0	1.9	1.9	0

Source: Authors' surveys, 2023-2025

It is clear that the preference for Germany is linked to several advantages this country offers to foreign doctors, including those from Albania and Kosovo. Most important is the German government's Western Balkan Regulation (2016), which facilitates access for professionals from this region, including the recognition of medical diplomas (Gashi, 2020; Mara, 2023). Added to this are Germany's high salaries, strong social welfare system, merit-based career advancement, and favourable working conditions (Druga, 2020; Mara, 2023).

Diellza, a newly graduated doctor from Tirana who intends to migrate, explains her preference for Germany:

"We were 22 students in our graduating class and 17 of them wanted to migrate, mostly to Germany but also to Italy and Sweden. Germany is preferred because of the simpler procedures to get there. The presence in Tirana of centres offering information about Germany makes the whole process easier. Italy is chosen because of its proximity to Albania, but salaries are lower and our diplomas are not recognised there. Sweden also needs doctors and offers high salaries, but the language is still a barrier for many, especially among young doctors." (Diellza, Tirana)

Survey data show that almost two-thirds of potential migrant doctors from Albania wish to move to Germany, the UK, Italy or North America, while two-thirds of doctors from Kosovo prefer Germany and Switzerland.

This leads to another question: What determines the choice of destination country? To explore this, respondents were asked to identify the main reasons for selecting a specific destination. They could choose up to three reasons from a list of sixteen and then indicate the most important one. Table 24 presents the results for both Albania and Kosovo.

Table 24: Main reason of potential migrant doctors for selecting the destination country (%).

No	Reasons	Albania	Kosovo
1	Job/income opportunities	50.0	33.6
2	To save money	0.9	-
3	For the social insurance system	16.8	18.2
4	To get married/just married	-	-
5	To accompany/join spouse/parents	5.0	2.7
6	I have friends/relatives there	4.1	0.9
7	People are friendlier to foreigners	2.3	0.9
8	Education opportunities	16.8	41.8
9	I have knowledge of the language	0.9	1.8
10	Good health services	0.5	-
11	No difficulty entering this country	0.9	-
12	Country's authorities are not strict	-	-
13	It is not difficult to enter illegally	-	-
14	I lived there before	0.9	-
15	I was there for a short visit	-	-
16	I can get a visa	0.9	-

Source: Authors' surveys, 2023-2025

Findings from the overall sample show that economic factors – including job and income opportunities, the ability to save money, and the social insurance system – are dominant, especially among potential migrant doctors from Albania, accounting for over half of the responses. However, education-related factors are also highly significant, particularly among potential migrant doctors from Kosovo, influencing their choice of destination country.

3.2.8 Reasons for intending to migrate: a qualitative assessment

Potential migration is driven by multiple factors, which we grouped into five main categories: economic, educational, family-related, health-related, and “other” – mainly perceptions of future prospects in the home country. In the online survey, doctors from Albania and Kosovo intending to migrate (Albania: N = 287; Kosovo: N = 148) could select up to three reasons from a list of sixteen and then identify the most important one. Table 25 lists these reasons and presents responses by country and age group (‘all’ and 24-40 years old).

Table 25: Reasons for doctors to (intend) to migrate from Albania and Kosovo (in %)

Reasons	Albania		Kosovo	
	(N=287)	24-40 years	(N=148)	24-40 years
Economic reasons	68.1	69.1	56.2	55.4
To improve living standards	22.8	24.1	11.9	13.6
Unsatisfactory work conditions in Albania/Kosovo	21.4	22.9	23.5	20.9
The salary is not satisfactory	19.3	17.5	9.6	9.4
Inadequate social security system	2.9	2.5	2.3	1.6
Unemployment	1.1	1.4	8.5	9.9
Repay debts	0.6	0.7	0.4	0
Education reasons	17.8	20.4	33.4	35.6
Own training and specialisation	11.7	16.8	28.8	33.0
Children’s education	6.1	3.6	4.6	2.6
Family reasons	1.2	0.7	1.9	1.0
To accompany/follow spouse/partner	0.8	0.7	1.5	1.0
Just married or about to get married	0.2	0	0.4	0
To escape family problems	0.2	0	0	0
To access better healthcare	2.3	1.4	1.5	1.6
Other reasons	10.2	8.5	6.2	5.7
No future for me (and my family) in Albania/Kosovo	6.7	5.0	2.3	1.6
I wanted to live abroad	1.8	1.5	1.2	1.0

Reasons	Albania		Kosovo	
	(N=287)	24-40 years	(N=148)	24-40 years
I don't like living in Albania/Kosovo	1.5	1.6	0.8	0.5
Sense of adventure	0.2	0.2	1.9	2.6
Other/incoherent answer	0.6	0.2	0.8	0.5

Source: Authors' surveys, 2023-2025

Table 25 shows that three categories of reasons – economic, educational and “other” – are the most influential in shaping migration intentions. These findings are consistent with previous research conducted in both Albania (Borakaj & Alimehmeti, 2024; Gëdeshi et al., 2024; Gjypi, 2018; Krasniqi et al., 2024) and Kosovo (Lumi Qehaja et al., 2024; Murataj et al., 2022). These factors, or most of them, act simultaneously on potential migrant doctors. As Asdren, a representative of the Chamber of Physicians of Kosovo, summarised:

“We conduct regular surveys with doctors, and the main factors are unemployment, working conditions, and the quality of specialisation programmes – and finally, financial reasons.”

Based on our quantitative and qualitative data, we discuss below the main groups of reasons according to their relative importance.

Economic factors are the most significant drivers of migration, representing more than half of all aggregated reasons (68.1% in Albania and 56.2% in Kosovo). Within this group, three sub-categories stand out: unsatisfactory working conditions (21.4% in Albania; 23.5% in Kosovo); desire to improve living standards (22.8% in Albania; 11.9% in Kosovo); and low salaries (19.3% in Albania; 9.6% in Kosovo). In Kosovo, unemployment also emerges as an additional factor, particularly among young doctors (about 10%), whereas it is negligible in Albania.

Qualitative interviews highlighted several elements of “unsatisfactory working conditions”: lack of modern equipment and medications; inadequate safety standards; long working hours; limited meritocracy in recruitment and promotion; monopolisation of health institutions by a few senior doctors; poor career prospects; and low professional ethics.

The second cluster of reasons for importance is education (18.8% in Albania and 33.4% in Kosovo), which is divided into two sub-groups: “own-education/specialisation” and “children education”. The first sub-group includes mainly young doctors who wish to continue their post-university studies and specialise in certain fields of medicine in hospitals and clinics of the most advanced countries of the West. This would help them advance professionally. An extract from the interview of Ardian (Albania), given below, shows the importance of education and specialisation for young doctors.

“The main factor pushing medical doctors to migrate is professional development... specialisation plays a key role. In Germany, when a medical doctor starts their job, automatically the specialisation starts... another aspect is the technology, the equipment used, new research methods, participation in national and international conferences. This makes our work very interesting and pleasant. It’s not only about the salary... but also professional advancement... The work of a doctor is not just to earn a living; it becomes a mission.” (Ardian, Albania)

Meanwhile, the second sub-group mainly comprises doctors over 40 who are motivated by opportunities for better education for their children abroad.

The third group, “Other reasons” (10.2% in Albania; 6.2% in Kosovo), includes various statements, with the most common being “there is no future in Albania/Kosovo.” This reflects widespread dissatisfaction with the economic, social and political situation and future prospects in both countries, where migration is seen as the only viable path to a better life.

The last two groups – family reasons (1.2% in Albania; 1.9% in Kosovo) and access to better healthcare (2.3% in Albania; 1.5% in Kosovo) – are negligible for potential migrant doctors. Family-related migration in the case of Albania, for example, characterised earlier waves of migration, particularly mass migration, but is much less relevant for high-skilled migration, including doctors.

When asked to identify the single most important reason for intending to migrate, responses differed between Albania and Kosovo. In Albania, the main reason was unsatisfactory working conditions (21.5%), followed by improving living standards (18.7%), low salaries (15.9%), own-education/specialisation (17.1%), and children’s education (9.6%). A further 10.4% stated that “there is no future here in Albania” (see Table 26).

In Kosovo, the dominant factor was own-education/specialisation (53.8%), followed by economic motives: unsatisfactory working conditions (14.6%), improving living standards (9.2%), and low salaries (6.9%).

Table 26: Main reason for doctors to (intend) to migrate from Albania and Kosovo (in %)

Reasons	Albania (N=287)	Kosovo (N=148)
Economic factors	59.7	33.7
To improve living standards	18.7	9.2
Unsatisfactory work conditions in Albania/Kosovo	21.5	14.6
The salary is not satisfactory	15.9	6.9
Inadequate social security system	1.2	1.5

Reasons	Albania (N=287)	Kosovo (N=148)
Unemployment	1.6	1.5
Repay debts	0.8	0
Education reasons	26.7	56.1
Own training and specialisation	17.1	53.8
Children's education	9.6	2.3
Family reasons	1.6	2.3
To accompany/follow spouse/partner	1.2	1.5
Just married or about to get married	0.4	0.8
To escape family problems	0	0
To access better healthcare	0.8	3.1
Other reasons	11.2	4.7
No future for me (and my family) in Albania/Kosovo	10.4	3.1
I wanted to live abroad	0.4	0
I don't like living in Albania/Kosovo	0.4	0.8
Sense of adventure	0	0.8
Other/incoherent answer		

Source: Authors' surveys, 2023-2025

3.2.9 Main findings and conclusions

The scale of doctors' planned migration from Albania and Kosovo, along with evidence of their actual migration (Gëdeshi, King & Ceka, 2024), should give rise to serious concerns. This actual and potential brain drain of medical doctors is not unique to these two countries; it characterises most other countries of the Western Balkans and south-eastern Europe, including EU countries like Romania and Bulgaria. In fact, the global geography of medical professionals' migration extends to many countries in the world, especially in Africa and South Asia.

Based on the survey data and interview evidence collected and analysed in this paper, we highlight the following key points from our findings.

Intentions to migrate among doctors surveyed in Albania and Kosovo are high, at 40% and 47% respectively. For the younger age cohorts (24-40 years), the rates are even higher – respectively 53% and 66%. Of course, not all these migration intentions are likely to be realised, and if we narrow down the definition of 'intention' to those who

have taken 'concrete plans' to migrate, the figures drop to 16% for Albania and 21% for Kosovo (for all age groups).

One interesting difference between the two countries' survey respondents concerns the duration of planned migration. A much higher percentage of Albanian doctors intend to migrate "for good"; compared to Kosovan doctors who are more likely to return to "give something back" to their home country.

Regression analysis carried out on the survey respondent data – the total, and separately for Albania and Kosovo – reveal the significance of key socio-demographic characteristics of those declaring a high intention to leave (Table 22). An inverse correlation with age is confirmed, along with a positive association with having migrated before. More highly trained doctors (e.g. those with a PhD) are somewhat more likely to intend to migrate, presumably for further research and specialisation, and to capitalise on the value of their higher qualifications.

For Albania, plans to migrate are more likely to be driven by economic factors such as low incomes and the desire for better standards of living, whereas for Kosovo, would-be migrating doctors are more motivated by the quest for more training and professional development opportunities abroad.

For both countries, Germany is the main target country (Figure 18). Switzerland is the second-ranked destination for Kosovans, but is much less important for Albanians, whose other target countries are the USA, the UK and Italy. The role of Germany as a preferred destination is related to many factors – high incomes, good working conditions, high standards of professional practice and favourable social-welfare provisions, as well as the specific pull factor of the 2016 Western Balkan Regulation, which facilitates the entry of qualified professionals from the region.

How to stem the current and likely future exodus of medical doctors from countries like Albania and Kosovo? Policy measures are much easier to formulate than to put into successful implementation. Actions are all the more difficult to put into effect because of the need to break a vicious circle: doctors migrate because of the poor state of the country's health sector, but their migration impoverishes the health sector even more.

First, in both countries, the health sector needs revitalising: more investment, structural reform, less bureaucracy, and a more meritocratic system of hiring and promotion which escapes the power of entrenched elites and their links to powerful political and business interests. A second measure, implemented in Albania in 2024, is to require newly graduated medical students to stay in the country that has funded and subsidised their training for a certain number of years. The danger with this seemingly logical policy is that it can have the perverse effect of reducing the number of students studying medicine by encouraging them to go abroad to study. Finally, scope exists to put in place collaborative ventures between medical schools and hospitals in Albania and Kosovo, and partner medical schools and research facilities in countries where many Albanian and Kosovan doctors migrate to, in order for emigrant doctors to contribute to the expansion and improvement of medical services in their home countries without needing to return permanently.

This study has several limitations that should be borne in mind when interpreting the findings. First, the survey does not rely on a statistically representative sample; participation was voluntary and partly based on snowball techniques, which may have led to the over-representation of more mobile or more dissatisfied doctors. Second, the number of interviews is necessarily selective and cannot capture the full diversity of experiences within the medical profession. Third, the analysis focuses on migration intentions rather than actual migration behaviour, and the transition from intention to action depends on institutional, economic and personal factors that may evolve over time. These limitations imply that the results should be read as identifying dominant patterns and mechanisms rather than providing precise forecasts.

Overall, the findings should therefore be understood as indicative rather than definitive. They capture intentions and perceptions at a specific point in time and are based on a non-random sample of respondents. Nevertheless, when combined with qualitative evidence and existing migration trends, they provide a credible picture of the scale and drivers of potential medical migration from Albania and Kosovo.

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3.3 The role of migrant education and gender in enhancing financial inclusion of households in Kyrgyzstan

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3.3.1 Abstract

The total number of labour migrants from Kyrgyzstan ranges between 500,000 and 700,000, according to various sources, and more than 40% of them are women. Between 2022 and 2024, the number of registered labour migrants in Russia dropped from 650,000 to 350,000, reflecting a significant shift in migration patterns following Russia's full-scale invasion of Ukraine. Many migrants returned home or started chasing alternative destinations, including countries in the European Union region. This evolving migration landscape raises important questions about the socio-economic impacts of migration on Kyrgyz households, particularly in terms of financial inclusion and development outcomes.

This study investigates how international labour migration contributes to the financial inclusion outcomes of families left behind in Kyrgyzstan. A particular focus is placed on gender differences in spillover effects, exploring whether female migration generates stronger positive spillovers on household financial inclusion compared to male migration, given women's distinct roles in household financial management and decision-making. The longitudinal data comes from the Kyrgyz Integrated Household Survey, covering approximately 5,000 households annually for the period between 2019 and 2023, before and after the start of the Russia's war against Ukraine. To address the endogenous nature of migration, the study employs instrumental variables (IV) techniques within a panel data framework, helping more robust identification of the impact of migration-related characteristics on household financial inclusion over time.

The results indicate that migrant education is the driver of financial inclusion, serving as a key channel for transferring financial literacy. The analysis suggests a gender-neutral impact of migrant gender on financial inclusion. Crucially, however, female-headed households left behind remain significantly more vulnerable. These households are structurally less likely to own formal accounts than male-headed ones, highlighting a persistent domestic gender gap that migration alone does not fully close.

3.3.2 Introduction

Nearly one in six people in Kyrgyzstan are migrants, according to the 2022 Population and Housing Census of the National Statistical Committee of the Kyrgyz Republic (IOM, 2025). 80% of those who are temporarily absent from their permanent place of residence, migrated abroad. Migration flows are highly regional: in the Batken, Jalal-Abad and Talas regions up to 40% of the working-age population is currently away.

Most Kyrgyz citizens, regardless of gender, migrate abroad for employment and financial reasons (IOM, 2024). The Russian Federation remains by far the most popular destination, followed by Kazakhstan, Turkey, Germany and South Korea. The destination country, according to migrant families, is determined by the strength of historical, linguistic or cultural ties, and the presence of migrant social networks (NSC KR, 2024).

Unlike other Central Asian countries, Kyrgyzstan has near-equal numbers of men and women migrating abroad. The majority are between 20 and 40 years old, the most economically active and reproductive age group. In terms of education, over one-third of migrants have completed secondary education, 25% hold higher education degrees, and 15% have vocational education (IOM, 2024).

For the economic development of Kyrgyzstan, international labour migration represents both risks and opportunities. On one hand, it contributes to the 'brain drain' of skilled labour, as there is an increasing number of highly skilled emigrants. But on the other hand, migration opens opportunities for knowledge transfer and positive effects from remittances. 66% of Kyrgyz migrants abroad express willingness to return, and a large share express the desire to contribute to the development of Kyrgyzstan, mainly in the tourism, entrepreneurship and investment sectors (NSC KR, 2024).

Remittances from migrants also contribute significantly to the Kyrgyz economy, accounting for 28-33% of GDP over the last five years (IOM, 2024). Studies show they are important for reducing poverty, education and healthcare expenses, while supporting food security and entrepreneurship. The majority of remittances come to Kyrgyzstan via official financial channels, usually money transfer operators, showing remarkable resilience through COVID-19 (World Bank, 2023). However, despite large financial inflows in the form of remittances, financial inclusion remains uneven, with strong disparities between urban and rural households, and between men and women. Between 2011 and 2025, the share of adults reported owning an account at a bank or with a mobile money provider went up from 4% to 72% (World Bank, 2025), mostly due to digitalisation and mobile phone ownership.

While data sources such as the Global Findex (World Bank, 2025) capture broad indicators of financial inclusion, they are not collected on an annual basis and therefore do not reflect more dynamic effects of migration on households left behind. This study addresses this gap using the Kyrgyz Integrated Household Survey (KIHS) for 2019-2023. KIHS is the largest national panel dataset representative at rural-urban and south-north level.

The paper investigates how migration shapes financial inclusion outcomes in Kyrgyzstan by merging detailed household-level social, demographic and financial information with migration characteristics, including the gender, education and occupation of current migrants. The analysis spans the 2019-2023 period, capturing the shifting migration and remittance landscape amidst significant regional geopolitical instability, including the onset of Russia's war against Ukraine.

The research question explored is "How does migration itself, and specifically the gender and human capital of migrants, influence the financial inclusion of other household

members left behind?” Financial inclusion is measured by ownership and use of bank accounts, mobile banking and e-wallets. The hypothesis is that migration of a family member can improve access to formal financial services for non-migrant household members, potentially shifting decision-making power and enhancing financial autonomy, especially among women and vulnerable groups.

3.3.3 Literature review and conceptual framework

Research on the relationship between migration and financial inclusion has expanded rapidly in recent years, indicating the increasing digitalisation of remittances and their importance for economic development. Most of the global evidence suggests that migration can act as an accelerator of financial inclusion, particularly by increasing household savings, promoting account ownership, and encouraging engagement with formal financial institutions. Migrants do not just send remittances but also share financial practices learned abroad, thereby influencing the behaviour of their families and communities (Aggarwal et al., 2011; Demirgüç-Kunt et al., 2018; Ambrosius and Cuecuecha, 2016).

At the same time, migration might impact the financial inclusion of households left behind differently, depending on the migrant’s and receiver’s gender, education and financial literacy, as well as local financial infrastructure (Ashraf et al., 2015; Smith and Wesselbaum, 2023). For example, female migrants are often found to have a stronger influence on financial decision-making at home, as remittances sent by women are more likely to be allocated to savings and education (Seshan and Yang, 2014). Education also plays a central role: more educated migrants tend to remit through formal channels and maintain stronger links with banking systems (Anzoategui et al., 2014).

Even though there is some evidence that migration positively affects financial development and inclusion (Saydaliev et al., 2020; Aggarwal et al., 2011), most of this research is conducted at the macro level, focusing on cross-country relationships between remittance inflows and share of population using ATMs or owning bank accounts. These studies generally suggest that the impact of remittances depends on the quality of financial and governance institutions in the receiving country. Micro-level evidence on how migration influences the financial inclusion of individual households remains limited, particularly in the Central Asian context. Existing studies on the region mostly focus on macroeconomic effects of migration and remittances, such as poverty reduction, exchange rate, inflation and consumption, while the household-level financial behaviour of migrant families is less analysed. Also, there is very limited knowledge about how major geopolitical shocks, such as the Russian invasion of Ukraine, impacted migrants from Central Asia and their households left behind.

This paper therefore contributes to the literature by providing micro-level evidence of migration and financial inclusion relationship before and after major shocks, including COVID-19 and Russia’s war on Ukraine, and by analysing changes in financial inclusion at the household level over time. Moreover, it investigates the role of female migration and

women's financial agency in shaping household financial behaviour, which remains largely unexplored in Central Asia.

This study builds on the idea that migration affects financial inclusion not only through the direct transfer of remittances, but also through indirect spillovers that are often called social remittances. These include changes in attitudes, knowledge and behaviours that migrants acquire abroad and transmit to their households at home. The conceptual model assumes three main ways migration links to household-level financial inclusion: economic, informational and empowerment channels.

The economic channel implies that remittances increase disposable income and allow households to meet minimum balance requirements for opening accounts, to accumulate savings (Misati et al., 2019). Moreover, the growth of digital remittances makes account or e-wallet ownership a precondition for receiving transfers from abroad for many households.

The informational channel is a component of social remittances and implies that migrants exposed to financial systems abroad might transfer new financial knowledge (Ratha et al., 2024), as well as a higher trust in financial institutions (Xu et al., 2025). Knowledge of digital financial tools like online banking and money transfer applications might also be transferred to other non-migrant household members.

The empowerment channel implies that migration can impact financial inclusion through changed financial decision-making due to the absence of a household member. Women left behind often start taking a greater role in managing resources, which might improve their financial inclusion (Fakir and Abedin, 2021). Female migrants might also gain a stronger voice in the financial decision-making of their households through the remittances they send home (World Bank, 2023). Since women typically work in different sectors than male migrants (for example, services and trade versus construction), their exposure to financial systems and digital payment tools may also differ. In both cases, migration alters traditional gender roles and can lead to greater financial autonomy and inclusion for women, either through direct engagement with financial institutions or through indirect influence on household financial behaviour.

The framework therefore expects that migration in general will increase the financial inclusion of the households left behind. Moreover, higher-educated migrants will have stronger positive effects on the financial inclusion of their households. Female migration might also have higher spillover effects due to differences in financial behaviour, preferences, and remittance management.

3.3.4 Methods and data

Empirical strategy

Given the study's objectives, two sets of empirical models are estimated. The first model estimates the impact of migration on financial inclusion, having the sample of migrant and non-migrant families. The dependent variable is financial inclusion, analysed as: (1) a

binary indicator of account ownership; (2) a binary indicator of mobile banking or e-wallet use; and (3) a continuous composite Financial Inclusion Index constructed via Multiple Correspondence Analysis (MCA). The migration variable measures the number of current labour migrants in the household.

Model 1 is as follows:

$$Fl_{it} = \beta_0 + \beta_1 Migrants_{it} + \beta_2 X_{it} + \gamma_t + \alpha_i + \varepsilon_{it}$$

where Fl_{it} is financial inclusion of household i at time t , $Migrants_{it}$ is the instrumented number of migrants. X_{it} is a vector of controls including household size, location (rural/urban), the log of total income excluding remittances, household head's gender, education, marital status and age. γ_t are year fixed effects to absorb macroeconomic shocks and ε_{it} represents household fixed effects to control for unobserved heterogeneity.

For the binary indicators of financial inclusion such as account ownership or mobile/e-wallet use, the linear specification functions as a Linear Probability Model (LPM) is estimated.

Due to the endogenous nature of migration, Model 1 with a continuous Financial Inclusion Index is estimated using an instrumental variables (IV) method, using the migration network as an instrument. Migration network is defined as the share of households with migrants in the same district, excluding the household itself. To be valid, the instrument must satisfy both relevance and exclusion criteria. Consistent with established migration studies, migration network is a very strong determinant of migration decisions as it might reduce information and transaction costs of migration, create social support and insurance systems abroad, and lower the overall risks of migration. Even though high-migration communities might attract better local financial infrastructure and create a potential spillover, we mitigate this concern by controlling for rural and urban locations, which proxies for infrastructural access. Additionally, the model includes year fixed effects to control for common economic shocks that could simultaneously affect migration and financial development. Therefore, the wider migration network increases the chances of household migration without impacting the financial inclusion directly, satisfying both relevance and exclusion restrictions for the instrumental variables.

In the second stage of estimations, Model 2, the sample is restricted to migrant households only, to see how migrant characteristics like gender and education impact the financial inclusion outcomes. The dependent variable remains the same as in Model 1, but the list of control variables is expanded to include the migrant's gender, education, and the duration of the migration, in addition to the previous set of household controls.

$$Fl_{it} = \beta_0 + \beta_1 MigrantCharacteristics_{it} + \beta_2 X_{it} + \gamma_t + \alpha_i + \varepsilon_{it}$$

$MigrantCharacteristics_{it}$ includes migrant's gender (*FemaleMig*), education (*FemaleMig*), and duration of migration (*DurMig*).

Model 2 employs different estimation techniques depending on the dependent variable. For the binary indicators (account ownership and mobile banking), we estimate Probit

models and report marginal effects to interpret probability changes. For the continuous Financial Inclusion Index, we estimate a Random Effects (GLS) model. Random effects are preferred in this stage because key migrant characteristics (such as gender and education) exhibit little variation within households over the short panel period, and a fixed effects specification would absorb these variables of interest. Household-clustered standard errors are used, because there is a high chance that the observations within the same household are not independent.

Table 27: List of variables and their description

Variable	Description and Unit of measurement
Financial Inclusion Variables	
Ownership of bank account	=1 if at least one household member has a formal account at the local commercial bank, 0 otherwise.
Use of mobile banking or e-wallet	=1 if at least one household member uses a mobile banking account or e-wallet, 0 otherwise.
Number of deposit bank accounts	Number of deposit bank accounts in the household
Financial Inclusion Index	Constructed from ownership of bank account and use of mobile banking/e-wallet, based on the Multiple Correspondence Analysis (MCA).
Control Variables	
Migrant	Number of labour migrants in the household
HH Size	Household size, in number of people
HHH Age	Age of the household head
HHH Female	Household head's gender, =1 if female, = 0 otherwise
HHH Married	Dummy variables for the marital status: =1 if married, = 0 otherwise
HHH Education	Number of years of formal education of the household head
Income	Household's total income excluding remittances in last 12 months
Rural	= 1 if household is located in rural area, = 0 otherwise
Migrant information	
Migrant education	Number of years of formal education of the migrant
Migrant female	Migrant's gender, =1 if female, = 0 otherwise
Duration of migration	The duration of the migration, in months

Source: Author's estimations

Data description

The Kyrgyz Integrated Household Survey (KIHS) for the period 2019-2023 is used for this study. The KIHS is a nationally representative annual panel survey conducted by the National Statistical Committee of the Kyrgyz Republic. It covers around 5,000 households every year, providing detailed information on social and demographic indicators, labour market activity, migration, income and consumption, and financial behaviour.

Financial inclusion is measured by separate binary variables of ownership of a formal bank account, use of mobile banking or e-wallet, and also by the Financial Inclusion Index, constructed based on the Multiple Correspondence Analysis (MCA). The MCA combines multiple binary indicators related to financial inclusion into one, multi-dimensional index. The binary indicators used to derive the MCA are the ownership of a formal bank account and usage of mobile banking or e-wallets. Each indicator has a different weight, based on how they covary within the data. The Financial Inclusion Index measures the extent of financial inclusion, and is standardised with a mean of 0 and a standard deviation of 1, where higher values indicate higher levels of inclusion relative to the sample average. Although to construct the index, researchers have often included usage of ATMs, insurance, and savings or credits in formal financial institutions, these are not included in the current study due to the lack of relevant data in the KIHS dataset.

The following table presents means for the variables in Models 1 and 2, for the sub-samples of migrant (13% of the sample) and non-migrant households (87% of the sample).

Table 28: Summary statistics of the variables for non-migrant and migrant households

Variables	Non-migrant households N = 21,776	Migrant households N = 3,281	Difference and Two-sample t-test
HH owns deposit bank account	0.619	0.518	0.10***
HH uses mobile banking/e-wallet	0.115	0.0930	0.02***
Number of deposit bank accounts in the HH	1.082	0.831	0.25***
Financial inclusion index	0.0266	-0.177	0.20***
HH size	3.843	4.625	-0.78***
HHH age	56.27	54.04	2.24***
HHH education	12.08	11.60	0.48***
HHH female	0.392	0.465	-0.07***
HHH married	0.604	0.702	-0.10***

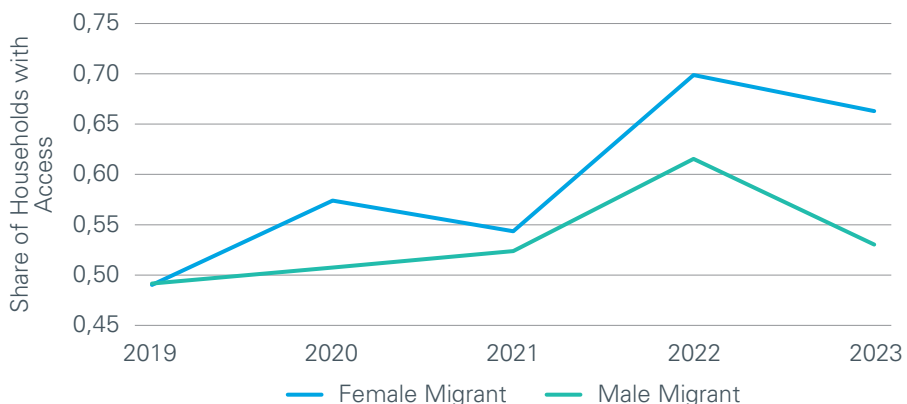
Variables	Non-migrant households N = 21,776	Migrant households N = 3,281	Difference and Two-sample t-test
Location (rural)	0.397	0.550	-0.15***
Annual income	318,464	528,236	-209,771***
Current migrant information:			
Migrant education		11.75	
Duration of migration		14.82	
Number of migrants		1.269	
Migrant female		0.273	

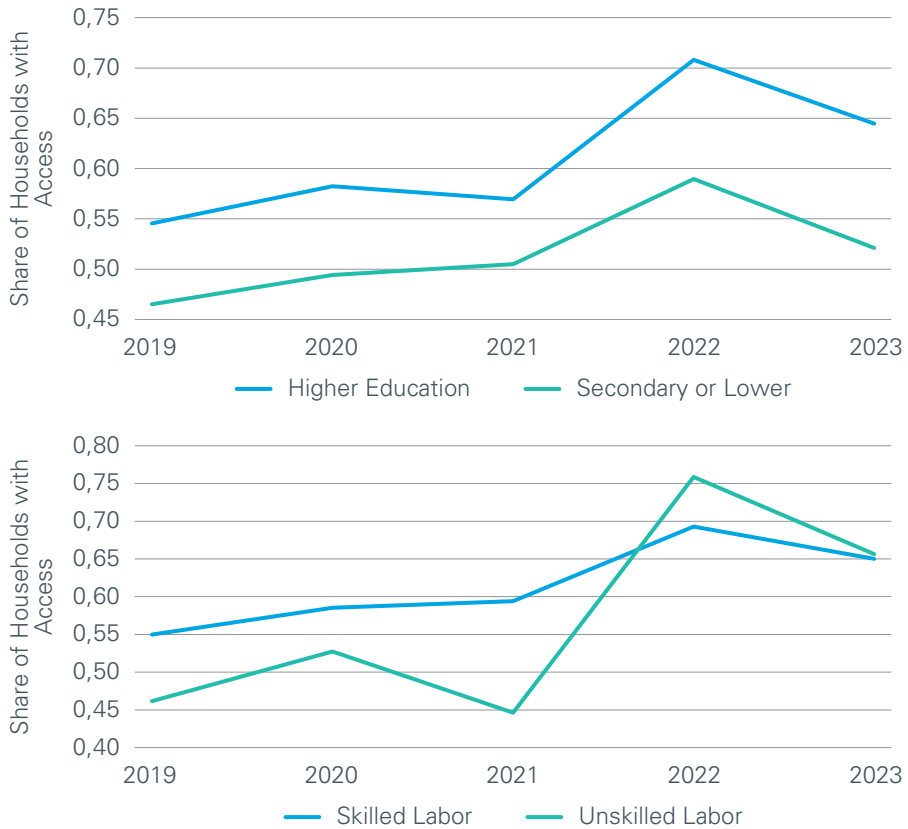
Source: Author's estimations

According to the data, as of 2023, bank account ownership is much more common than mobile banking or e-wallet use, among both migrant and non-migrant families. Financial inclusion indicators are higher for non-migrant families than for families with migrants, and the difference is statistically significant. However, this gap most likely reflects location effects rather than migration itself. Migrants are mostly coming from rural regions, and therefore their households show lower financial inclusion levels due to more limited access to financial services.

To visualise the dynamics of financial inclusion over the studied period, Figure 19 presents the evolution of formal financial access among migrant households from 2019 to 2023, disaggregated by key migrant characteristics. The measure 'Any formal access' is a binary indicator equal to one if the household has at least one member owning a formal bank account or uses mobile banking services or e-wallet.

Figure 19: Evolution of financial inclusion among migrant households (2019-2023)





Source: Author's estimations

According to Figure 19, there is a consistent upward trend in financial inclusion across all groups, likely driven by the general expansion of digital infrastructure, especially after COVID-19. There is some evidence of an empowerment channel: households with female migrants are more financially included than households with male migrants. Also, there is a visible education gap: households with highly educated migrants consistently show higher rates of financial inclusion compared to those with secondary education or lower. Both skilled and unskilled migrant households get more financially included over time, with some change in the gap in 2022, when Russia's war against Ukraine started, and migration patterns changed significantly.

3.3.5 Limitations

While this study utilises a robust longitudinal dataset, several limitations must be acknowledged. First, although the Instrumental Variable (IV) approach addresses the endogenous nature of migration, the use of a single instrument limits the use of tests to statistically verify the exclusion restriction. Therefore, even though there is strong

evidence of causality, the results should be interpreted with this constraint in mind. Second, 'self-selection' into migration remains a challenge. Specifically, unobserved traits, such as risk preferences of migrant households, might drive both migration and financial adoption. Finally, regarding the measurement of remittances, this study relies on self-reported data from the KIHS rather than administrative financial records. A key advantage of this survey-based approach is that it captures total remittance inflows regardless of the transfer channel, mitigating the issue of missing 'informal' flows (e.g. cash couriers) that typically plagues official balance of payments data. While this minimises the underestimation of informal transfers, we acknowledge that the data remains subject to standard limitations of self-reporting, such as recall bias or the reluctance to disclose sensitive financial information.

3.3.6 Results and discussion

Table 29 presents estimates for Model 1, assessing the impact of migration on financial inclusion across the whole sample of migrant and non-migrant households. To address endogeneity, all specifications employ the Two-Stage Least Squares (IV-2SLS) estimator. All models include household and year fixed effects.

Table 29: Impact of migration on financial inclusion

Variables	(1) Bank Account (IV- LPM)	(2) Mobile/Wallet (IV- LPM)	(3) FI Index (IV)
Number of migrants	-0.317*** (0.0375)	-0.0273 (0.0177)	0.491*** (0.0667)
Rural	-0.0335*** (0.0114)	-0.0506*** (0.00521)	0.153*** (0.0200)
HHH female	0.0435** (0.0170)	-0.0183** (0.00863)	-0.0207 (0.0314)
HH size	0.00599** (0.00262)	0.00354*** (0.00130)	-0.0157*** (0.00478)
HHH educ	-0.00102** (0.000455)	-0.00119*** (0.000207)	0.00390*** (0.000802)
HHH age	0.00280*** (0.000416)	-0.00243*** (0.000228)	0.00131 (0.000806)
HHH married	0.0103 (0.0170)	-0.0230*** (0.00840)	0.0347 (0.0310)

Variables	(1) Bank Account (IV- LPM)	(2) Mobile/Wallet (IV- LPM)	(3) FI Index (IV)
ln_income	0.173***	0.0469***	-0.336***
	(0.0103)	(0.00475)	(0.0193)
Year 2020	0.0386***	0.0299***	-0.116***
	(0.00646)	(0.00289)	(0.0108)
Year 2021	0.0483***	0.0866***	-0.249***
	(0.00731)	(0.00428)	(0.0141)
Year 2022	0.0754***	0.126***	-0.370***
	(0.00805)	(0.00509)	(0.0158)
Year 2023	-0.0150	0.201***	-0.405***
	(0.00959)	(0.00616)	(0.0193)
Constant	-1.728***	-0.385***	4.242***
	(0.119)	(0.0553)	(0.224)
First-stage results			
Instrument (Migration network)	1.195***	1.195***	1.195***
	(0.054)	(0.054)	(0.054)
First-stage F-statistic	492.14	492.14	492.14
Observations	25,057	25,057	25,057
R-squared	0.043	0.092	0.094

Household clustered errors in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Source: Author's estimations

The results from the first model (Table 29) show that migration has a strong and statistically significant positive effect on household financial inclusion across all measures. The IV estimates indicate that the number of migrants positively impacts the Financial Inclusion Index (Column 3) as well as the specific probabilities of owning a bank account and using mobile banking (Columns 1 and 2). This result confirms the hypothesis that migration facilitates access to formal financial services through remittance inflows and the informational channel of remittances.

Among control variables, the age and education of the household head are positively and significantly associated with financial inclusion, suggesting that older and more educated household heads are more likely to use or maintain formal financial accounts.

The coefficient for female household head is negative and highly significant in the binary specifications, indicating that generally female-headed households tend to have lower financial inclusion levels compared to male-headed ones. This finding aligns with regional patterns documented in previous research (World Bank 2025), where women continue to face social and structural barriers to accessing financial institutions.

Regarding macroeconomic shocks, the year fixed effects capture the broader economic volatility of financial inclusion behaviour. The coefficient for the year 2022 is the highest in magnitude compared to the base year of 2019, reflecting the impact of the Russian invasion of Ukraine as a serious macro shock for migration and financial inclusion outcomes in Kyrgyz households.

Model 2 includes only migrant households, to focus on how the migrant’s characteristics influence the household’s financial inclusion outcomes. The results (Table 30) show that human capital is the primary driver of inclusion. Migrant education is positive and statistically significant for the probability of owning a formal bank account (Column 1). This indicates that higher education levels among migrants facilitate the initial entry of their households into the formal financial system, likely through the transfer of financial literacy. In contrast, the gender of the migrant is not statistically significant across any of the specifications (binary or index). This suggests a gender-neutral impact of migration: female migrants are just as effective as male migrants in fostering financial inclusion for their families. The duration of migration is also not significant, implying that the benefits are realised relatively quickly.

Table 30: Regression results for Model 2

Variables	(1) Bank account (Probit, marginal effects)	(2) Mobile/E-wallet (Probit, marginal effects)	(3) FI Index (RE)
Migrant female	0.00346 (0.0268)	-0.0226 (0.0155)	0.0633 (0.0470)
Migrant education	0.0141 ** (0.00653)	0.00190 (0.00337)	-0.0193 (0.0122)
Duration of migration	0.000223 (0.000679)	-0.000528 (0.000368)	-0.00135 (0.00108)
Rural	-0.201 *** (0.0248)	-0.0228* (0.0127)	0.300 *** (0.0468)
HHH female	-0.00865 (0.0323)	-0.0315* (0.0162)	0.0787 (0.0550)

Variables	(1) Bank account (Probit, marginal effects)	(2) Mobile/E-wallet (Probit, marginal effects)	(3) FI Index (RE)
HH size	0.00820	-0.00268	-0.00175
	(0.00640)	(0.00346)	(0.0121)
HHH educ	-0.000129	-0.00112*	0.00163
	(0.00117)	(0.000673)	(0.00215)
HHH age	0.00614***	-0.000443	-0.00743***
	(0.00127)	(0.000597)	(0.00207)
HHH married	-0.102***	-0.0214	0.224***
	(0.0353)	(0.0184)	(0.0604)
ln_income	0.162***	0.0322***	-0.261***
	(0.0216)	(0.0112)	(0.0390)
Year 2020	0.0457*	0.0155**	-0.0555
	(0.0239)	(0.00742)	(0.0370)
Year 2021	0.0268	0.0800***	-0.154***
	(0.0281)	(0.0159)	(0.0501)
Year 2022	0.0686***	0.102***	-0.297***
	(0.0257)	(0.0160)	(0.0449)
Year 2023	-0.0430*	0.150***	-0.257***
	(0.0255)	(0.0151)	(0.0468)
Constant			3.960***
			(0.522)
Observations	2,839	2,839	2,839

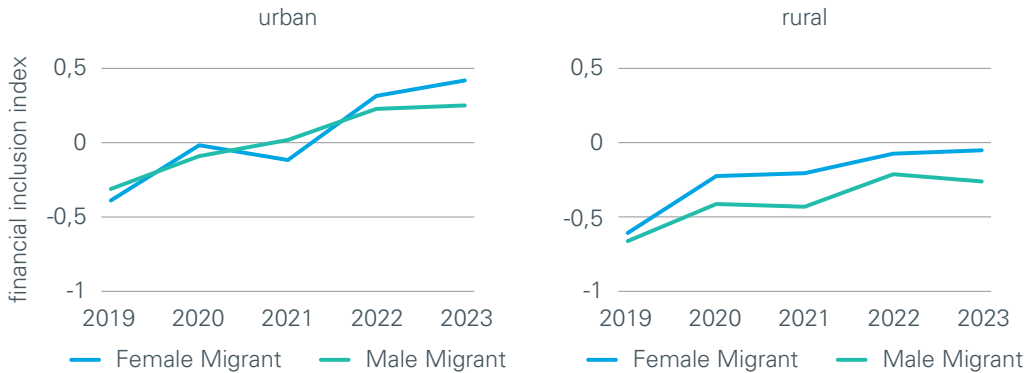
Household clustered errors in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Source: Author's estimations

Crucially, however, the gender of the household head (the member left behind) plays a marginally significant role. The coefficient for female household heads is negative and marginally significant. This implies that, even in migrant households, women managing the home face persistent structural barriers to financial access compared to men. Thus, while migration offers a pathway to inclusion, it does not fully erase the domestic gender gap.

The Financial Inclusion Index by migrant gender and location (Figure 20) visually supports these results.

Figure 20: Financial Inclusion by gender of migrants and location of households



Source: Author's estimations

Over the 2019-2023 observation period, financial inclusion increased steadily for both urban and rural households. However, urban households consistently show higher index values, reflecting better access to financial infrastructure. Among urban households, female migrant families demonstrate a slightly faster growth in inclusion between 2021 and 2023. In rural areas, both male and female migrant households start from lower levels, but the gap between them remains noticeable, with female migrant households outperforming male migrant ones. However, once we control for socio-economic factors such as income, household size, and demographic characteristics of the household head, the gender of migrants becomes statistically insignificant.

Overall, empirical findings provide micro-level evidence of positive relationship between international labour migration and financial inclusion in Kyrgyzstan. At the same time, there is no significant evidence of gendered spillover effects from migration.

The results align with international evidence suggesting that migration can enhance financial inclusion through both economic and social channels (Aggarwal et al., 2011; Ambrosius & Cuecuecha, 2016). However, the case of Kyrgyzstan reveals two distinctive patterns. First, despite the high overall reliance on remittances, financial inclusion gains remain uneven, especially between rural and urban areas. Second, female migration emerges as a specific channel of empowerment, generating positive financial externalities even when other individual characteristics, such as education or occupation, are not significant.

3.3.7 Conclusion and policy recommendations

This analysis confirms that migration plays an important role in promoting financial inclusion for Kyrgyz households. Results from the baseline model show that households with migrant members have significantly higher financial inclusion levels compared to non-migrant households, even after controlling for endogeneity and annual macroeconomic shocks. This suggests that migration contributes not only to household income through remittances, but also to the diffusion of financial behaviours and the use of formal financial services. These findings are consistent with international studies highlighting the positive relationship between migration, remittances and financial inclusion.

However, the strength and nature of these effects depend on both gender and location. Female-headed households left behind are significantly less likely to be financially included than their male-headed counterparts. This implies that while having a migrant abroad helps, it does not fully offset the barriers faced by women. Urban households consistently demonstrate higher inclusion levels, reflecting better access to financial infrastructure, while rural households remain more dependent on informal channels. Yet, the growth in financial inclusion between 2019 and 2023 is visible across both groups, showing that digital financial services are slowly bridging the urban–rural divide. The introduction of mobile banking and e-wallets has been especially important in this process, as they require fewer physical interactions with formal banks and provide easier access to remittance-receiving households in remote areas.

The second model provides additional insights into the role of migrant characteristics. Education is a significant factor correlated with financial inclusion, indicating that migration of highly educated people generates distinct and measurable spillover effects on household financial inclusion. The impact of migration is found to be gender-neutral, with migrants' gender not statistically significant after controlling for other socio-economic determinants. Migrant education is identified as a robust positive determinant in all specifications of Model 2, which suggests that the informational channel of migration driven by skills and literacy is quite significant. Better-educated migrants are likely transferring financial knowledge or requiring the use of formal banking channels for remittances, effectively pulling their households into the formal financial sector.

Russia's invasion of Ukraine has significantly impacted the financial inclusion of migrant households, as due to sanctions against Russian banks, Kyrgyzstan's commercial banks introduced new rules and barriers for transfers from Russia, forcing some migrants to go back to non-digital remittances or seek alternative channels for remitting money (e.g. through cryptocurrency), which might be harder to track.

The findings also reflect Kyrgyzstan's broader migration landscape. With serious geopolitical shocks, feminisation of migration and increasing skilled migration, it is gradually shifting from a purely subsistence strategy to a form of human capital investment. In this process, female migrants are emerging as important agents of change, having a high potential in transmitting financial knowledge and trust in formal institutions to their families and communities.

Based on the empirical findings, this study proposes the following policy recommendations:

1. Promote digital and rural access to banking and financial services

Since rural households remain significantly less financially included, the National Bank of the Kyrgyz Republic (NBKR), in coordination with commercial banks and mobile payment providers (such as O!Money, MegaPay, and others), should expand access to digital financial infrastructure. This includes supporting interoperability between mobile wallets and traditional bank accounts, and subsidising low-fee mobile transfers for remittance recipients in remote areas.

2. Support financial literacy and awareness for migrants and their families

Given that migrants' education and occupation do not independently affect financial inclusion, the focus should shift toward financial literacy and practical knowledge transfer. The Ministry of Labor, Social Security and Migration, in partnership with NBKR and migration agencies, should incorporate financial management modules into pre-departure training and reintegration programmes. Special attention should be given to women migrants, who demonstrate stronger positive effects on household financial inclusion.

3. Encourage gender-sensitive financial inclusion policies

The finding that female-headed households have lower financial inclusion underscores the need for targeted programmes for women. The National Statistical Committee and NBKR should collect sex-disaggregated data on remittances and account ownership to inform the design of tailored credit and savings products for women.

4. Stabilise and diversify remittance channels

Russia's war against Ukraine disrupted conventional remittance pathways, forcing many transfers through limited or informal channels. NBKR should continue strengthening alternative international payment partnerships and ensure transparency and safety of transactions through non-sanctioned correspondent banks and regulated digital systems. Promoting safe crypto or fintech-based options under clear regulation could help sustain remittance flows.

5. Design financial reintegration tools for return migrants

Given the significant return migration from Russia since 2022, microcredit, small business loans, and matched savings programmes should be extended to returnees to channel remittance savings into productive uses. Implementation could involve Aiyl Bank, RSK Bank, and local microfinance institutions, under NBKR guidance.

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CHAPTER 4: LEVERAGING RETURN MIGRATION AND DIASPORA EXPERTISE

4.1 Return migration and brain circulation: Comparative policy reflections from Türkiye, Serbia and Morocco

Mehmet Gökay Özerim

4.1.1 Preface

This report evaluates how return migration and brain circulation are addressed through national policy systems in three European Training Foundation (ETF) partner countries – Türkiye, Serbia and Morocco. Moving beyond the conventional notion of brain drain, the study views highly skilled emigration as a multidimensional process governed both by individual trajectories and institutional contexts. Through a structured meta-analysis of literature, policy reports and national strategies produced between 2005 and 2025, it identifies and compares four core dimensions of policy response: skills recognition; entrepreneurship support; diaspora engagement; and reintegration policies.

Evidence reveals that even though all three countries share similar structural challenges, such as youth unemployment, limited research funding, and dependency on remittances, their policies to transform emigration into brain circulation differ substantially. Türkiye has run schemes to support institutionalised diaspora engagement and scientific reintegration, though not on a generalised basis. Serbia's EU-anchored framework prioritises skills recognition and entrepreneurship via the Returning Point platform and diaspora business councils, whereas Morocco's constitutional and ministerial reforms have strengthened diaspora outreach but face coordination and implementation gaps. The cross-country comparison shows that successful brain-circulation governance requires coherent institutional design, transparent credentialing systems, and incentive-based mechanisms for diaspora investment. Ultimately, the paper argues that turning skilled migration into a mutually beneficial cycle of knowledge exchange depends on sustained regional cooperation and evidence-based policy-making.

The three case countries examined in this study constitute a meaningful and illustrative sample for other European Training Foundation (ETF) partner countries facing comparable structural challenges in the fields of migration, skills and labour-market integration. In this sense, the analytical value of the study lies not merely in the country-specific policy recommendations formulated for Türkiye, Serbia and Morocco, but rather in the transferable and generalisable dimensions of the identified policy approaches.

Accordingly, the study seeks to highlight those elements of the analysis that may inform broader ETF country contexts, beyond the scope of a three-country assessment report¹⁶.

4.1.2 Introduction

The migration of skilled workers has been a central focus in discussions on global migration (Wickramasekara, 2018, pp. 3-7). This group represents a significant factor not only in migratory movements but also social and economic balances due to its specific human-centred challenges, the complexities of the process, cross-border income transfers, and influence on political dynamics. One of the leading concepts in discussions about this group, both in political discourse and academic literature, is brain drain (Le, 2008, p. 619). Related to these concepts, academic literature also refers to brain waste or brain gain (Le, 2008, pp. 620-621).

The concept of brain circulation has also gained prominence in recent decades. Contemporary research indicates that the migration of skilled individuals does not just represent a loss for their countries of origin, but constitutes a complex process with long-term, wider-ranging implications. However, more comparative academic studies are needed to better understand this process and share the problems and possible solutions. The unique features of each country of origin can shape how brain circulation affects them in different ways (Dustmann et al., 2011, pp. 59-60).

This study explores how counterstrategies for high-skilled emigration can be developed, and what effects they have in theory and in practice. It uses examples from three European Training Foundation (ETF) countries: Türkiye, Serbia and Morocco. While these countries face similar issues, they differ in population, geography and socioeconomic factors. By examining how brain circulation is discussed and what strategies are used in these cases, we can gain useful insights to help understand brain circulation and see it as more than just a problem.

To address these questions, the study undertakes a structured meta-analysis of empirical and conceptual research on return migration published between 2005 and 2025. This includes academic literature, policy evaluations and reports produced by international organisations such as the ETF, the International Organization for Migration (IOM), the World Bank and the United Nations Development Programme (UNDP), alongside national policy documents and grey literature from diaspora associations. Through a comparative lens, the paper analyses how each of the three countries has designed and implemented policies on the recognition of foreign-acquired skills, entrepreneurship and innovation support, labour-market reintegration and diaspora engagement.

Within the scope of this methodology, this study will also offer a broad perspective on how the brain circulation process affects countries. Therefore, highly skilled emigration

¹⁶ This study has been entirely conceptualised, designed and written by the author. Artificial intelligence tools were not used for content generation, analysis or interpretation. Limited AI assistance was employed solely for language refinement and proofreading purposes to ensure grammatical accuracy and stylistic clarity. For transparency, the tools used in this process were DeepL and Grammarly.

will be addressed not only as a situation but also as a multidimensional process with ongoing effects on both individuals and countries.

This perspective will go beyond the origin country's view of brain drain, which focuses solely on losses, providing an opportunity to discuss existing starting points and opportunities through the concept of brain circulation.

Accordingly, this study addresses the following research questions:

1. How do Türkiye, Serbia and Morocco conceptualise and operationalise brain circulation within their return migration policies?
2. Which policy instruments are prioritised across skills recognition, entrepreneurship support, diaspora engagement and reintegration?
3. What structural gaps and good practices emerge from the comparison, and what policy lessons can be drawn from these case countries?

In line with these aims and questions, the paper first outlines the conceptual foundations of brain drain, return migration and brain circulation. It then presents the methodological and analytical framework used for the comparative analysis, before examining country-specific policy approaches in Türkiye, Serbia and Morocco. The final section synthesises the findings and formulates policy-relevant recommendations.

4.1.3 Conceptual framework: From brain drain to brain circulation and beyond

This section introduces the key concepts that underpin the analysis, including brain drain, return migration, brain circulation and skill reintegration. It situates these concepts within the broader migration literature and clarifies their relevance for understanding contemporary policy responses to high-skilled emigration.

Brain drain refers to the movement of highly skilled individuals from a less economically developed region to a more developed region for work-related purposes (Docquier & Marfouk, 2006; Carrington & Detragiache, 1999; Docquier, 2014; Migration Policy Institute, 2017; OECD, 2017).¹⁷ This movement is expected to be long-term and residence based. However, brain circulation is a concept that broadens this perspective.

In fact, migration studies frequently emphasise that migration is a process, and this process is not always stable (de Haas, 2010, p. 1581; Cassarino, 2004, p. 255). The concept of brain circulation embraces this understanding. When highly skilled individuals settle in their destination, this is not always permanent, due to specific individual, social, economic and political reasons (Dustmann et al., 2011, pp. 61-62). Even if the intention is permanent migration and settlement, the view that this process can be reshaped by the origin country's return-encouraging policies is highlighted. Contrary to brain drain,

¹⁷ In this study, highly skilled migrants are mostly defined as individuals holding tertiary education degrees or equivalent professional qualifications. Existing data indicate significant outflows of qualified nationals from all three countries, particularly in academia, health and engineering sectors, reinforcing the relevance of policies targeting brain circulation.

which mostly focuses potential losses, this perspective brings to the fore the possibility of transforming the process into a mutual exchange and sharing of knowledge and skills between countries, encouraging origin countries to produce more active solutions.

Therefore, while moving away from traditional conceptualisations, brain circulation is becoming increasingly preferable in contemporary studies and policy strategies. This approach offers the opportunity to transcend the limitations of old terms. After migration, highly skilled individuals are expected to increase their skills and knowledge in their new destinations. It is expected that they also gain experience regarding the international dimension of their work in their new location. Within this process, anticipation that this would be beneficial for the home economy is often correct. However, if individuals do not return, knowledge transfer does not occur. Therefore, brain circulation studies focus on the issue in two dimensions and explore ways to ensure this transfer.

The first dimension discusses individuals and the process of adaptation and integration of the returning individual into their homeland, as well as factors that could encourage this individual to return even before this process begins. The second dimension discusses what countries of origin need to do to ensure the integration of their returning citizens into the labour market in a way that transfers their experience and knowledge after facilitating this return. Both of these questions are of great importance in terms of our research and discussion in this study.

Here, we must also introduce another concept and highlight its differences: return migration. In return migration, the process is completed when the migrant returns to their homeland, as described above (de Haas, 2021; Stark, 2019, p. 104). In contrast, brain circulation categorises return migration as only part of the process. It offers a broader perspective, focusing on the concept of “continuous mobility across borders”. Therefore, it emphasises a “global talent network” characterised by the idea of being in a state of continuous circulation (Saxenian, 2005, p. 36; Ackers, 2005; Tung, 2008, p. 418). This is discussed as an incentive for countries to make efforts to retain these talents within their borders. This mobility is enhanced by various factors, including global educational opportunities, technological advancements and international labour demands, which collectively facilitate a more fluid exchange of human capital (Blachford & Zhang, 2014).

Return migration and brain circulation are similar in that both should be conceptualised as processes, recognising their complexity and the influence of individuals on local economies and knowledge transfer. However, brain circulation encourages countries to take more initiative and develop counter policies on one issue: “creating a framework for these processes”. In this study, we aim to examine and classify these frameworks through three ETF partner countries.

Another concept that stands out in this debate and related academic literature is skill reintegration, which focuses on skilled returned migrants and discusses how the skills and competencies they have expanded and developed can be added as value to their home country’s markets upon their return (Koser & Salt, 1997, p. 285). However, this process is certainly not always smooth, and more importantly, its sustainability is

questionable. As mentioned above, it cannot be permanent without creating frameworks and consolidating them. Thus, discussions on the concept of skill reintegration also address challenges in its implementation.

While analysing skills and experience at the individual level, it is equally necessary to consider the specific needs of each country. This involves examining how returnees perceive the labour market to which they return, and exploring strategies to enhance its transparency and inclusivity (Cassarino, 2004, p. 269; Martin & Radu, 2012, p. 29). Effective skill transfer requires translating acquired competencies into the local job market. Addressing individual and local needs necessitates a multidimensional approach.

However, it is not possible to fully explain or manage the personal motivations of highly skilled individuals who return through this process, the networks they have established during their experiences, or their personal resources in isolation. Each of these factors significantly influences the integration of individuals and their skills upon return.

The framework we address in this study is based on three main elements. These elements are the local economies of the countries of return, support mechanisms and migration policies. Therefore, while general frameworks often serve as important examples, tailor-made solution mechanisms adapted to the specific local circumstances of each country have the potential to yield more effective results. These conceptual distinctions will provide the analytical lens through which the policy frameworks of the three case countries are examined in the following sections, allowing return migration to be understood as part of a broader and dynamic process of brain circulation.

4.1.4 Methodological and analytical framework

This section explains the methodological approach and analytical framework adopted in the study. It outlines the research design, data sources, and the logic guiding the comparative analysis across the three selected countries. In this study, a comparative qualitative research design method was used to examine the frameworks and situations of return migration processes in Türkiye, Morocco and Serbia. Within this scope, the analysis process was designed based on secondary sources stemmed from the principles of meta-analysis. In this context, academic articles, institutional reports and policy evaluations produced between 2005 and 2025 in relevant case countries were systematically examined.

The methodological process consists of three stages. First, studies on brain drain, brain gain, brain waste and brain circulation in each country were reviewed to identify key trends. In the second stage, these findings were clustered according to thematic dimensions such as skill reintegration, institutional support mechanisms for returnees, labour market absorption capacity, and transnational connections. In the third stage, these themes were compared across countries to identify common problem areas and country-specific policy approaches.

The three ETF partner countries were selected as cases for this study due to a number of shared characteristics. These case countries share similar structural dynamics, such as

youth unemployment, skilled labour migration, and relations with the EU. They are also strategically important countries for the European Migration Dialogues. Türkiye and Serbia are EU accession candidate countries, while Morocco is one of the key countries in the EU's relations with third countries. Each has millions of citizens abroad. Türkiye's diaspora is estimated at over 6.5 million (Ensari et al., 2023). On the other hand, Serbia's diaspora is between 4.5 and 5 million (Republic of Serbia, 2020). As the third case country of our study, Morocco has a diaspora population of around 5 million (European Training Foundation, 2021) and relies significantly on migrant remittances.

The selection of Türkiye, Serbia and Morocco is also based on their shared structural characteristics as well as their distinct policy orientations toward the European Union. Türkiye represents a large-scale diaspora state distinguished by institutionalised transnational governance structures. Serbia serves as an EU-candidate Western Balkan model anchored in accession-driven reforms. Morocco is a southern Mediterranean partner where diaspora governance is constitutionally recognised but remains institutionally fragmented. This variation allows for the examination of three distinct models of brain circulation governance: institutional consolidation (Türkiye); EU-anchored regulatory adaptation (Serbia); and diaspora-development hybridisation (Morocco).

However, these countries also differ in terms of migration governance models and reintegration strategies. Their policy responses have evolved differently, providing an opportunity to compare their approaches. This makes it possible to track how differences in institutional capacity and policy innovations shape the effectiveness of brain circulation.

Efforts to develop policies related to this field, and studies examining them, have the potential to increase, country by country. While most other existing studies focus on a single country, this study aims to offer a holistic perspective based on a cross-country approach. In conducting this analysis, triangulation was used to establish analytical security, taking into account not only academic sources but also reports and data from institutions such as the ETF, OECD and IOM. As a result, the study treats return migration not only as a 'reactive policy' but also as a proactive component of national development strategies.

The analysis in this study utilised the academic databases Scopus and Web of Science, supplemented by structured searches in institutional repositories and official databases of the ETF, IOM, OECD, UNDP and ICMPD, as well as national policy portals of Türkiye, Serbia and Morocco. In total, 36 peer-reviewed academic publications and 26 institutional and policy-oriented documents published between 2005 and 2025 were systematically screened and analysed. The sources comprised journal articles, doctoral theses, edited book chapters, national migration strategies, legislative documents, programme evaluations and international organisation reports. Selection criteria included whether the studies: addressed return migration, brain circulation or high-skilled mobility; discussed policy instruments or governance models relevant to these topics for the case countries; and contained empirical content suitable for cross-country comparison. Priority was assigned to academic articles and reports from the aforementioned reputable organisations. To ensure a robust comparison among the three case countries, efforts were made to maintain balance in the analysis of skills recognition, entrepreneurship support, diaspora engagement and reintegration policies.

In sum, methodologically, this study adopts a deductive research approach, starting from established theoretical frameworks on brain circulation and return migration, and applying them to a comparative policy analysis of Türkiye, Serbia and Morocco. Based on the literature review, four analytical dimensions were identified to structure the comparative analysis: skills recognition; entrepreneurship support; diaspora engagement; and reintegration policies. These dimensions and their sub-categories were derived through a deductive approach, informed by dominant theoretical and policy debates on brain circulation.

The resulting analytical framework and its components are presented in Table 31.

Table 31: Analytical framework outlining four dimensions of analysis in migration and skills policies

Analysis Dimension	Focus and Scope
Skills Recognition	<ul style="list-style-type: none"> ▪ credential recognition systems ▪ assessment of prior learning ▪ initiatives to match diaspora skills with domestic needs
Entrepreneurship Support	<ul style="list-style-type: none"> ▪ access to finance ▪ investment incentives ▪ diaspora business networks (e.g. diaspora chambers or mentorship programmes)
Diaspora Engagement	<ul style="list-style-type: none"> ▪ diaspora ministries, offices, councils ▪ diaspora networks and databases ▪ cultural and educational outreach ▪ policies to maintain ties (e.g. dual citizenship, overseas voting, diaspora bonds)
Reintegration Policies	<ul style="list-style-type: none"> ▪ job placement ▪ training ▪ psychosocial support

Source: Author's elaboration

The first analytical dimension, 'skills recognition', refers to mechanisms for recognising the skills that qualified migrants have acquired outside their home countries. The major components of this dimension include initiatives such as: credential recognition systems; assessment of prior learning experiences; and initiatives to match diaspora skills with domestic needs.

The second analytical dimension, 'entrepreneurship support', refers to support for migrant and diaspora entrepreneurship and investment. As observed from the theoretical discussions and practices of countries, these initiatives vary by including facilitation processes for accessing finance, investment incentives for the migrant and diaspora

entrepreneurship, and establishment of diaspora business networks (e.g. diaspora chambers or mentorship programmes).

The third dimension, 'diaspora engagement', addresses the establishment of institutional structures that maintain continuous dialogue with citizens living abroad. These refer to: establishment and active functioning of diaspora ministries, offices, councils; creation of diaspora networks and databases, organisation of cultural and educational outreach activities and; development of policies to maintain these ties sustainable and strong (e.g. dual citizenship, overseas voting, diaspora bonds).

The final dimension, 'reintegration policies', refers to measures to reintegrate returning migrants socially and economically. Mostly, these initiatives are related to job placement, training and psychosocial support.

This analytical framework enables a systematic comparison of national policy responses and provides a consistent structure for examining similarities, differences and gaps across the three country cases. In the following section, the reflections of this analytical framework will be explained in three ETF country case studies.

4.1.5 Case country overviews

The following country case studies are presented in a comparable structure. Each case begins with an overview of return migration patterns, followed by an analysis of policy measures across four dimensions identified in the literature: skills recognition; entrepreneurship support; diaspora engagement; and reintegration policies. Each case begins with a brief overview of return migration patterns and the general policy context. This is followed by an analysis of the core elements identified in the literature as central to reintegration and brain circulation policies, namely skills recognition, entrepreneurship support, diaspora engagement and reintegration policies. This structure allows for a systematic comparison across countries.

Türkiye

Several studies and reports indicate that the return intention rate among Turkish professionals is not very high (Güngör and Tansel, 2010, 2006, 2007; Tansel and Güngör, 2003). Güngör and Tansel (2007, 2010) highlight weak return intentions among Turkish professionals abroad, especially in academia, due to economic instability, lack of opportunities, and non-economic factors such as family and social ties. In a similar vein, the GreaTR and FutureBright (2024) Reverse Brain Drain report survey of 445 international students and professionals indicates that 61% would consider returning if conditions were equal, and 72% of those who returned are satisfied with their jobs (GreaTR & FutureBright, 2024, pp. 7-8).

Aker and Görmüş (2018) report that returnees to Türkiye face greater employment challenges than non-migrants. Higher education helps with employment but does not guarantee job quality or security. Pusch and Splitt (2013) highlight the role of second

generation, highly educated returnees whose skills are well-matched to Turkish labour market needs, suggesting that diaspora engagement can be a source of comparative advantage. On the other hand, Durmaz et al. (2022) find that strong ties to the homeland increase the likelihood of return among high-skilled Turks in Germany. In terms of knowledge transfer, these studies argue that limited transfer methods are preferred, not physically, but through communication via pre-existing networks. Therefore, engagement capacity still depends largely on the individual capacities of Turkish immigrants.

However, there are also examples that appear to be successful. When we look at the four policy approaches separately – skills recognition, entrepreneurship support, diaspora engagement and reintegration policies – in our study, we observe that specific initiatives have been launched for each one, and there are noteworthy examples.

Pusch and Splitt (2013) discuss the introduction of the Blue Card (Mavi Kart) and the establishment of the Presidency of Turks Abroad and Related Communities as institutional innovations to engage highly educated diaspora members. Turquoise Card Program (2017) has also provided a supportive framework for former Turkish citizens returning to Türkiye to protect certain rights regarding the recognition of their skills. Türkiye has aligned its National Qualifications Framework with EU standards, which is an important step towards the recognition of diplomas obtained abroad. The Turkish Council of Higher Education (YÖK) introduced a regulation that enables Turkish students studying at prestigious foreign universities – those ranked among the world's top 1,000 – to transfer to universities in Türkiye without taking the national entrance exam. Revised in 2020, this policy was designed to encourage talented students pursuing their education abroad to return home and complete their studies in Türkiye.

Although there are some scattered programmes supporting entrepreneurship, which represents the second dimension, there is still no specific diaspora investment programme at the national level. Technoparks and Scientific and Technical Research Council of Türkiye (TÜBİTAK) support, in particular, have significant potential in this area and play an important role in encouraging entrepreneurship. Although migrant remittances are not discussed at the policy level as much as they were before 1990, migrant investments have the potential to contribute important economic support in the new period.

When looking at the scope of diaspora engagement, it is evident that Türkiye has made significant efforts in institutionalisation over the past 20 years. The Presidency for Turks Abroad and Related Communities (YTB), established in 2010, has institutionalised Türkiye's diaspora policy. Youth programmes, diaspora grants, expanded consular services, and the "Blue Card," which provides residency/rights facilitation to former citizens, are part of this approach. However, diaspora relations have sometimes become politicised and concentrated around specific groups. Türkiye's overseas voting right, implemented in 2012, has also increased political participation.

Finally, in the context of reintegration policy, skilled returns are more prominent. Researcher/academic migration, particularly from Türkiye to the West, has accounted for a notable proportion of migration in recent years. Since 2016-2018, programmes

such as TÜBİTAK 2232 have provided research funding and laboratory support to scientists returning from abroad. Another initiative that could serve as a model for public institutions nationwide is the reverse brain drain programme launched by TÜBİTAK. This programme targets Turkish researchers who have moved abroad, aiming to facilitate their return to Türkiye and reintegration. TÜBİTAK 2232 and reverse brain drain programmes (2007-present) offers various scholarship and support programmes to attract scientists to Türkiye and develop its research ecosystem.

Bilateral social security agreements with EU countries allow acquired rights to be transferred to Türkiye. Social rights of returnees are protected through agreements with approximately 30 countries (Ensari et al., 2023). However, systematic support mechanisms for the general labour force returns are limited; services are mostly provided on an ad hoc basis through employment agencies. Several studies (Bilgili and Siegel, 2014; Pusch and Splitt, 2013; Aker and Görmüş, 2018; Durmaz et al., 2022; Güngör and Tansel, 2007 and 2010; Dudu and Rojo, 2021; Sener, 2020) report that policy measures such as the Blue Card (Mavi Kart), selective focus on highly skilled returnees, and specialised institutions coexist with fragmented, ad hoc approaches. Therefore, the need for comprehensive legislation on the subject has been a prominent issue for many years. Despite these developments, one of the most significant obstacles remains the bureaucratic processes involved in the approval of foreign documents.

Serbia

Studies on Serbia still reveal the existence of structural barriers to return intention. Personal development and labour market advantage expectations appear to be the most important factors that could increase return intention. However, many reports also reveal that the utilisation of these migrants' acquired knowledge remains limited in return situations.

Another important issue that emerges from studies on the country from a policy perspective is the emphasis on internationalisation and academia-industry connections (Pokimica, 2019). Although these areas appear to have the potential to function well, structural barriers are discussed as factors preventing their development. A study by Langovic et. al. (2024) reveals that life satisfaction of returnees increases with age, satisfaction decreases as education level rises, and those planning to emigrate again have the lowest satisfaction levels.

The Economic Migration Strategy of Serbia for 2021-2027 aims to increase innovation and investment capacity by reversing brain drain and encouraging the return of diaspora experts. Serbia's 2009 Strategy for the Integration of Returnees under the Readmission Agreement (Republic of Serbia, 2009) defines the establishment of a database on the needs of returnees and an institutional framework for sustainable reintegration. In spite of these initiatives, Jackson (2012) describes micro- and macro-level initiatives that can benefit highly skilled returnees, yet effective knowledge transfer depends on workplace and broader systemic factors. It is therefore noted that knowledge transfer is not automatic.

In terms of the first dimension of our analysis – the recognition of skills – Serbia developed several initiatives. Serbia has established the National Qualifications Agency to institutionalise the recognition of skills and diplomas (Qualifications Agency of the Republic of Serbia, 2023). A platform called Returning Point exists to identify qualified returnees (UNDP Serbia, 2021). Regarding the facilitation of diploma recognition, certain measures have been taken to simplify the process, particularly through amendments to the professions law (Government of the Republic of Serbia, 2020). In terms of administrative capacity, the most important anchor remains the EU candidacy process. Another important initiative was the launch of the Diaspora Collaboration grant programme by the Serbia Science Fund in 2021. This programme aimed to create a two-way collaboration and research network between Serbian scientists and experts in the diaspora. This paved the way for a mobility-based step towards knowledge transfer from the diaspora.

Regarding entrepreneurship, a Diaspora Business Council has been established within the Serbian Chamber of Commerce, with the primary objective of connecting diaspora investors with local companies (Chamber of Commerce and Industry of Serbia, 2023). As a relevant and remarkable project example, The Link Up! Serbia programme, launched in 2020, provides mentoring and business networking support (International Centre for Migration Policy Development (ICMPD), 2020). Tax exemptions and grants are offered to returnees because diaspora direct investments (DDI) have been presented as part of the country's national development strategy. However, bureaucracy and lack of institutional trust remain significant obstacles; the government aims to address these issues with 'one-stop investment facilitation' systems (Balkan Innovation Hub, n.d.).

Concerning the dimension of diaspora engagement, the relevant laws of 2009 defined the diaspora very broadly and included all Serbs and compatriots abroad (Republic of Serbia, 2009). Within the scope of this law, Serbia has a Diaspora Assembly and Advisory Council. There is also a Diaspora Office within the Ministry of Foreign Affairs. The preservation of cultural ties and the contribution of the diaspora to promoting the country are also consistently emphasised in the country's national strategies. Annual Diaspora Days, virtual networks (Virtual Diaspora Club) and youth initiatives (e.g., Tesla Nation) are part of this policy. Serbia is trying to rebuild trust with the diaspora; however, political polarisation and lack of trust still pose obstacles (Republic of Serbia, Ministry of Foreign Affairs, 2011).

Finally, regarding reintegration, the country appears to have initiatives in place to facilitate returnees' access to the labour market and social services. The Returning Point platform provides guidance on job opportunities, investment and academic connections (Returning Point, n.d.; UNDP Serbia, 2023). Launched in 2022, the Carta Serbica initiative offers returnees simplified residence/work permits and tax incentives (Government of the Republic of Serbia, n.d.). Projects funded by IOM and the EU provide vocational training and small business grants to young and vulnerable groups (International Organization for Migration, 2023). However, community preparedness and psychological support services remain limited at the local level.

Morocco

Data on Morocco shows that nearly 20% of highly qualified Moroccans live outside their country, with student migration being one of the most significant factors affecting this figure (Gaillard and Gaillard, 2015). It has been found that professional networks still facilitate communication, particularly for home country engagement in certain sectors, such as the medical sector (Chetioui, 2014). However, this is exceptional, and cannot be generalised across all sectors. Therefore, the idea that many highly skilled individuals remain in the country they have moved to and generally have short-term engagement with their home country is widespread. As Gaillard and Gaillard (2015) report; institutional barriers in higher education and research limit effective reintegration of returnees.

Despite this, Morocco has made significant and noteworthy efforts to strengthen its relations with the diaspora in recent decades. The country has implemented reforms in this area through its 2011 constitution, officially recognising the rights of Moroccans living abroad. It even laid the groundwork for the establishment of the Moroccan Community Council Abroad (CCME) to advise the government on diaspora issues (Constitutional Reforms, 2011). The 2014 Moroccans of the World Strategy is another important document on this issue, based on culture and rights. However, the current view is that the implementation of this strategy has been slow. Morocco's 2014 Moroccans of the World National Strategy is a policy aimed at identifying the skills of Moroccan citizens in the diaspora and establishing information systems. The 2013 New Migration and Asylum Policy also aims to regulate migrants and promote their economic integration; the Ministry of Moroccans Abroad assists returnees (Diaspora for Development, 2020).

The country operates within the framework of the diaspora, based on the development axis regarding the recognition of skills. While plans are underway to establish a diaspora skills database, there is currently no systematic skills planning for returnees. The 2014 National Qualifications Recognition Project is a document that makes projections in this regard (Diaspora for Development, 2020).

The second dimension, supporting entrepreneurship, involves significant initiatives such as establishing networks like FINCOME (Forum of Moroccan Competencies Abroad) to connect diaspora professionals and entrepreneurs with opportunities in the country (Zapata & Hellgren, 2021). Plans such as the Strategy for Moroccans Around the World encourage diaspora investments; however, slow progress has been observed in implementation, and stronger incentive mechanisms are needed (Diaspora for Development, 2020).

Morocco demonstrates an interesting example of engagement with the diaspora, the third dimension, by establishing the Ministry of Moroccans Living Abroad (MDCMRE). This ministry is responsible for communicating with and mobilising the diaspora. The Council of Moroccan Communities Abroad (CCME) and the Hassan II Foundation support diaspora relations through cultural programmes and research activities. The National Strategy for Moroccans Around the World has set priorities such as identity preservation and mobilising the diaspora's knowledge and capital. However, the complexity of

coordination between the ministry, foundation and other institutions can reduce effectiveness (Zapata & Hellgren, 2021).

Finally, in terms of reintegration, the country’s National Migration and Asylum Strategy (NSIA) primarily focuses on migrant reception but also covers return migration. Within the framework of the EU-Morocco Mobility Partnerships, professional training and employment support are provided to returnees through institutions such as The National Agency for the Promotion of Employment and Competencies (ANAPEC). The high level of education and entrepreneurial tendencies of returnees represent significant potential for the country. However, reintegration support is not yet centralised. The new development plan proposes mechanisms to encourage the return of Moroccan talent and “turn brain drain into brain gain” (Diaspora for Development, 2020).

Using the above-mentioned framework in the sections of this paper, Table 32 presents a side-by-side summary of how **Türkiye, Serbia and Morocco** address each dimension. This comparison highlights both similarities and distinctive initiatives in national policies.

Table 32: Case country responses and strategies matrix

Dimension	Türkiye (Candidate EU Neighbour)	Serbia (Western Balkans EU Candidate)	Morocco (Southern Mediterranean Partner)
Skills Recognition	Blue Card for ex-citizens; EU-aligned qualifications framework; TÜBİTAK “reverse brain drain” programmes; bureaucracy remains a barrier.	National Qualifications Agency; Returning Point platform; Law on Professions; improving EU alignment, limited administrative capacity.	Skills mapping ongoing; diaspora skills database planned; informed by 2014 National Skills Recognition project; no unified certification mechanism yet.
Entrepreneurship	FDI and innovation incentives (Technoparks, TÜBİTAK grants); limited diaspora-specific schemes; remittances less central today.	Diaspora Business Council; Link Up! Serbia mentoring; tax breaks and grants; bureaucracy and trust issues persist despite reforms.	FINCOME forum connects diaspora entrepreneurs; high self-employment among returnees; “Moroccans of the World” strategy supports diaspora investment, slow implementation.
Diaspora Engagement	YTB (since 2010); proactive transnational ties; Blue Card rights; diaspora voting since 2012; politicisation concerns.	Law on Diaspora (2009); Assembly & Council of Diaspora; Office within MFA; annual forums; focus on trust-building and symbolic inclusion.	2011 Constitution guarantees diaspora rights; MDCMRE ministry & CCME council; strong cultural programmes; coordination challenges among multiple agencies.

Dimension	Türkiye (Candidate EU Neighbour)	Serbia (Western Balkans EU Candidate)	Morocco (Southern Mediterranean Partner)
Reintegration	Türkiye's Scientific and Technical Research Council of Türkiye (TÜBİTAK) 2232 fellowships for returning scientists; social security portability; limited general reintegration support; ad hoc programmes.	Comprehensive approach; Returning Point one-stop platform; Carta Serbica permits & tax incentives; EU/ IOM vocational training projects.	NSIA & EU Mobility Partnership projects; training via ANAPEC; focus on skilled returnees; no central reintegration system yet.

Source: Author's elaboration

A comparative analysis of the three case countries, which is also indicated in Table 32, reveals that the most significant difference lies in governance capacity. In Türkiye, institutional density is evident, although policy coherence remains only partially achieved. The academic elite and diaspora are the most prominent stakeholders; however, a more comprehensive approach that includes additional groups is necessary. Within this framework, Türkiye's TÜBİTAK programmes demonstrate selective yet measurable impact. Serbia adopts a reform-oriented approach, with evident influence from the European Union integration process. However, governance capacity appears limited to local-level initiatives. The implementation of Returning Point as a functioning one-stop platform exemplifies this localised capacity. Morocco provides a distinctive case through its constitutional recognition of diaspora rights, yet faces challenges related to policy centralisation and coordination. This situation may stem from the fact that Morocco's diaspora strategies are more declaratory in nature rather than being systematically institutionalised.

Further analysis of the data in Table 32 through the four analytical dimensions proposed in this study reveals clear differences between countries. In Serbia, skill recognition mechanisms are more prominent, and the institutionalisation dimension is evident. Conversely, Türkiye demonstrates a more consolidated and centralised structure regarding the depth of institutional ties with the diaspora. These findings indicate that national approaches to managing brain circulation depend not only on the presence of policy instruments but also on their institutional embeddedness and the administrative capacity supporting them. Serbia distinguishes itself in terms of policy coherence. Specifically, the integration of entrepreneurship, recognition and reintegration tools within migration strategies has facilitated policy linkage in this domain. In Türkiye, strong and visible institutional focal points exist, such as diaspora institutions and selective academic return programmes. In Morocco, despite a strong normative commitment at the constitutional level and recognition of diaspora rights, operational coherence is limited by weaker implementation capacity and insufficient inter-institutional coordination. Regarding depth and breadth, Türkiye exhibits significant policy depth, particularly through selective academic return programmes and research support, although this depth targets

a relatively narrow group. In contrast, Serbia employs a broader array of instruments encompassing diverse policy tools, thereby demonstrating greater breadth in tool diversity.

In terms of structural constraints, each country's primary strength also delineates its main area of vulnerability. Türkiye's institutionalised diaspora governance is a notable strength, yet enhancements in the recognition of foreign diplomas and bureaucratic procedures remain necessary. Serbia benefits from EU-compliant regulatory reforms, establishing a robust policy foundation; however, limited administrative capacity at the local level constrains implementation depth. In Morocco, the constitutionally recognised diaspora framework provides a significant normative advantage, but insufficient inter-ministerial coordination and a fragmented governance structure diminish policy effectiveness.

4.1.6 Conclusion and policy recommendations

The three case countries examined in this study constitute a meaningful and illustrative sample for other European Training Foundation (ETF) partner countries facing comparable structural challenges in the fields of migration, skills and labour-market integration. In this sense, the analytical value of the study lies not merely in the country-specific policy recommendations formulated for Türkiye, Serbia and Morocco, but also in the transferable and generalisable dimensions of the identified policy approaches. Accordingly, the study seeks to highlight those elements of the analysis that may inform broader ETF country contexts, beyond the scope of a three-country assessment report.

However, it should be also noted that this study is subject to several limitations. The analysis is based exclusively on secondary sources and policy documents, and its findings are therefore shaped by the availability, accessibility and scope of the existing literature. Although a structured and systematic search strategy was employed to minimise potential gaps, some country-specific initiatives – particularly those implemented at sub-national or project-based levels – may not be fully captured. Nevertheless, the analytical framework adopted in this study, together with the comparative evidence drawn from the selected case countries, provides meaningful insights and robust findings regarding integration policies and brain circulation dynamics.

The analytical dimensions in Table 31, along with the identified focus initiatives, provide clear guidance on potential actions in the case countries. The dimensions we present in the table – skill recognition, entrepreneurship support, diaspora participation, and reintegration policies – are interrelated and enable the systematic identification of gaps in current policy implementation and priority areas for development. From this analytical framework, it is observed that skill recognition is a critical but underdeveloped dimension of integration policies. Although there are initiatives to recognise diplomas and assess prior learning, the relevant mechanisms remain limited, making it difficult to effectively utilise the skills of returnees. Similarly, in the area of entrepreneurship support, another dimension, the need for sustainable ventures, rather than a project-based approach with time constraints, is highlighted in most policies. Constraints in accessing finance and weak diaspora business networks reduce the sustainability of returning entrepreneurship.

Diaspora participation policies mostly focus on symbolic or temporary initiatives, and coordination between diaspora institutions and employment and integration policies remains limited. This situation underscores the need for a robust data infrastructure for evidence-based policy development. Therefore, overall, the comparative framework presented in Table 31 shows that effective brain circulation is only possible when supported by coherent, skill-focused integration policies across all these dimensions.

The subcategories presented in Table 32 reveal the similarities and differences between countries in greater detail. Integration policies in the selected countries are institutionalised in some areas but have structural limitations in others. In this context, the results provide a comparative analysis not only of policy diversity but also of policy depth and implementation capacity. The subcategories in Table 32 indicate that integration and brain circulation policies should be evaluated not only for their existence but also for their consistency, inclusiveness and implementation capacity. While there is significant policy diversity among countries, the transformation of integration into a transformative tool appears to depend on ensuring coherence among these sub-dimensions.

This study reveals several conclusions that can be applied generally within the context of the three countries analysed. The first one is the establishment of specific and comprehensive skill recognition systems for returnees (Qualifications Agency of the Republic of Serbia, 2023). The model created by Serbia's Qualifications Agency can be taken as an example in this regard. The aim is to make the processes transparent and sound by establishing a 'one-stop' recognition mechanism. Of course, this also requires further efforts regarding the recognition of prior learning and degrees obtained in other countries, and it has the potential to be successful only if it is carried out in conjunction with these elements.

Creating Incentives for Diaspora Entrepreneurship and Investment is another essential strategy. Here, bureaucratic barriers for returnee candidates must be removed and avenues for their contributions to the home country's economy must be solved. Solutions for harnessing transnational entrepreneurial activity include, for instance, diaspora business hubs, mentorship networks, and tax breaks for diaspora investors. Successful initiatives such as Serbia's *Returning Point* and *Link Up!* platform show the value of connecting diaspora investors with local opportunities and streamlining administrative procedures for business startups (UNDP Serbia, 2023; ICMPD, 2020).

The third strategy is Strengthening Diaspora Engagement and Talent Networks. Diaspora institutions are the most effective mechanism in this regard because they ensure the sustainability of the state-citizen relationship by adopting a proactive approach and connecting with citizens abroad. However, their impact also varies depending on how and for what purpose these institutions are used. Therefore, simply establishing institutions may not be sufficient. It is also necessary to keep these institutions non-partisan and transparent, maintaining up-to-date diaspora skill databases and facilitating regular diaspora forums. Incentive-based approaches include Morocco's proposal to attract expatriate experts into cutting-edge sectors via special programmes. Additionally, these institutions can motivate and design additional incentives such as educational exchange programmes, internships and young professionals' programmes (Diaspora for

Development, 2020; Zapata & Hellgren, 2021). Türkiye’s Scientific and Technical Research Council of Türkiye (TÜBİTAK) programmes such as 2232 are important in terms of encouraging return and talent integration. Similar programmes can be expanded to cover non-academic sectors as well.

Another strategy is Fostering Regional and International Cooperation. Initiatives in this area require dialogue and the sharing of best practices at the regional level (e.g. among EU and neighbouring states). This strategic approach, applicable to all migration governance processes, is essential for the proper management of brain circulation. MIGCOM¹⁸, which is “ETF’s expert community initiative on migration launched in April 2025”; and EU Talent Partnerships¹⁹, which is “a key policy instrument of the European Union aimed at establishing structured cooperation between EU Member States and partner countries”, can serve as important regional frameworks in this regard. Türkiye’s researchers return schemes or Morocco’s diaspora outreach through dedicated institutions are good practices that can be regionalised. Cooperative initiatives (for instance, joint training programmes, diaspora co-development projects, or multilateral skill recognition agreements) create win-win outcomes for countries of origin and destination, maximising the ‘triple win’ of migration for migrants, origin countries and host societies. This strategic, multi-dimensional approach to migration policy might help close the identified gaps, turning the challenges of emigration into opportunities for sustainable human capital development.

In this context, it is important that integration and brain circulation policies extend beyond public institutions to include knowledge production centres such as universities and vocational training providers. Throughout this process, universities and vocational education institutions can position themselves as key actors in the recognition of knowledge and skills acquired abroad, as a pioneering initiative. Prior learning, interpreted more broadly to include not only diploma equivalence but also skill and experience-based assessment mechanisms, has the potential to play an encouraging role in terms of returns. In this context, the potential of vocational colleges and continuing education centres to offer modular certification and accelerated adaptation programmes for returning migrants can be evaluated. Universities’ systematic integration of knowledge and experience from abroad through their alumni and diaspora networks can strengthen the international dimension of integration policies. Similarly, university technology parks, entrepreneurship centres and business incubator programmes can support the design of programmes that leverage the technical and managerial expertise of returning migrants to add value to society while also providing these individuals with employment and income opportunities.

¹⁸ For further information about MIGCOM: [https://www.etf.europa.eu/en/what-we-do/skills_and_migration#:~:text=To%20address%20the%20growing%20challenges,\(MIGCOM\)%20in%20April%202025](https://www.etf.europa.eu/en/what-we-do/skills_and_migration#:~:text=To%20address%20the%20growing%20challenges,(MIGCOM)%20in%20April%202025).

¹⁹ For further information about EU Talent Partnerships: https://home-affairs.ec.europa.eu/policies/migration-and-asylum/legal-migration-and-resettlement/talent-partnerships_en

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4.2 Skilled returnees and the EU accession incentive: A comparative analysis of brain gain policies in Albania and Moldova

Gabriel Fernández Alonso

4.2.1 Introduction

Southeastern and Eastern European countries have faced sustained emigration of skilled workers for decades, leading to acute “brain drain” and labour shortages in key sectors. Recently, return migration –or “brain gain”– has been highlighted as a potential driver of development by harnessing the skills and capital of diaspora professionals. This paper examines two such cases: Albania and Moldova, both of which have high levels of skilled emigration but are at different stages of European Union (EU) integration. Albania has been an EU candidate country since 2014 (with accession negotiations underway), whereas Moldova only obtained EU candidate status in 2022. The central question is whether the EU accession process serves as a structural incentive for more coherent and effective policies to encourage skilled return migration. In other words, to what extent do EU-related reforms and conditionalities catalyse national strategies that convert brain drain into brain gain?

Both Albania and Moldova have extensive diasporas relative to their population size. Estimates suggest over 1.2 million Albanian citizens (over 40% of the country’s population) live abroad (World Bank, 2024, p. 6). Moldova’s diaspora is similarly significant; roughly 1 million Moldovans (around 29% of the population) reside outside the country (Gulina, 2023). These diasporas send back considerable remittances, accounting for roughly 9-15% of Albania’s GDP and about 14% of Moldova’s GDP (Government of Albania, 2018; Gulina, 2023). They also represent a vast reserve of human capital with significant potential for socio-economic development (Qaisrani et al., 2023). However, turning this potential into actual development gains requires deliberate policies to entice skilled expatriates to return or engage with their homeland. Both countries, as transitioning economies, struggle with the risk of “brain waste”: even if skilled migrants return, their expertise may be underutilised due to weak institutional capacity, non-recognition of foreign qualifications, or lack of opportunities (Batalova and Fix, 2021). These challenges underscore the need for well-designed return migration programmes.

This comparative analysis is timely, covering the period 2014-2024 to capture recent trends and milestones related to EU integration in both countries. During this decade, and especially after 2022, when Russia’s full-scale invasion of Ukraine triggered renewed political momentum for EU enlargement, Albania formally opened accession negotiations, while Moldova moved from an Association Agreement (2014) to candidate status (2022) and began implementing early reforms on the path towards accession (European Commission, 2023). This paper investigates how these trajectories have shaped diaspora engagement and reintegration initiatives. It first outlines the conceptual framework and methodology, then examines each country’s approach to skilled return migration (“brain-

gain') policies, before comparing the findings. The objective is to assess whether closer EU integration has prompted more structured efforts to harness returning talent and to identify lessons for leveraging return migration as a sustainable driver of innovation, employment, and capacity-building.

4.2.2 Conceptual framework and methodology

Brain drain, brain gain and brain circulation

We situate our analysis in the migration-development literature, particularly the concepts of brain drain versus brain gain and brain circulation. *Brain drain* refers to the loss of human capital when skilled individuals emigrate. In contrast, *brain gain* encompasses the beneficial effects that can occur if those individuals return with enhanced skills or maintain productive links with the home country (Kone & Özden, 2017).

Modern approaches emphasise 'brain circulation', where migration is not one-directional but a dynamic exchange, as skilled professionals may study or work abroad and later return (permanently or temporarily), or contribute from abroad through diaspora networks (Kone & Özden, 2017). Effective brain gain policies aim to maximise this circulation: encouraging returnees to apply foreign-acquired knowledge at home, or engaging the diaspora to contribute expertise and investment without necessarily relocating. Crucial to avoiding "brain waste" is ensuring that returnees can utilise their skills fully, which requires supportive institutions (e.g. credential recognition, merit-based hiring) and economic opportunities in line with their qualification (Sumption, 2013)

Europeanisation, EU accession and the governance of skilled migration

Our second conceptual lens is the role of the EU accession process in shaping domestic policies, a form of Europeanisation. The influence of the accession process on domestic policy reform has been widely examined in the Europeanisation literature, which identifies conditionality and the diffusion of norms and practices as the main mechanisms through which the EU shapes reforms in candidate and partner countries (Schimmelfennig & Sedelmeier, 2004; Radaelli, 2003).

In the domain of migration and mobility, Europeanisation manifests through the transfer of EU approaches to migration management and labour mobility. The Global Approach to Migration and Mobility (GAMM) and, more recently, the New Pact on Migration and Asylum conceptualise migration as both a development and skills issue, promoting circularity and the productive use of mobility (European Commission, 2011; 2020). Within this framework, initiatives such as Talent Partnerships seek to align migration governance with skills development, employability, and mutually beneficial labour exchanges (European Commission, 2025).

In the cases of Albania and Moldova, specific legal frameworks have significantly lowered the barriers to mobility. For both nations, the achievement of visa-free travel to the

Schengen Area (Albania in 2010; Moldova in 2014) has been a primary catalyst for easier migration, allowing citizens to explore labour markets and establish networks before seeking long-term status. Furthermore, family reunification policies and the increasing availability of student visas in EU member states have created stable legal pathways that facilitate the initial departure of skilled and semi-skilled individuals.

Beyond its normative and institutional effects, the accession process also produces tangible economic incentives. Through pre-accession assistance, market integration and increased investor confidence, EU enlargement tends to foster economic growth and governance stability in candidate countries (Bartlett & Prica, 2016; European Commission, 2024). This economic Europeanisation can indirectly shape migration dynamics by improving employment prospects and professional opportunities at home. As living standards and labour market conditions gradually converge with those of the EU, the material incentives for skilled return, or for more circular rather than permanent mobility, become stronger.

In the context of candidate and neighbouring countries, the Europeanisation of migration governance reflects broader EU policy orientations that link mobility, skills and development. Rather than focusing solely on border management, recent frameworks conceptualise migration as part of human capital development, where return and diaspora engagement can contribute to growth, innovation and skills transfer (European Commission, 2020; 2024). As governments align with these principles, the accession process can indirectly foster more structured and development-oriented approaches to skilled return migration, encouraging a shift from brain drain to brain circulation.

Methodology

This study employs a comparative case study approach focusing on Albania and Moldova. We adopt an embedded design: each country case is examined in depth, then cross-compared within a common analytical framework. The research relies on qualitative analysis of policy documents, official strategies, and programme reports, supplemented by quantitative data on migration and return trends. Relevant sources include national strategy, government decisions and press releases, and international cooperation programme evaluations. We also draw on data from international and national statistical offices regarding emigration stocks, remittances, and returnee demographics.

For the purposes of this study, the concept of 'skilled returnees' is used broadly to encompass individuals possessing high levels of human capital, manifested through three complementary dimensions. This definition includes holders of tertiary education degrees (ISCED levels 5-8) as well as professionals with advanced vocational training or significant international experience (minimum of three years), a threshold aligning with EU criteria for higher professional qualifications in high-demand sectors. Furthermore, the scope extends to returnees demonstrating entrepreneurial competence, specifically those mobilising financial and social capital for business creation. This broader classification is essential to capture the diverse policy targets in the countries selected for this study, acknowledging that successful reintegration through investment schemes (such as

Moldova's PARE 1+1) requires managerial skills and economic agency comparable to formal advanced qualifications.

Regarding the temporal dimension, this study adopts an inclusive approach. It covers both permanent returnees and those engaging in temporary or circular return arrangements, such as short-term professional assignments, entrepreneurship projects, or academic cooperation. This broad definition reflects contemporary approaches to brain circulation rather than a narrow focus on permanent repatriation alone (Kone & Özden, 2017).

The timeframe of 2014-2024 was chosen to capture developments after Albania's EU integration trajectory and around Moldova's accelerated rapprochement, up through the latest policy measures in 2023-2024. This period also aligns with post-2014 global initiatives (like the EU Mobility Partnerships and the Global Compact for Migration) that influenced national migration policies. Comparing Albania and Moldova allows for control of regional similarities (both are small transition economies with significant labour migration) while highlighting differences in the depth and institutional impact of EU integration.

The analysis proceeds as follows. First, we outline the context of skilled emigration and return in both Albania and Moldova, highlighting recent migration trends and the socio-economic relevance of their diasporas. Second, we examine the evolution of national frameworks for return and diaspora engagement, focusing on their institutional design, implementation capacity and interaction with initiatives launched or supported by the EU. Finally, the comparative section assesses differences and commonalities between both countries, particularly regarding the degree of policy institutionalisation and the influence of EU accession dynamics on return migration governance. The study concludes with policy-oriented reflections on how return migration strategies can be better aligned with labour market needs, and how cooperation between the EU and partner countries can contribute to transforming skilled return into an asset for sustainable development.

4.2.3 Albania: Diaspora and return migration policies

Scale of emigration

Albania has experienced massive emigration of its educated workforce since the 1990s. By some estimates, over 44% of Albania's population now lives abroad, including a large share of its young professionals (World Bank, 2024, p. 6). Favoured destinations include neighbouring EU countries like Greece and Italy, as well as more distant OECD countries. This exodus has led to domestic skill shortages in fields such as medicine, engineering, and academia, sparking concern about its economic and demographic consequences.

Remittances from Albanians overseas have been a lifeline for the economy (peaking at nearly €1 billion in 2007 before the global financial crisis) and still contribute roughly 9–10% of GDP in recent years (Albania's National Diaspora Agency, 2018). However, reliance on remittances is not a sustainable development strategy; hence,

Albanian policymakers have periodically turned their attention to encouraging diaspora contributions beyond just money, notably through return of human capital (International Centre for Migration Policy Development, 2021, pp. 38-40)

Early brain gain initiatives

The Albanian government's engagement with its skilled diaspora began in the mid-2000s. In partnership with the UN Development Programme, Albania launched a "Brain Gain" Programme in 2006–2008 aimed at reversing the brain drain. This programme created policies and incentives for highly educated Albanians to remain in the country, to return after completing studies abroad, or to engage temporarily in academic and public sector projects at home (European Movement in Albania, 2010, pp. 9-10). The Brain Gain Programme set up a database of Albanian professionals abroad and offered measures such as salary supplements for returnee academics, fast-track recruitment into public administration, and support for diaspora researchers to collaborate with local institutions. While the program had some success stories (for example, Albanian universities recruiting a handful of PhD holders from abroad), its scale was limited (Cipusheva *et al.*, 2013, pp. 138-139).

By 2011, studies noted that Albania's efforts were still nascent and that highly qualified returnees faced significant reintegration challenges, from bureaucratic hurdles to lack of transparent hiring processes and limited research funding (European Movement in Albania, 2011). It can be concluded that despite the Brain Gain initiative, return migration support was fragmented and "not fully utilised" as a development tool (Cipusheva *et al.*, 2013, pp. 138-139). The absence of a sustained, institutional approach meant that many skilled returnees navigated reintegration on their own, often encountering difficulties in getting local job market information, investing their savings, or having their foreign qualifications recognised (European Movement in Albania, 2011).

Policy framework (2014-2020)

After being granted candidate status in 2014, Albania gradually began to formalise its migration and diaspora policies, partly in line with EU recommendations and integration benchmarks related to migration governance and reintegration (Gëdeshi, 2021). One milestone was the adoption of a comprehensive National Strategy on Migration and Action Plan 2019–2022, developed with the technical assistance of the International Organization for Migration (Government of Albania & IOM, 2019). The strategy emphasised providing "a comprehensive response to migration in Albania", including targeted support for returning citizens through improved information at border entry points, referral to reintegration services, and stronger coordination with local governments. However, implementation has been uneven and largely donor-dependent. Reintegration assistance has remained project-based, relying mainly on EU-funded or IOM-led initiatives—such as the Assisted Voluntary Return and Reintegration (AVRR) programmes for irregular returnees—rather than permanent state-funded services (Xhaho & Fetahu, 2021; Gëdeshi, 2021).

In parallel, Albania sought to engage its diaspora more strategically. A State Minister for Diaspora was appointed in 2017, and with IOM support, the government adopted the National Strategy of Diaspora 2018–2024 (Government of Albania, 2018). The document aimed to “provide Albania with a comprehensive diaspora policy aligned with EU integration policy orientations”; outlining measures to strengthen ties with Albanians abroad and encourage their contribution to national development. These included the establishment of a Diaspora Coordination Council, the creation of mechanisms such as the Diaspora Business Chamber and the Diaspora Development Fund, and efforts to map diaspora skills and promote their involvement in local economic projects. Nonetheless, independent assessments highlight that many of these initiatives remain at the planning or pilot stage and that Albania still needs to institutionalise its brain-gain efforts more deeply, ensuring thus stable financing and inter-institutional coordination (ICMPD, 2023; Gëdeshi, 2021).

Recent developments (2021-2024)

In the early 2020s, Albania saw renewed emigration flows (including youth and professionals), which, combined with the prospect of EU accession negotiations, pressured the government to act more decisively. In 2021, Albania passed a new Electoral Code that for the first time allowed overseas citizens to vote from abroad, a long-standing demand of the diaspora and a reform encouraged by the EU. The diaspora’s political inclusion symbolised a shift in recognising Albanians abroad as part of the nation’s development. By May 2025, Albania’s diaspora voted in local elections remotely for the first time (Venice Commission, 2025).

More pertinently for brain gain, the Albanian government has recently taken steps to make return migration a more strategic component of its migration policy. The *National Strategy on Migration 2024–2030* introduces new measures to support the reintegration of returnees and to promote the return of skilled nationals. It foresees the creation of an integrated hub for reintegration, combining information on employment, education, housing and investment opportunities, and the launch of targeted information campaigns to encourage returns by highlighting positive experiences and labour-market needs. The strategy also envisions a systematic mapping of the “intellectual and professional competences of Albanian emigrants” and regular consultations with employers to match these skills with domestic demand. Furthermore, it foresees diagnostic surveys among diaspora entrepreneurs to assess their interest in investing in Albania and to identify the main barriers they face. These actions mark a gradual shift from donor-driven and project-based reintegration schemes toward a more institutionalised, state-led framework for turning return migration into brain gain (Government of Albania & IOM, 2024).

Despite these positive steps, Albanian returnees continue to report difficulties that point to gaps in institutional support. A 2021 study aptly titled *Return & Regret* found that many Albanian returnees struggled to find information and guidance about how to invest or use their skills at home (Xhaho & Fetahu, 2021). The business climate was often seen as unfavourable, rife with bureaucratic obstacles and a lack of transparency, which

discouraged entrepreneurial returnees. Basic reintegration support, such as counselling on job placement or access to credit, was largely provided by short-term donor projects and “not sustainable over time” (Xhako & Fetahu, 2021, p.5). These findings are consistent with Vollmer (2023), who observes that reintegration in Albania often remains a transitory phase rather than a stable process, constrained by economic insecurity, lack of institutional follow-up, and non-recognition of foreign qualifications (Vollmer, 2023).

Interim synthesis

Albania’s experience reflects a slow build-up toward a coherent brain gain policy. From the early UNDP Brain Gain programme to the current national strategies, the country has moved from *ad hoc* measures to more formal plans, but practical implementation and impact are still limited. The EU accession incentive appears to be a factor, as the prospect of EU membership has kept migration high on the agenda (especially as the Commission links migration governance with progress on the path towards accession), and it has provided access to expertise and funds (many of Albania’s migration initiatives have been supported by EU or other international partners). The critical test will be whether the new measures (information campaigns, skill mapping, investment incentives) can meaningfully increase the return and retention of skilled Albanians in the coming years. Without improving conditions at home –economic opportunities, governance and institutional capacity – even the best-intentioned return programmes may fall short. This is where EU integration reforms (for example, improving rule of law, reducing corruption or strengthening the economy) intersect with brain gain goals, potentially creating a more conducive environment for returnees.

4.2.4 Moldova: Diaspora and return migration policies

Scale of emigration

Moldova is often cited as one of Europe’s most emigrant-sending countries per capita. Since the early 1990s, economic hardship and instability have driven large numbers of Moldovans (including highly skilled workers) abroad. According to 2020 data, about 29% of Moldova’s population were living outside its borders, a staggering proportion that includes many working-age adults (Gulina, 2023). Popular destinations have included Russia (traditionally), Ukraine, the US and, increasingly, EU countries like Italy, Romania, Germany and beyond (ETF, 2021).

The exodus has created labour shortages in sectors such as healthcare and IT, but at the same time the Moldovan diaspora has become a critical stakeholder in the country’s development (WHO, 2025; Baltag *et al.*, 2023). According to the World Bank, remittances from migrants constituted about 14% of Moldova’s GDP in recent years, helping to lift many households out of poverty (Gulina, 2023). Recognising the twofold impact of migration, Moldova has actively pursued policies to engage its diaspora and facilitate returns, treating its migrants as a resource for development.

Institutional framework and diaspora strategy

Moldova stands out for having developed a relatively institutionalised diaspora engagement framework over the past decade. In 2012, the government established the Bureau for Diaspora Relations (BRD) under the State Chancellery, elevating diaspora issues to a high administrative level. By 2014–2016, with support from the EU and other partners, Moldova formulated a comprehensive National Diaspora Strategy 2014–2025, also referred to as Diaspora 2025. This strategy, adopted by Government Decision in 2016, embraced a transversal ‘diaspora, migration and development’ (DMD) approach, a concept Moldova helped pioneer globally. It set out clear objectives: (1) to build the strategic and legal framework for diaspora engagement; (2) to ensure diaspora rights and maintain their trust in the home state; (3) to mobilise and recognise diaspora human capital; and (4) to directly involve the diaspora in Moldova’s sustainable economic development (ETF, 2021).

Concrete outcomes soon followed. Since 2004, Diaspora Days have been celebrated annually, including high-profile events such as the Congress of the Diaspora, where Moldovan officials and diaspora representatives discuss national development priorities and cooperation opportunities. Building on this momentum, the government launched the Diaspora Engagement Hub, an umbrella platform providing grants and institutional support for diaspora-led projects. Through this mechanism, several initiatives were introduced to encourage the transfer of knowledge and resources from abroad to Moldova. Among them were the Diaspora Professional Return grants, designed to attract highly skilled migrants for short-term professional assignments in academia, business, or public service; the Diaspora Innovative Projects grants, which financed community-level development initiatives proposed by Moldovan citizens abroad; and the Thematic Regional Partnerships, supporting collaboration between diaspora associations and local authorities in areas such as education, healthcare, and local economic development. Additionally, the Diaspora Women’s Empowerment grants specifically targeted women in the diaspora, promoting their involvement in projects benefiting female migrants and local communities alike (Gulina, 2023).

These initiatives illustrate a broad-based approach, not only encouraging permanent returns, but also temporary returns and remote contributions, effectively leveraging brain circulation. By offering structured opportunities and even small economic rewards, Moldova enables its professionals abroad to engage without necessarily uprooting their lives immediately. This approach acknowledges that not everyone will return permanently, but their skills can still be tapped for national development.

Reintegration programmes and services

Importantly, Moldova has made reintegration of returnees a high government priority. Recognising that many citizens do eventually come back (sometimes after years abroad, or due to economic downturns or family reasons), the government aims to ease their re-entry. A “(Re)integration guide” was developed (circa 2018) to assist returning Moldovans, offering practical information on finding jobs, upgrading skills, starting a business, and accessing services (Gulina, 2023).

In 2023, the Moldovan government took a significant step by approving a National Program to Stimulate Return and Facilitate (Re)integration, 2022–2026. This programme, supported in its design by IOM and UNDP, provides a strategic roadmap and dedicated measures to attract returnees and reintegrate them effectively. It envisages creating a one-stop “return assistance mechanism” to guide citizens from pre-departure to post-return phases (UNDP, 2022). Indeed, as of May 2025, a One-Stop Shop for Returnees was established within Moldova’s BRD (Government of Moldova, 2025).

Through this mechanism, diaspora members planning to return can receive personalised counselling, assistance with recognition of foreign diplomas, help navigating administrative procedures, and support for business startups. The assistance is structured in levels: initial information and orientation; specialised support via relevant public institutions (e.g. employment offices, education ministry for credentialing); and referrals to non-governmental services where needed (such as legal aid, psychological counselling, mentorship programmes). The goal is not only to encourage professionals abroad to come back, but also to “harness the professional experience gained abroad” and channel it into Moldova’s development (Government of Moldova, 2025). By offering a clearer pathway for returnees, Moldova seeks to avoid brain waste.

Furthermore, Moldova’s “whole-of-government” approach to diaspora is further evident in programmes like PARE 1+1, an internationally recognised initiative to convert remittances into productive investment. Launched in 2010, PARE 1+1 matches each Moldovan leu of diaspora investment in a new or expanded business with one leu in grant funding from the state (with support from EU funds). Participants must undergo entrepreneurship training in order to qualify, ensuring they have a viable business plan. The results (2010-2021) have been impressive: over 2,600 migrants and relatives trained; 1,815 projects approved, leading to 739 new businesses opened in Moldova (about 42% of all beneficiaries). Notably, 564 migrant workers directly returned home and started a business under PARE, while others might have invested while still abroad. Thousands of new jobs have been created via this programme, many in rural areas, as 84% of businesses are outside the main cities. PARE 1+1’s success led the government to extend it through 2024, and it clearly demonstrates the impact of a structured, well-funded diaspora investment scheme. It is also a case of EU partnership yielding fruit: the programme is co-financed by the Moldovan government and the European Union, which reflects the EU’s interest in fostering local development to mitigate the pressures of migration (Moldpres, 2021).

Beyond economics, Moldova has also focused on diaspora youth and identity (programmes like DOR – Diaspora Origins aimed at second-generation youth to strengthen cultural ties) and maintaining political links (diaspora voting in national elections is allowed and widely exercised). The political clout of the diaspora was seen in recent elections where overseas Moldovans voted overwhelmingly for pro-EU candidates, arguably influencing Moldova’s European integration course. This reciprocal relationship – the state courts the diaspora for development and democratic support, while the diaspora pushes the state toward EU-oriented reforms – is a defining feature of Moldova’s migration governance (Baltag et al., 2025).

EU integration as a catalyst

Moldova's progress in diaspora and return policy has coincided with its deepening relationship with the EU. In 2008, Moldova was one of the first to sign an EU Mobility Partnership, a framework through which the EU and Member States provided support for migration management projects. Under this partnership, Moldova received assistance in areas like strengthening its capacity for diaspora engagement, even in setting up the initial Diaspora Bureau (Goncharova, 2012).

The reforms undertaken to achieve visa-free travel to the EU granted in 2014 included tightening border controls but also demonstrating Moldova's willingness to reintegrate those of its citizens who might be returned from the EU, through readmission agreements and reintegration plans. This created an impetus to develop reintegration services well before receiving candidate status. For example, by 2024 Moldova had signed over 13 readmission agreements with EU countries and built programmes to receive and support returnees, in line with European standards (Prague Process Secretariat, 2024).

The granting of EU candidate status in June 2022 further galvanised Moldova's efforts. European institutions signaled that issues of human capital flight and demographic decline need to be addressed for sustainable development. The National Program "Diaspora" for 2024–2028 was approved by the Moldovan government in late 2023, with aims to "enhance the state's connections with the diaspora and maximise the diaspora's human capital". This new programme builds on earlier strategies and specifically provides for a support group for returnees and a mechanism for the return and employment of Moldovan graduates from foreign universities (Gulina, 2023). In other words, Moldova is expanding efforts to actively recruit its youth back after finishing their studies abroad, a direct attempt to counter the brain drain of recent graduates.

Furthermore, Moldova has partnered with international organisations in a Joint UN Programme (2023-2026) aimed at leveraging migration for development, funded by the UN Migration Trust Fund (which EU countries contribute to). This programme strengthens government capacity for migration policy and creates innovative tools for diaspora engagement. One key expected result is the development and institutionalisation of a mechanism for short-term return assignments for at least 30 highly qualified expatriates in critical sectors. In 2024, a Diaspora Business Forum was organised, bringing together hundreds of diaspora entrepreneurs, officials, and investors to forge partnerships. Such activities underscore a mature and multi-faceted approach to diaspora policy in Moldova, from cultural bonds to economic investment and knowledge transfer (UNDP, 2022).

Interim synthesis

Moldova's approach to brain gain is characterised by strategic planning, dedicated institutions, and integration with development programmes. It has moved beyond rhetoric to implement specific schemes (grants, one-stop services, formal strategies) that make it easier for skilled nationals to return or contribute. The support of the EU

(financially and via policy dialogue) and the conditionalities of integration (e.g. meeting migration management criteria) have reinforced this trajectory. The contrast with Albania lies in the level of institutionalisation and consistency – Moldova has treated diaspora engagement as a continuous government agenda (across multiple administrations) and backed it with state budget (often supplemented by EU funds), whereas Albania’s efforts until recently were more intermittent. The next section will delve into comparing the two cases in detail, assessing outcomes and the influence of EU accession incentives.

4.2.5 Comparative analysis: The impact of EU accession on return migration strategies

A comparison of Albania and Moldova’s experiences reveals both common challenges of skilled return migration and notable differences in how policy responses have been formulated and implemented. We examine several dimensions: institutional mechanisms, policy coherence, degree of EU influence, and outcomes in terms of engaging returnees.

It is important to note that the profile of returnees differs significantly between the two countries. In Albania, return migration is more frequently associated with highly educated professionals, particularly individuals trained abroad in fields such as medicine, engineering or academia. By contrast, Moldova exhibits a stronger profile of entrepreneurial returnees. As set out in this analysis, many migrants return after accumulating financial capital abroad and engage in small business creation or investment activities.

To synthesise the comparative findings and highlight differences in policy design and implementation, Table 33 provides an overview of the main dimensions of brain gain and return migration governance in Albania and Moldova, illustrating divergences in institutionalization and policy coherence, as well as in the extent to which EU accession dynamics have translated into concrete return and diaspora engagement instruments.

Table 33: Comparative overview of diaspora engagement and return/reintegration policy frameworks (2014-2024)

Dimension	Albania	Moldova
EU integration trajectory	Candidate status since 2014; accession negotiations opened in 2022	Association Agreement since 2014; candidate status since 2022; negotiations started in 2024
Main governance set-up for diaspora	State Minister for Diaspora (created in 2017) + diaspora-related agencies/mechanisms	Bureau for Diaspora Relations (BRD) under State Chancellery (created 2012)
Core diaspora strategy	National Strategy on Diaspora 2018-2024 (aim: comprehensive diaspora policy aligned with EU integration mechanisms)	National Diaspora Strategy (“Diaspora 2025”) adopted by government decision; DMD approach.

Dimension	Albania	Moldova
Core migration/return policy framework	National Strategy on Migration and Action Plan 2019-2022; later National Strategy on Migration 2024-2030 with reintegration/return measures	National Programme to Stimulate Return and Facilitate (Re)integration 2022-2026 + one-stop support mechanism (established later)
Policy logic: return vs circulation	Historically fragmented; more recent shift towards more state-led reintegration architecture (hub, skill-mapping, targeted-campaigns)	More programmatic continuity + recurring schemes and dedicated structures; donor-support complements state-led architecture
Implementation model	Often donor-/project-based (e.g., IOM/EU-funded AVRR and reintegration projects), with uneven institutional continuity	More programmatic continuity + recurring schemes and dedicated structures; donor support complements state-led architecture
Signature instrument for diaspora investment/return	Brain Gain (UNDP, 2006-2008); later strategy-driven measures (skills mapping, councils, funds)	PARE 1+1 (diaspora investment matching + training) + diaspora grants/return assignments
Main stated bottlenecks	Weak institutional follow-up; reintegration info gaps; donor-dependence; transparency/business climate constraints	Still strong push factors (wages), but clearer reintegration services and structured programmes to reduce brain waste risks

Source: Author's elaboration

Institutional mechanisms

Moldova clearly leads in creating dedicated structures for diaspora and returnees. The BRD in Moldova is a permanent government body focused on diaspora policy, whereas Albania only recently (2017) established a State Ministry or Agency for Diaspora and still lacks a single coordinated “diaspora office” with comparable reach. Moldova’s one-stop shop returnee mechanism (launched in 2025) is an example of a tangible service resulting from policy commitment.

Albania, by contrast, has yet to establish such a unified service centre for returnees; returning Albanians often must navigate multiple agencies (e.g. employment offices, municipal offices, business registration) on their own. Reintegration support in Albania has historically been handled via ad hoc projects and NGOs, indicating a fragmented approach.

For instance, information at the border or counselling programmes have existed, but typically funded and run by IOM or donors for a limited period, rather than a systematic government programme. This fragmentation was explicitly noted by the European Training Foundation, which found that Albania had not fully utilised return migration’s potential due to lack of effective reintegration programmes and insufficient funding (ETF, 2021).

Meanwhile, Moldova’s approach – institutionalising diaspora programmes like PARE 1+1 within the Ministry of Economy and renewing them based on results – shows a higher degree of policy continuity and real commitment.

Policy coherence and strategy

Both countries have national strategies that recognise the diaspora’s importance, but Moldova’s strategies have been more action-oriented and monitored. Moldova’s Diaspora Strategy (2015-2025) had an accompanying Action Plan and measurable objectives, and it actively involved diaspora representatives in consultations.

It also integrated migration into local development planning, through pilot projects linking hometown associations with local councils, supported by UNDP and Swiss cooperation, a process of mainstreaming migration into national strategies that began early in the decade (Goncearova, 2012) Albania’s Diaspora Strategy (2018–2024) similarly identifies broad goals and aligns with international standards, but critics have pointed out that it remained for some time at the level of formal commitment without robust implementation. Only in the later years (2022–2024) do we see concrete budgeted initiatives in Albania, such as the planned information campaign and skill inventory for the diaspora. Thus, coherence over time is stronger in Moldova –where efforts begun in the early 2010s have been sustained and scaled up – whereas Albania had a long gap between the mid-2000s brain gain push and the current revival of interest. This difference suggests that political will and consistency in prioritising brain gain policies have been more pronounced in Moldova, potentially because emigration’s impact there has been even more existential and the sheer volume of population loss created urgency.

The role of conditionality: the EU accession incentive

The influence of the EU is complex but evident in both cases. While the EU does not directly mandate “diaspora engagement” policies, it does expect candidate countries to effectively manage migration flows, which includes readmission of their nationals and integration of returnees. Albania, like all Western Balkan states, signed a Readmission Agreement with the EU in the 2000s; fulfilling this meant improving capacity to receive back migrants deported or returned from EU countries. This perhaps spurred some investment in reception facilities and reintegration assistance (often funded by EU instruments). However, since Albania’s EU perspectives languished for years (negotiations were stalled until 2022), the EU’s leverage on broader diaspora policy might have been weaker compared with other governance reforms. As Albania moved closer to opening talks, aligning domestic policies with EU norms became a political selling point – the diaspora voting reform in 2021-2022 was partly driven by recommendations from the OSCE and EU to improve electoral inclusion, and by a realisation that diaspora engagement is a European norm, since most EU countries have extensive diaspora voting and outreach.

For Moldova, even prior to candidate status, the European Union’s Eastern Partnership framework provided incentives. The Visa Liberalisation Action Plan (VLAP) with the EU (completed in 2014) required Moldova to demonstrate commitment to migration management and reintegration of returnees. Moldova’s success in achieving visa-free travel was due in part to showing it had policies for handling returning migrants and engaging its diaspora to mitigate illegal migration. Moreover, EU Member States (like those participating in the Mobility Partnership) directly funded diaspora-related projects: e.g., creating migrant resource centres, supporting the development of Moldova’s migration profile, and facilitating circular migration schemes. Now, as a candidate country since 2022, EU accession negotiations (formally opened in 2023) explicitly reference demographics and migration in Moldova’s reform agenda. The European Commission’s opinions have praised Moldova’s diaspora engagement as a positive factor for resilience and encouraged further work on stopping brain drain. The launch of the EU Partnership Mission in Moldova (2023) and increased EU financial assistance post-2022 also likely buoyed government capacity to expand programmes like the returnee one-stop shop and the 2024-2028 Diaspora Program. Notably, the National Program “Diaspora” 2024-2028 mentions maximising human capital and is aligned with EU development objectives, indicating a synergy between Moldova’s EU path and its migration strategies.

External funding and partnerships

Both countries have leveraged international partnerships to support brain gain initiatives, but again Moldova seems to have attracted and utilised these more systematically. For instance, UNDP and IOM joint projects in Moldova (including the current 2023-2026 programme) specifically target highly skilled diaspora engagement, creating pilot schemes for temporary return of experts. In Albania, while UNDP’s Brain Gain project was a one-off in late 2000s, there hasn’t been no continuous large-scale donor programme solely focused on skilled returnees (though various small EU-funded actions exist, such as “Connect Albania” – a scheme to incentivise diaspora to attract investment – under an Italian-funded project in recent years). The differing scale of donor engagement could be due to Moldova’s development community highlighting migration as a top issue (given remittances and population decline), whereas in Albania, issues like EU-related rule of law reforms and youth unemployment in general may have dominated donor agendas. Still, the EU’s Global Diaspora Facility (EUDiF) has included Albania in its diaspora mappings and capacity-building as well.

Outcomes and brain gain impact

A comparative assessment of beneficiary data reveals a significant divergence in institutional capacity. Moldova demonstrates high transparency, with the Organization for Entrepreneurship Development reporting 2,787 registrants and over 2,186 trainees for the PARE 1+1 programme since its inception, including 54 new grants approved in late 2023 alone (Organization for Entrepreneurship Development, 2024). Similarly, the Diaspora Engagement Hub has awarded over 100 thematic grants to visiting experts

and researchers (BRD, 2023). In stark contrast, data for Albania remains fragmented; the Brain Gain Programme historically engaged only approximately 100-150 fellows (UNDP, 2022), while current monitoring of the National Strategy on Migration cites reintegration goals as only ‘partially fulfilled’ without providing disaggregated data on skilled returnees (Government of Albania & IOM, 2024; World Bank, 2024).

While specific beneficiary data highlights this gap, it remains difficult to quantify broader “brain gain” success, though certain proxy indicators can be considered. One is the rate of return migration. Surveys indicate that in the 2010s, Albania saw a spike of return migration especially after the European economic crisis, where many migrants in Greece/Italy returned. Yet, many of those returns were temporary or involuntary, and re-emigration rates were high due to unsolved reintegration issues.

Moldova also saw waves of returnees (for example, during COVID-19 in 2020, tens of thousands came back), with frameworks to engage some of them productively, such as directing them to the Organization for SME Development (ODIMM) for business support or to local mayoralities collaborating with hometown diaspora associations. The risk of brain waste remains in both countries if returnees cannot find suitable jobs. Both have suffered instances of returning doctors or IT specialists ultimately leaving again because salaries and conditions at home were far inferior to those abroad (WHO, 2025). The difference is that Moldova’s government has openly acknowledged these gaps as threats to its development (for instance, by calling reintegration a “high priority” and by trying to streamline credential recognition), whereas Albania is only recently beginning to tackle them (for example, discussing offering preferential loans or public sector hiring for diaspora returnees in needed fields).

Moldova’s more coherent approach does appear to “outperform” Albania’s approach in certain aspects. The PARE 1+1 programme’s concrete outputs (hundreds of returnee businesses) and the longevity of diaspora programmes suggest that Moldova has managed to tap into its diaspora’s potential in a structured way. By contrast, Albania’s earlier brain gain efforts reportedly managed to recruit only a limited number of academics into universities (dozens, not hundreds) and the retention of those returnees was mixed. Even in public administration, Albania has had programmes to bring in foreign-educated talent (like the Young Professionals scheme), but many participants eventually left again, citing slow career progression or political interference. This points to a broader systemic issue: governance and institutional capacity at home significantly affect returnees’ willingness to stay. On this front, EU accession reforms – which push for better governance – can indirectly facilitate brain gain. For example, if Albania improves rule of law and reduces corruption as part of its efforts in the framework of the accession process, the business environment could improve and diaspora investors might feel more confident. Moldova’s strides in digital governance and anti-corruption (though ongoing) likely also play a role in convincing some diaspora members to engage.

However, despite Moldova’s relative advance, both countries face similar challenges that EU integration alone cannot solve. These include demographic pressure (young people still leaving in large numbers for better opportunities), potential political changes that can upend priorities (a different government might emphasise other issues), and the

simple pull of higher wages and living standards abroad that is hard to counter. Neither Albania nor Moldova can yet compete with the salaries or research facilities of western Europe for top professionals. Thus, their brain gain strategies often focus on patriotism, family ties, and incremental improvements in conditions. EU accession could, in the long term, narrow the economic gap – if these countries eventually join the EU, freedom of movement may paradoxically both enable continued migration but also potentially encourage circular migration (people might move back and forth more fluidly). The prospect of EU membership also raises hope for structural funds and investments that could create jobs at home in the future.

In conclusion of the comparison, it can be argued that both EU accession processes have provided important frameworks and incentives for both Albania and Moldova, but they responded and benefited to different extents. Moldova, leveraging early EU partnerships (Mobility Partnership, Association Agreement) and aiming for EU norms, built a robust diaspora engagement architecture which now serves as a model in the region. Albania, with a longer candidacy but slower progress, is catching up in conceptualising diaspora as development partners and implementing return incentives, seemingly spurred by the momentum of finally starting accession talks. The evidence suggests that EU integration can catalyse more coherent return migration policies – especially by channeling funds, sharing best practices, and making it a political priority – but the domestic political will and vision are decisive. Moldova maintained that vision consistently, whereas Albania's commitment fluctuated until recently. The next section provides forward-looking recommendations for both countries, as well as for EU actors, to ensure that skilled return migration is maximised as a brain gain and not lost as brain waste during the ongoing EU integration journeys.

Limitations and future research needs

While this comparative analysis highlights significant policy divergences, it is important to acknowledge the study's limitations. Being primarily desk-based, the research relies on official data which, particularly in Albania, presents fragmentation challenges. Furthermore, the scope of this analysis focused largely on central government frameworks, leaving room for deeper exploration of specific sectoral actors. Future research should therefore extend beyond national ministries to examine the education sector's specific role, particularly how Higher Education and Vocational Training providers contribute to qualification recognition, and investigate the untapped potential of university alumni networks in fostering returnee entrepreneurship. Complementing these findings with primary fieldwork, such as expert interviews and returnee surveys, would also help capture the lived experiences of reintegration that statistical data alone cannot reveal.

4.2.6 Policy recommendations

Building on the comparative gap analysis of legislative frameworks and institutional capacities presented in this study, the following recommendations are proposed to align

return migration strategies with labour market needs. These proposals are derived from the identification of successful mechanisms in the Moldovan context and the specific institutional voids detected in the Albanian landscape. They are directed at specific national competent authorities and supporting international partners:

1. Create comprehensive ‘one-stop’ returnee support services

Both countries should invest in dedicated centres that provide integrated services. While Moldova is operationalising its mechanism, Albania’s National Agency for Employment and Skills should take the lead in establishing a recognisable ‘single window’ for returnees within its regional directorates. These centres must offer personalised guidance on administrative procedures, job matching, and social security transferability, ensuring no returnee falls through the cracks due to bureaucratic fragmentation.

2. Improve recognition of qualifications and skills

To prevent brain waste, it is vital to streamline the recognition of foreign-earned degrees, certifications, and work experience. In Albania, the Ministry of Education should expedite equivalence processes for qualifications obtained in EU countries, potentially introducing automatic recognition for specific shortage occupations. Furthermore, Albania’s National Agency for Employment and Skills and Moldova’s National Employment Agency should expand mechanisms for the validation of non-formal and informal learning to certify skills gained by migrants working abroad who lack formal diplomas. The EU can assist by providing technical support to align these processes with European qualification frameworks. When returnees can slot into jobs appropriate to their skill level without undue delay, they are far more likely to stay and contribute.

3. Enhance incentives for targeted sectors

Governments must identify key sectors facing shortages (e.g., healthcare, STEM, tourism). Albania’s Ministry of Finance and Economy should design fiscal incentive packages, such as temporary tax breaks or subsidised housing, specifically for diaspora professionals returning to fill these gaps. Similarly, Moldova’s Organization for Entrepreneurship Development could expand its grant programmes to cover relocation stipends for scientists and engineers, not just entrepreneurs. Any incentive should be coupled with a conditionality clause (e.g., a commitment to work X years in the national system).

4. Foster diaspora-home-country professional networks

Both countries should continue to develop diaspora knowledge networks that keep professionals abroad connected to developments at home. This can be done by supporting diaspora professional associations, organising regular conferences or webinars between diaspora experts and domestic institutions, and creating online platforms (a sort of “LinkedIn” for diaspora engagement). Moldova’s Diaspora Engagement Hub and Albania’s nascent efforts to map diaspora skills could converge into a dynamic database of expertise. Through such networks, even those who do not return permanently can contribute via mentorship, consultancy, or short-term visits (virtual

or physical). EU programs like Erasmus+ (for academic exchanges) or Horizon Europe (for research collaborations) can be leveraged to include diaspora participation in home-country projects.

5. Integrate returnees into national development plans

Rather than treating return migration as a standalone issue, governments should integrate it into broader economic and regional development strategies. This means involving returnees in entrepreneurial ecosystems, innovation hubs, and public sector reform initiatives. For example, when developing innovation hubs or IT parks, the Ministries of Economy in both countries should include specific clauses to involve diaspora specialists as advisors or team leaders. In this regard, both Albania and Moldova's governments should ensure their upcoming strategic documents (e.g. Albania's next Migration Strategy, Moldova's development programmes under EU accession) explicitly incorporate the contribution of returnees. In Albania, the Department of Public Administration should set specific targets for recruiting graduates educated abroad into the civil service, creating a "fast-track" entry stream to modernise public institutions.

6. Address barriers highlighted by returnees

Policymakers must be responsive to the concrete issues that return migrants themselves report. Surveys and studies have already identified common barriers: cumbersome business registration, difficulty accessing credit, perceptions of corruption or favoritism in hiring, and inadequate infrastructure. Tackling these requires domestic reforms: Business Registration Agencies must cut red tape for startups; Public Procurement Agencies must ensure meritocracy to attract diaspora investors who are used to EU standards of transparency, and programmes should offer small business training (as PARE does by mandating entrepreneurship courses), ensuring meritocratic recruitment in public jobs, and investing in digital governance to reduce petty corruption. These reforms align with EU accession criteria (e.g. improving the business climate, public administration reform), so there is a win-win scenario where meeting EU benchmarks also makes the country more attractive for its own diaspora to return.

7. Ensure sustainable funding and ownership

Both Albania and Moldova should allocate stable funding in their national budgets for diaspora engagement and reintegration programmes, rather than relying solely on donor project cycles. While EU and international support is invaluable, national ownership ensures continuity. Setting up a dedicated diaspora fund (with public-private contributions) could provide resources for scholarships, seed investments, or research grants targeting the diaspora. For example, Moldova finances PARE 1+1 partly from the state budget; Albania's government could consider a similar approach for its new initiatives. Additionally, monitoring and evaluation should be built in – tracking how many returnees use services, how many stay after one year, their employment outcomes, etc., to continually improve programmes.

8. Leverage EU mechanisms and regional cooperation

The EU can play a supportive role by mainstreaming migration-development into its assistance. For candidate countries, instruments like IPA, the Reform and Growth Facility for Moldova, or the New Growth Plan for the Western Balkans or can fund capacity-building for reintegration systems or co-finance incentive schemes. The EU's Talent Partnerships or other mobility schemes could include components that encourage circular migration, not just permanent migration. Moreover, Albania and Moldova (and other interested countries) could share best practices through regional fora – for instance, Western Balkans and Eastern Partnership dialogues on diaspora. Peer learning (e.g. officials from Tirana could learn from Chisinau's diaspora office experience and vice versa) can accelerate adoption of successful measures. The European Training Foundation (ETF) and International Centre for Migration Policy Development (ICMPD) already facilitate such exchanges; continued EU support for these platforms is recommended.

9. Engage local governments and communities

Successful reintegration often happens at the local level. Municipalities in both countries should be encouraged (and funded) to set up “welcome offices” or focal points for returnees, as some towns in Moldova have done. Local authorities can help returnees find local opportunities and also involve them in community development (for example, a returning agronomist helping improve local farming practices). Decentralising some of the diaspora programmes – such as small grants for community projects led by returnees – can increase the visibility and impact across regions, not just in the capital cities.

10. Manage expectations and provide reintegration follow-up

Lastly, it is very important for governments to manage expectations of returnees. Not every returnee will immediately find a dream job or successfully launch a business – some may struggle or become disillusioned. Thus, reintegration programmes should include follow-up services, such as mentorship (pairing returnees with local mentors or with diaspora who returned earlier) and possibly counseling on adapting back to the local work culture. In this regard, employment agencies and partner NGOs should provide these services. Creating peer networks of returnees can also provide social support. If returnees feel that the government and society value their return (through recognition events, media highlighting their contributions, etc.), they are more likely to persevere and encourage others in the diaspora to consider returning.

By implementing these recommendations, Albania and Moldova could strengthen the link between return migration and development. The EU and international partners should continue to act as enablers providing expertise, funding, and political encouragement, but ultimately the commitment and innovative ideas must come from the national and local levels. Both countries have a tremendous opportunity to turn their diaspora into a competitive advantage: by reabsorbing talent and blending international experience with local knowledge, they can foster innovation, improve services, and stimulate investment.

4.2.7 Conclusion

The comparative analysis of Albania and Moldova illustrates that return migration, when supported by robust policies, can indeed become a “brain gain” for countries struggling with skilled emigration. EU accession processes have emerged as a significant influencing factor in this domain, albeit not a deterministic one. In Moldova’s case, the pathway toward European integration provided momentum, frameworks, and resources that bolstered a comprehensive diaspora engagement strategy. The country recognised early that its diaspora is an asset; through sustained political will it implemented programmes that are today yielding tangible benefits (new businesses, jobs, and knowledge transfers). Albania, having faced a similar exodus of talent, arrived more slowly at a comparable policy response. Yet, as Albania now advances in EU negotiations, it appears to be ramping up efforts to engage its diaspora and facilitate returns – signalling that the EU accession incentive is now sharpening the country’s focus on brain gain.

Crucially, the extent to which EU accession catalyses effective return migration strategies depends on how proactively national authorities leverage the opportunity. EU candidacy can act as a catalyst by placing migration and human capital on the reform agenda and by unlocking support (financial and technical). However, it is not a panacea: countries must prioritise the issue internally and allocate the necessary resources. As seen, Moldova capitalised on EU frameworks (like the Mobility Partnership) early on, whereas Albania’s brain gain policies remained piecemeal until the prospect of accession talks became real. Going forward, both countries should continue to integrate diaspora and returnee considerations into their EU-related reforms – for example, including them in economic planning, education reforms (to lure back academics), and governance improvements. The risk of “brain waste” looms if institutional capacity, credential recognition, and socio-economic conditions do not keep pace with efforts to attract returnees. A returned engineer or doctor who cannot practice or find a fitting role is a lost opportunity for development. Therefore, as Albania and Moldova progress on the EU path, they must move in tandem to improve domestic conditions – rule of law, quality of life, professional environments – so that returning home becomes a genuinely attractive proposition rather than a sacrifice.

In conclusion, turning skilled returnees into a sustainable source of innovation, employment, and capacity-building is an attainable goal, but one that requires coherent policy, cross-sector collaboration, and enduring commitment. The experiences of Albania and Moldova offer lessons to other countries in the region: a well-organised diaspora policy, supported by international partners, can mitigate the adverse effects of brain drain. EU actors, for their part, should recognise that supporting brain gain initiatives in partner countries aligns with broader development and stability interests. By jointly investing in human capital circulation, national governments and the EU can create a virtuous cycle: migrants see a future in returning or engaging with their origin country, which in turn accelerates that country’s progress toward European standards and prosperity. In the long run, the vision is that young Albanians and Moldovans will see their homeland not just as a place to depart from, but as a place to come back to, bringing with them new skills, ideas, and optimism for the future.

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4.3 Potential of return migration and remittances for entrepreneurship and development

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4.3.1 Preface

This chapter revisits a foundational assumption in the migration–development discourse: that remittances ease credit constraints and foster entrepreneurship. Drawing on the full high-frequency panel of the World Bank’s Listening to the Citizens of Uzbekistan (L2CU) survey (2018–2025, Rounds 1–79), we present what is, to our knowledge, the first economy-wide evidence for Uzbekistan. Leveraging over half a million person-round observations, we estimate the average treatment effect on the treated (ATT) of remittance receipt on business ownership.

Our analysis, based on propensity score matching (PSM), reveals a negative short-term effect of remittances on entrepreneurship, which weakens over 12- and 24-month lags. When controlling for income and savings at the 24-month lag, the negative effect disappears. This suggests that remittances alone are insufficient to spur entrepreneurship; they must be complemented by additional financial resources. The findings imply that remittance-receiving households in Uzbekistan require time to accumulate savings, augmented by remittance income, before initiating business ventures.

A recursive bivariate probit model reveals a non-zero error correlation between entrepreneurship and return migration, indicating selection effects. Yet, the core negative association remains robust. These insights carry significant policy implications for remittance-dependent economies across the Global South. In the context of a transition economy, the entrepreneurial potential of return migration is contingent on access to complementary financial capital.

These findings underscore the need for targeted policy instruments such as financial intermediation, matched grants linked to business plans, and legal pathways that stabilise migrant earnings to effectively convert migrant capital into local enterprise.

4.3.2 Introduction

Remittances are among the largest and most stable private cross-border flows to low- and middle-income countries and are often invoked as a vehicle for inclusive growth. In the canonical view, transfers from migrants relax credit constraints, foster risk-taking, and ultimately expand micro- and small-enterprise activity. Yet the empirical record is mixed and context-dependent, especially in South–South migration corridors where labour demand, earnings volatility and financial intermediation differ markedly from North–South settings.

This paper delivers the first comprehensive, economy-wide study of the remittances–entrepreneurship nexus in Uzbekistan, leveraging the (World Bank, 2025) *Listening to the Citizens of Uzbekistan* (L2CU) high-frequency panel spanning 2018–2025 (Rounds 1–79). The novelty is threefold. First, we bring to bear an unusually rich, monthly panel that permits both contemporaneous and dynamic assessments of treatment, tracking whether remittance receipt translates into business formation after 12–24 months, when capital accumulation and skill acquisition could plausibly matter. Second, we move beyond average effects to map heterogeneity along policy-relevant margins: households with and without active migrants; with and without returnees; by migrant destination; and by legal employment status abroad. Third, we triangulate identification strategies: propensity score matching (with rigorous post-match balance); a recursive bivariate probit to gauge selection on unobservable factors; and a recipient-only, fixed-effects specification with remittance amounts to probe intensive margins.

The central finding is stark: across specifications and subgroups, remittance receipt is associated with a lower likelihood of entrepreneurship in the short run, with the negative average treatment effect on the treated (ATT) – the average effect of receiving remittances on individuals who actually received them) – largest for contemporaneous receipt and still negative at 12- and 24-month lags. The pattern is consistent with remittances primarily financing consumption smoothing, social obligations, or human capital investment rather than riskier enterprise, particularly in a context where formal credit and business support ecosystems remain thin. However, the negative gap in entrepreneurship between households that receive remittances and those that do not vanishes when income and savings are introduced as covariates and over longer periods. Income and savings were deliberately excluded from the initial propensity score matching (PSM) calculations in order to analyse the effect of remittances on entrepreneurship independently of their impact. This suggests that the role of savings and additional financial leverage is paramount for business engagement decisions of households receiving remittances.

By assembling and analysing the full 2018–2025 L2CU waves for the first time, this study reframes the remittance–enterprise narrative in a pivotal South–South corridor. It suggests that remittances are not self-executing development finance: without complementary policies, financial inclusion geared to micro-entrepreneurs, targeted matching schemes, and reintegration programmes, the liquidity they provide may not translate into firm creation.

Summary of key findings

- **Remittance receipt is associated with a lower likelihood of entrepreneurship in the short term**, with the effect strongest for contemporaneous receipt and persisting at 12- and 24-month lags.
- **The negative effect disappears when household income and savings are considered**, highlighting the importance of accumulated savings and additional financial leverage for business engagement.

- **Remittances alone are insufficient to drive enterprise development;** complementary policies, such as improved financial inclusion, targeted matching grants, and reintegration support, are essential to unlock the entrepreneurial potential of remittance-receiving households.

The remainder of the paper details the data (Section 3), empirical strategy (Section 4), main and heterogeneous effects (Section 5), and policy implications (Section 6).

4.3.3 Literature review

A substantial body of research suggests that international remittances and migration can stimulate entrepreneurial activity by relaxing liquidity constraints, mitigating credit market imperfections, and providing risk capital for self-employment (Kakhkharov, 2019; Nanyiti & Sseruyange, 2022; Piracha & Vadean, 2010). In this view, remittances function as an informal source of venture finance in environments where formal credit is either costly or inaccessible. Evidence from Mexico indicates that remittances are associated with higher investment levels in small enterprises (Woodruff & Zenteno, 2007), while case studies in Latin America and Asia highlight the role of remittances in financing start-up costs, equipment purchases, and working capital (Piras, 2023; Yang, 2008).

However, other studies challenge this optimistic narrative, finding that remittances often have a low or even negative impact on entrepreneurship. Remittance income may generate an income effect that reduces family labour force participation and, consequently, the likelihood of family-run business investments (Amuedo-Dorantes & Pozo, 2006). In such cases, particularly in research conducted in Uzbekistan and Tajikistan, households tend to prioritise consumption smoothing and social expenditures (e.g. weddings, housing improvements) over business investment (Clément, 2011; Kakhkharov & Ahunov, 2020; Kakhkharov & Ahunov, 2022). This behaviour may be attributed to the modest earnings of migrants from Uzbekistan and Tajikistan, who predominantly work in low-income jobs in Kazakhstan and Russia. Moreover, migrants from these countries often belong to impoverished segments of the population, and both migration and remittances serve as components of a household survival strategy rather than a business-oriented decision (Kakhkharov, Ahunov, Parpiev, & Wolfson, 2021). These patterns are especially pronounced in areas where domestic returns to entrepreneurship are low due to weak demand, high risk, or burdensome regulations.

Empirical evidence reveals significant heterogeneity in the relationship between remittances and entrepreneurship. Factors such as the skill composition of migrants, level of poverty in the labour-sending country, household education levels, transaction costs, altruism, insurance, bequest motives, loan repayment obligations, and exchange motives can all influence both the volume and utilisation of remittances (Adams Jr, 2009; Hagen-Zanker & Siegel, 2007; Kakhkharov, Akimov & Rohde, 2017; Kakhkharov & Rohde, 2023). Institutional quality and market structure further mediate whether remittance inflows are channelled into productive or non-productive uses (Chitambara, 2019; Kakhkharov & Rohde, 2023). In South–South migration corridors, where remittance

amounts tend to be smaller and labour markets more precarious, the potential for business formation may be especially constrained (Ratha & Shaw, 2007).

Identifying the causal impact of remittances on entrepreneurship is challenging due to the presence of selection bias and endogeneity. Households that receive remittances are not randomly selected based on both observable and unobservable characteristics, such as risk preferences and entrepreneurial ability. Common strategies to address these issues include using instrumental variables (Kakhkharov et al., 2017; Kakhkharov & Rohde, 2023), randomised experiments (McKenzie, Stillman & Gibson, 2010), natural experiments, such as exogenous exchange rate shocks (Yang, 2008), and propensity score matching to construct comparable treatment and control groups (Cox-Edwards & Rodríguez-Oreggia, 2009; Jimenez-Soto & Brown, 2012; Kakhkharov & Ahunov, 2022). More recently, structural models and panel fixed-effects approaches have been employed to control for time-invariant unobservables (Kakhkharov & Rohde, 2020).

This paper contributes to the literature in four key ways. First, it focuses on a South–South migration context that remains underrepresented in empirical research, using Uzbekistan as a case study. Second, it combines quasi-experimental matching with a recursive bivariate probit model to address both observable and unobservable sources of bias. Third, it leverages high-frequency panel data spanning 79 survey rounds, enabling analysis of both short-run and lagged effects. Finally, it examines heterogeneity by migrant status, return migration, destination country, and legal work status abroad, offering new evidence on the conditional nature of remittance impacts on entrepreneurship.

4.3.4 Data description

Our empirical analysis draws on the *Listening to the Citizens of Uzbekistan* (L2CU) survey, a high-frequency household panel conducted by the World Bank in collaboration with the Government of Uzbekistan. To our knowledge, this is the first study to utilise the full set of available waves, Rounds 1-79, spanning the years 2018-2025. This provides an exceptionally rich monthly panel dataset that captures the period immediately following Uzbekistan’s major economic liberalisation reforms, through the COVID-19 crisis, and into the subsequent recovery and adjustment phase. The L2CU is specifically designed to monitor household wellbeing and perceptions of economic change in near real time, making it uniquely suited for identifying dynamic relationships between remittances and entrepreneurship.

Each wave of the L2CU tracks approximately 1,500-2,000 households, resulting in over half a million household-level observations after data cleaning and harmonisation. The survey is nationally representative, stratified by urban and rural areas, and includes rotating modules on labour market activity, migration, business ownership and self-employment. Crucially, the questionnaire captures whether households currently receive remittances, the amount and currency of transfer, and the migration status of household members, including whether they are abroad or have returned, as well as their destination country and legal status.

We construct two dependent variables:

Entrepreneurship, coded as 1 if the household head is engaged in or owns a private business or farm (values in the survey = 3 or 96 (includes other types of self-employment, e.g. individual entrepreneur or consultant)), and 0 otherwise, i.e. if household head is not engaged in or does not own a private business.

Our main independent variable is **remittance receipt**, proxied by HH Receiving Remittances, which equals 1 if the household reports receiving remittances during the reference period, and 0 otherwise. A refined version of this variable excludes irregular or negligible transfers to focus on meaningful remittance inflows. We also derive lagged measures (HH Receiving Remittances one month lag, HH Receiving Remittances_12_months_lag, HH Receiving Remittances_24_months_lag) to explore the dynamic effects of earlier remittance exposure on subsequent entrepreneurial outcomes.

To reduce confounding, we include a harmonised set of household- and individual-level controls, as reported in Table 34: household size; gender and age of the household head; a dummy for current migrant presence abroad (V335); a dummy for higher education attainment by the household head (V325); and a dummy for participation in communal activities (V372). We also include continuous measures of household resources: wage income (V531); agricultural income (V533); other income (V537); and an indicator of household savings over the next 30 days (V539). Income variables reported in this table exclude remittances. All covariates are standardised across waves to ensure comparability.

Table 34: Control variables and their relevance

Variable	Definition and Unit	Relevance in Context
Household size, persons (hhsiz)	Number of individuals in the household	Larger households may diversify labour allocation and income strategies, influencing both remittance use and entrepreneurial capacity.
Female household head (gender)	Dummy: 1 if household head is female, 0 otherwise	Gender norms strongly affect access to credit, decision-making power, and entrepreneurship opportunities.
Age of household head, years (hh_head_age)	Age in completed years	Captures experience and life cycle effects, shaping both migration decisions and entrepreneurial risk-taking.
Household has a migrant member (V335)	Dummy: 1 if any member currently lives abroad, 0 otherwise	Households with active migrants may face different remittance flows and opportunity costs of entrepreneurship.

Variable	Definition and Unit	Relevance in Context
Education of household head, 0-7 scale (V325)	Highest diploma attained (0=None; 1=Primary; 2=Basic; 3=Secondary general; 4=Secondary special; 5=Secondary technical; 6=Higher education; 7=Graduate)	Education enhances skills and managerial capacity, a key determinant of entrepreneurial entry.
Participation in community activities (V372)	Dummy: 1 if any household member joined community activities in the past month	Proxy for social capital; networks may ease information and credit constraints, facilitating entrepreneurial ventures.
Wage income, mln UZS/month (V531)	Household wage earnings over the last 30 days (non-agricultural) Household agricultural income over the last 30 days	Captures baseline liquidity, influencing both migration reliance and business formation.
Agricultural income, mln UZS/month (V533)	Household non-wage, agricultural income over the last 30 days	May substitute or complement entrepreneurship, especially in rural contexts.
Other incomes, mln UZS/month (V537)	Household non-wage, non-agricultural income over the last 30 days	Reflects additional resources that could be invested in entrepreneurial activity.
Household, facing economic challenge (income)	Dummy: 1 if household views economic challenge as the most pressing issue, 0 otherwise	Reflects the households' opinion about the importance of the economic challenge they are facing.
Household has savings (V539)	Dummy: 1 if household saved in past 30 days, 0 otherwise	Indicates financial resilience and ability to mobilise resources for business start-up.

Source: Author's elaboration

Table 34 reports descriptive statistics for the full household sample. Because remittance receipt is defined over the entire population, including households without migration exposure, the incidence of remittances appears low when measured at the aggregate level. To provide a more informative picture of remittance behaviour among households for whom migration is relevant, Table 35 presents summary statistics for the migration-relevant subsample used in the propensity score estimation. This distinction clarifies the apparent discrepancy in remittance prevalence across samples and ensures consistency between the descriptive evidence and the identification strategy.

As such, Table 34 and Table 35 present descriptive statistics for key variables. Approximately 40% of households report receiving remittances in a given month, with similar proportions observed across lagged periods, indicating stability in migrant transfer

patterns. Entrepreneurship²⁰ and self-employment rates (the latter is not included in the former) are relatively modest, 26% and 28% respectively, highlighting the limited prevalence of business-oriented activity compared to broader labour market participation. Household heads are, on average, 53 years old; 16% of households currently have a migrant abroad, and fewer than 3% are headed by women. Education levels suggest moderate human capital accumulation, with most household heads having completed education beyond secondary but below tertiary levels. About one quarter of households report participating in communal work (“*Hashar*”), reflecting the persistence of social capital channels. Income distributions reveal a strong reliance on wage earnings, while agricultural income is concentrated among a smaller subset with high variance. Notably, only 2.6% of households report positive savings, underscoring widespread financial vulnerability. These patterns frame the context in which remittances are received, and the constraints households face in reallocating them toward entrepreneurial ventures.

Table 35: Summary statistics of key variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Remittance receiving households last month (=1)	613,239	0.013	0.111	0	1
Remittance receiving households last year (=1)	613,239	0.012	0.109	0	1
Remittance receiving households two years ago (=1)	613,239	0.011	0.107	0	1
Household owns a business (=1)	613,239	0.101	0.301	0	1
Household size (persons)	613,239	6.549	2.658	1	23
Female household head (=1)	613,239	0.028	0.165	0	1
Age of household head (years)	613,239	53.087	11.764	23	94
Household has a migrant member (=1)	613,239	0.160	0.367	0	1
Education of household head (0-7 scale)	613,239	0.704	1.624	0	7
Participation in community activities (=1)	613,239	0.246	0.431	0	1
Wage income (mln UZS/month)	613,239	1.457	2.354	0.10	38.0

²⁰ We recognise that it may be inappropriate to group entrepreneurship and farming together in a single category. Farming, especially subsistence farming, is qualitatively different from entrepreneurial activity. However, the survey is designed this way – this variable contains both private businesses and farms. Furthermore, combining these variables in the context of Uzbekistan is sensible, given that a private farm is defined as one that is sufficiently large and not limited to subsistence farming.

Variable	Obs	Mean	Std. Dev.	Min	Max
Agricultural income (mln UZS/month)	613,239	0.162	1.218	0.01	200.0
Other incomes (mln UZS/month)	613,239	0.045	0.663	0.02	130.0
Household has savings (=1)	613,239	0.026	0.157	0	1
Household, facing income economic challenge (=1)	613,239	0.491	0.499	0	1
Household receiving family allowance (=1)	613,239	0.075	0.264	0	1

Notes: Estimations of the authors based on World Bank data (2025). All remittance variables are defined over the full household sample, with non-recipient households coded as zero. Household size values equal to zero were excluded as invalid roster entries.

Source: Author's elaboration

We also examine educational patterns among entrepreneurial households with migration experience (Figure 21). In households with recently returned migrants (Panel A), entrepreneurship peaks among those with “Secondary technical” education before declining at higher education levels. In households with current migrants abroad (Panel B), the peak shifts to “Secondary special” education, suggesting differences in skill–business matching across migration types. This also hints at the possibility that better-educated migrants tend to stay longer overseas.

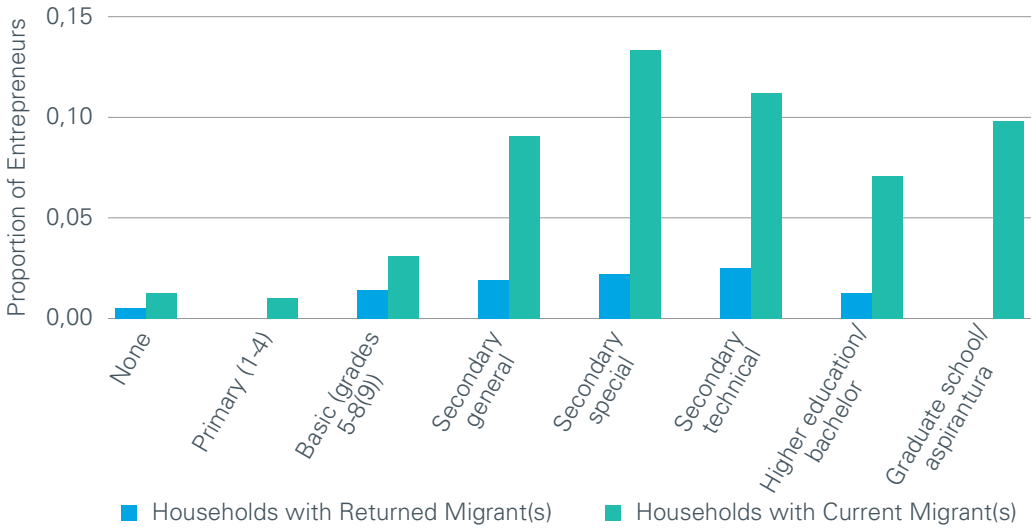
Table 36: Migration-relevant household subsample

Variable	Obs	Mean	Std. Dev.	Min	Max
Remittance receiving households last month (=1)	19,168	0.404	0.491	0	1
Remittance receiving households last year (=1)	18,214	0.406	0.491	0	1
Remittance receiving households two years ago (=1)	17,483	0.407	0.491	0	1

Notes: All estimates are based on authors' calculations using data from the World Bank (2025).

Source: Author's elaboration

Figure 21: Entrepreneurship by education level and migration status



Source: Author's elaboration

The set of covariates used in the propensity score model includes individual-level demographics (age, gender, relationship to household head, education), household size, and a binary indicator of economic vulnerability (income challenge). All covariates are measured prior to or contemporaneously with treatment assignment to avoid post-treatment bias.

The final analytical sample comprises approximately 458,000 non-missing observations on treatment, outcome and covariates, providing sufficient common support despite the relatively low prevalence of remittance receipt.

4.3.5 Methodology

While prior research on remittances and entrepreneurship in transition economies has relied on cross-sectional data or limited panels, our study is the first to leverage the full 2018-2025 L2CU panel. The high frequency and extended duration allow us to:

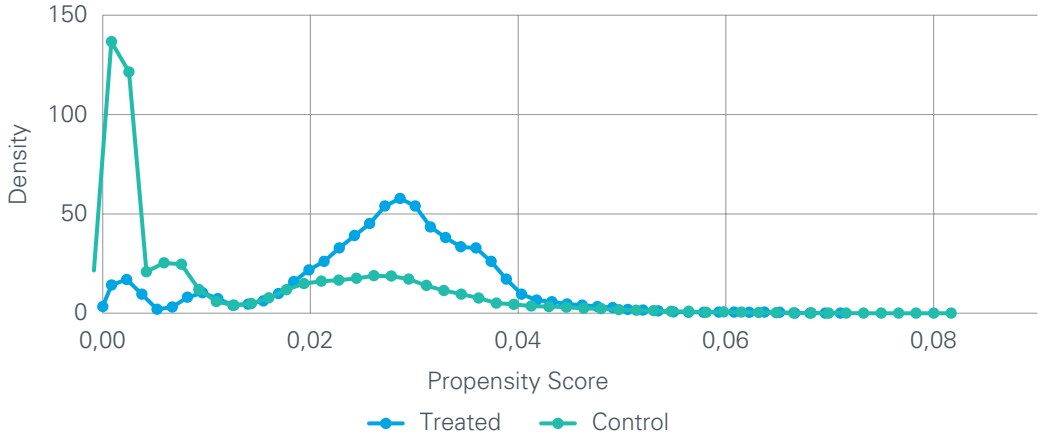
1. trace short-term versus long-term dynamics;
2. differentiate migrant statuses (current abroad, returned, destination, legal conditions); and
3. implement robust matching and panel estimation strategies.

This unprecedented granularity enables us to offer the most comprehensive portrait to date of how remittances interact with household-level entrepreneurship in Uzbekistan.

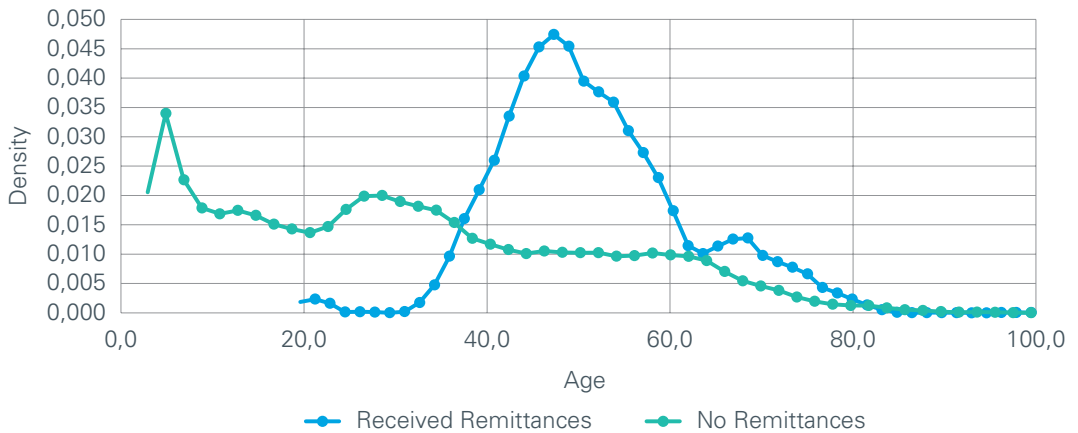
Figure 22 provides diagnostics on the treatment assignment mechanism. Panel (a) shows that treated households (remittance recipients) have propensity scores concentrated

between 0.02 and 0.05, with adequate common support relative to the control group, justifying the use of nearest-neighbour matching with caliper restrictions. Panel (b) indicates that most remittance-receiving households fall within the economically active age range (18-45), consistent with migration demographics in the literature.

Figure 22: Distribution of propensity scores and age by treatment status



(a) Propensity score density by treatment status



(b) Age density by remittance status

Source: Author's elaboration

Estimating the causal impact of remittances on entrepreneurship is complicated by the non-random nature of remittance receipt. Households receiving international transfers may systematically differ from non-recipient households in both observable and unobservable characteristics, such as education, income potential, risk tolerance or migrant social networks, that also influence entrepreneurial behaviour. Addressing this selection bias is essential to isolating the true effect of remittances.

Our methodological approach integrates matching techniques with panel regression strategies to identify the relationship between remittance receipt and household entrepreneurship in Uzbekistan. The analysis employs three distinct econometric approaches. Propensity score matching (PSM) is used to estimate treatment effects with the purpose of reducing selection, making treatment and control groups comparable, much like a randomised controlled trial would. The recursive bivariate probit model is used to analyse two related binary outcomes (e.g. remittance receipt and business ownership) when one outcome (e.g. remittance receipt) is an endogenous decision influencing the other, and their errors are correlated. This approach is used to ease endogeneity concerns. Finally, the main purpose of a panel fixed-effects model is to analyse panel data (observations of the same households over time) at hand by controlling for unobserved, time-invariant individual characteristics, thereby reducing omitted variable bias and isolating the effects of variables that do change over time, focusing on the “within-household” variation to understand changes within households.

Baseline estimation via propensity score matching

We begin by applying **propensity score matching** to account for observable differences between remittance-receiving and non-receiving households. Propensity scores are estimated using a logistic regression model with covariates capturing household demographic and socioeconomic characteristics, including: the household head’s gender, age, and education; household size; receipt of family allowances; and perceived economic challenges.

We employ one-to-one nearest-neighbour matching with caliper restrictions to ensure common support. This enables estimation of the **average treatment effect on the treated (ATT)** by comparing entrepreneurial outcomes between otherwise similar households that differ only in remittance receipt. Our primary treatment indicators include:

- All HH Receiving Remittances: any reported remittance receipt
- All HH Receiving Remittances refined: refined indicator excluding negligible or irregular transfers
- Lagged versions of the above (1 month, 12 months, 24 months)

To capture potential delayed effects, we incorporate lag structures into the treatment definitions. Specifically, we assess whether remittances received in the previous month, one year prior, or two years prior are associated with entrepreneurial activity. This approach tests the hypothesis that remittances may initially be used for consumption smoothing or debt repayment, with entrepreneurial investment occurring later as skills are acquired or savings accumulate.

The propensity score model is specified, based on baseline controls, as:

$$P(R_i = 1 | X_i) = Pr(R_i = 1 | age_i, gender_i, education_i, relationship_i, economic_challenge_i, hsize_i) \tag{1}$$

All covariates are measured before or contemporaneously with treatment to avoid post-treatment bias.

Matching algorithm and ATT estimation

We implement nearest-neighbour matching without replacement, using a caliper of 0.05 and excluding units outside the common support region. Following Caliendo and Kopeinig (2008) and Rosenbaum and Rubin (1983), we assess matching quality using standardised mean differences and pseudo-R2, with successful matching indicated by mean bias below 5% and a reduction in pseudo-R2 post-matching.

The ATT is estimated as:

$$ATT = E[Y_1 - Y_0 | R = 1] = \frac{1}{N_T} \sum_{i \in T} (Y_i - \sum_{j \in C(i)} w_{ij} Y_j) \quad (2)$$

where T is the set of treated units, $C_{(i)}$ is the set of matched control units for treated unit i , and w_{ij} denotes the matching weight assigned to control unit j for treated unit i .

PSM was used to address selection bias when comparing remittance-receiving and non-receiving households. According to Clément (2011) and Kakhkharov and Ahunov (2022), PSM is a two-step process. First, we estimate the probability that each household will receive remittances (the propensity score) using their observed socio-economic characteristics. In the second step, households with and without remittances are matched based on these scores to estimate the ATT.

We estimated logit models where the dependent variable is an indicator for whether the household received remittances in the reference month (HH Receiving Remittances2). Two alternative sets of covariates were considered:

Baseline Controls (Panel A): Female household head, Education of household head (0-7 scale), Household who is facing income economic challenge, Household size (persons), Household receiving family allowance, and Age of household head (years).

Expanded Controls (Panel B): Household size (persons), Female household head, Age of household head (years), Education of household head (0-7 scale), Participation in community activities ("Hashar"), Household savings ("Jamgarma"), Wage income (mln UZS/month), Agricultural income (mln UZS/month), and Other incomes (mln UZS/month).

Identification assumptions

The validity of PSM relies on two key assumptions:

1. **Conditional Independence Assumption (CIA):** Given covariates X_i , potential outcomes are independent of treatment assignment.
2. **Common Support:** Treated and control units exhibit sufficient overlap in propensity scores.

While the CIA is inherently untestable, we mitigate omitted variable bias by including a rich set of pre-treatment covariates. Common support is verified visually (Figure 22). Nonetheless, unobservable factors, such as entrepreneurial aptitude or social capital, may influence both remittance behaviour and business outcomes. We address this concern in the next subsection.

Addressing endogeneity: recursive bivariate probit model

Although PSM is an appropriate methodology for comparing different groups, such as those who receive remittances and those who do not, it does not properly address endogeneity. Analysing the entrepreneurial decisions of return migrants could be a useful additional approach for investigating whether migration and remittances encourage entrepreneurship. However, return migration may also be endogenous to entrepreneurship. Unobserved traits, such as prior business experience, ambition or risk tolerance, could simultaneously influence both the decision to return and the likelihood of starting a business. Standard probit or logit models would yield biased estimates under such conditions. To address this, we estimate a **recursive bivariate probit model**, following Wahba and Zenou (2012).

Model specification:

We consider the following system of latent-variable equations:

$$Entrepreneur_i^* = a_0 + a_1 \times Returnee_i + a_2 X_i + \varepsilon_{1i} \quad (3)$$

$$Returnee_i^* = \beta_0 + \beta_1 Z_i + \beta_2 X_i + \varepsilon_{2i} \quad (4)$$

where $Entrepreneur_i = 1$ if $Entrepreneur_i^* > 0$ and $Returnee_i = 1$ if $Returnee_i^* > 0$. The vector X_i includes demographic and household-level controls: age, gender, education, household size and reported economic vulnerability. The vector Z_i captures migration- and remittance-related characteristics influencing return decisions. The error terms (ε_{1i} , ε_{2i}) are assumed to follow a bivariate normal distribution with correlation coefficient ρ . A statistically significant ρ indicates correlation between unobserved determinants of return migration and entrepreneurship, justifying the joint recursive specification.

Unlike single-equation models, the recursive bivariate probit framework explicitly accounts for the interdependence between return migration and entrepreneurial outcomes through correlated unobservables. Identification is achieved primarily through the recursive structure and the nonlinear functional form of the joint likelihood, while also exploiting migration-specific covariates that enter the return-migration equation but not the entrepreneurship equation. In particular, variables capturing migration history and remittance exposure, such as the level of remittances received while abroad, serve as predictors of return migration without directly affecting post-return entrepreneurial choices, conditional on observed household characteristics. This combination of system nonlinearity and migration-related predictors yields consistent estimates of the causal effect of return migration on entrepreneurship, following the approach of Wahba and Zenou (2012). Importantly, identification does not rely exclusively on a single strong

exclusion restriction, but is reinforced by the recursive structure and migration-specific predictors.

Panel fixed-effects specification for remittance amounts

While our baseline analysis focuses on the extensive margin of remittance receipt, we also examine the **intensive margin** by analysing variation in remittance amounts among recipient households. Specifically, we estimate a household fixed-effects panel model:

$$\text{Entrepreneurship}_{it} = a \ln(\text{Remittances}_{it}) + X_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (5)$$

where *Entrepreneurship* is a binary indicator equal to one if household *iii* engages in entrepreneurial activity in survey round *t*; $\ln(\text{Remittances}_{it})$ denotes the logarithm of total remittance receipts; X_{it} includes time-varying household controls (household size, age of household head, receipt of family allowance, and reported economic challenges); μ_i captures time-invariant household heterogeneity; and γ_t are round fixed effects.

Although the dependent variable is binary, we employ a linear fixed-effects specification to exploit within-household variation over time while controlling for unobserved time-invariant heterogeneity. This approach can be interpreted as a linear probability model with household fixed effects and is commonly used in panel settings where conditional logit models would drop households with no within-variation in the outcome. In our context, this would substantially reduce the effective sample and limit comparability with the propensity score results. Nevertheless, we acknowledge that linear fixed-effects models with binary outcomes may generate predicted probabilities outside the unit interval; accordingly, coefficient estimates are interpreted as average within-household marginal effects rather than structural probabilities.

The intensive-margin analysis is conducted on the subsample of households that report positive remittance receipts in at least one survey round. To accommodate zero remittance observations within this subsample, we define $\ln(\text{Remittances}_{it})$ as $\ln(\text{Remittances}_{it} + 1)$, where remittances are measured in monthly USD. Results are robust to alternative treatments, including excluding zero-remittance observations and using inverse hyperbolic sine transformations.

This specification isolates within-household variation in remittance amounts over time, mitigating bias from unobserved time-invariant factors such as risk preferences or geographic location. The sample is restricted to remittance-receiving households to assess the marginal effect of remittance amounts on entrepreneurship. Standard errors are clustered at the household level.

4.3.6 Results

This section presents empirical evidence on the relationship between remittance receipt and household-level entrepreneurship in Uzbekistan. We begin by estimating the average treatment effect using propensity score matching (PSM) to account for observable differences between remittance-receiving and non-receiving households. To

address potential endogeneity arising from return migration decisions, we then employ a recursive bivariate probit model, which allows for joint estimation of remittance receipt and entrepreneurial activity while controlling for unobserved heterogeneity.

Table 37: First-stage logit coefficient estimates for propensity scores: Determinants of remittance receipt

Dep. var.	(1) Remittance received last month	(2) Remittance received 12 months ago	(3) Remittance received 24 months ago
Panel A: Baseline controls			
Female household head	-2.8235*** (0.0467)	-0.1251*** (0.0244)	-0.0984*** (0.0248)
Education of the household head	0.3102*** (0.0068)	-0.0045 (0.0066)	0.0046 (0.0067)
Household, facing an income challenge	0.0348 (0.0231)	0.0320 (0.0235)	0.0680*** (0.0239)
Household size (persons)	-0.0029 (0.0045)	-0.0063 (0.0045)	0.0056 (0.0046)
Household receiving family allowance	0.4417*** (0.0409)	0.1744*** (0.0415)	0.1692*** (0.0423)
Age of household head (years)	-0.0167*** (0.0006)	-0.0020*** (0.0006)	-0.0022*** (0.0007)
Constant	-1.7634*** (0.0657)	-4.1316*** (0.0539)	-4.2107*** (0.0553)
Observations	613,239	584,671	558,741
Pseudo R2	0.0204	0.0007	0.0006
Panel B: Expanded controls			
Household size (persons)	0.0116*** (0.0044)	0.0039 (0.0045)	0.0034 (0.0045)
Female household head	-3.9434*** (0.4483)	-0.1614* (0.0855)	-0.1692* (0.0890)
Age of household head (years)	-0.0234*** (0.0017)	-0.0031* (0.0017)	-0.0023 (0.0017)

Dep. var.	(1) Remittance received last month	(2) Remittance received 12 months ago	(3) Remittance received 24 months ago
Participation in community activities	0.0301 (0.0265)	0.0155 (0.0279)	-0.0072 (0.0289)
Household has savings	0.1872*** (0.0720)	0.2329*** (0.0725)	0.1662** (0.0763)
Wage income (mln UZS/month)	-0.1951*** (0.0076)	-0.1739*** (0.0076)	-0.1706*** (0.0077)
Agricultural income (mln UZS/month)	0.0027 (0.0080)	0.0058 (0.0078)	0.0123* (0.0067)
Other incomes (mln UZS/month)	0.0712*** (0.0091)	0.0542*** (0.0100)	0.0566*** (0.0103)
Constant	-4.2758*** (0.0331)	-4.1928*** (0.0337)	-4.1793*** (0.0344)
Observations	613,239	584,671	558,741
Pseudo R ²	0.0204	0.0108	0.0092

Notes: Each observation corresponds to a household-survey-round. Differences in the number of observations across columns reflect variation in data availability for alternative remittance recall periods (current month, past 12 months, past 24 months). The panel is unbalanced due to household attrition and item-level non-response across rounds. Reported estimates are logit coefficients (log-odds). Robust standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.10.

Source: Author's elaboration

The estimations in Table 37 are based on a household-survey-round panel, where each observation corresponds to a household interviewed in a given survey round. The number of observations differs across columns because remittance receipt is measured over alternative reference periods (current month, past 12 months, and past 24 months), which require non-missing information for the relevant recall window. As a result, the effective sample size declines for longer recall periods. The panel is unbalanced due to household entry and attrition across rounds, as well as item-level non-response.

Main estimates from propensity score matching (PSM)

The first-stage logit estimates presented in Table 37 reveal distinct patterns in the determinants of remittance receipt. In the baseline specification (Panel A), households headed by males are significantly less likely to receive remittances. This may reflect that transfers come from non-nuclear family members (e.g. siblings) or that male-headed households may be financially more stable than female-headed households. In contrast,

higher educational attainment of the household head and access to family allowances are positively associated with remittance receipt. The age of the household head consistently shows a negative relationship, suggesting that older heads are less likely to have active migrants abroad. This may reflect a partial substitution of family transfers for public support. While older household heads may rely on the state pension, younger and financially vulnerable ones appear to rely on remittances.

When additional controls are introduced (Panel B), the analysis becomes more nuanced. Female-headed households remain markedly less likely to receive remittances, while the positive effect of the head’s education persists. Income composition plays a critical role: wage income significantly lowers the probability of receiving remittances, likely indicating reduced need for external financial support in households with stable earnings. Conversely, “other” income sources and precautionary savings (*Jamgarma*) are positively associated with remittance receipt, possibly because households that save for emergencies also rely on remittances as an additional income stream.

The model demonstrates stronger predictive power for current remittance receipt (Pseudo-R² above 0.11 in Panel A) than for lagged outcomes (Pseudo-R² below 0.01), implying that household characteristics are more informative for present remittance flows than for past ones. Overall, these findings confirm that migration and remittance decisions are systematically linked to observable household characteristics and financial structures, supporting their inclusion in the first stage of propensity score matching.

Participation in community work is also included in the logit model, given the well-established importance of social capital in shaping entrepreneurial decisions and activities, particularly in developing countries such as Uzbekistan (Elo, 2016).

Table 38: Remittances and entrepreneurship: PSM (ATT) estimates

Treatment Variable	Units	ATT	Pseudo R ²
Panel A. Baseline Controls			
Remittance received last month	7,738 (605,501)	-0.203*** (0.027)	0.114
Remittance received 12 months ago	7,393 (577,278)	-0.028** (0.014)	0.001
Remittance received 24 months ago	7,109 (551,632)	-0.016** (0.011)	0.001
Panel B. Expanded Controls (with income and savings)			
Remittance received last month	7,737 (605,501)	-0.135*** (0.027)	0.020
Remittance received 12 months ago	7,393 (577,278)	-0.033* (0.027)	0.009
Remittance received 24 months ago	7,109 (551,632)	-0.010 (0.028)	0.009

Source: Estimations of the authors based on World Bank data (2025). Notes: Treated units are reported first, with controls in parentheses. Standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1.

Panel A of Table 38 (Baseline Controls: gender, education, economic challenge, household size, family allowance, household head age) shows consistently negative and statistically significant effects of remittances on entrepreneurship across contemporaneous, 12-month, and 24-month horizons. Within the PSM framework, the estimated ATT ranges from -0.20 in the contemporaneous specification to smaller, yet still significant, values at the 12- and 24-month lags. The persistence of the negative sign across time horizons suggests that remittance receipt does not stimulate entrepreneurial activity, even one to two years after the initial transfer.

Panel B of Table 38 incorporates a richer set of controls capturing household financial capacity and savings behaviour, including household size, gender and age of the household head, education, participation in community activities, savings availability, and disaggregated income sources. Once these factors are accounted for, the estimated ATT remains negative but diminishes in magnitude and becomes statistically insignificant for longer remittance lags. While the sign of the estimates remains consistent with Panel A, this attenuation indicates that the magnitude and statistical significance of the effect are sensitive to the conditioning set. To assess robustness, we additionally estimate ATT effects using alternative matching algorithms and sensitivity checks, which yield qualitatively similar patterns. Taken together, these results suggest that the initial negative association between remittance receipt and entrepreneurship is at least partly mediated by household income composition and liquidity constraints rather than reflecting a strong direct effect.

Sending a migrant abroad is often a coping strategy employed by lower-income households, whose primary concern is meeting basic consumption needs. When additional income becomes available, remittance-receiving households may gradually become more willing to consider entrepreneurial ventures. Taken together, the PSM results indicate a negative association between remittance receipt and entrepreneurship that is conditional on household financial circumstances. The quality of the matching procedure was assessed using standard diagnostics, including pseudo-R2 statistics and standardised mean differences between treated and control groups. In all specifications, standardised mean differences decline substantially after matching and fall within conventional thresholds, indicating improved covariate balance and supporting the validity of the estimated ATT effects.

Structural estimates: Recursive bivariate probit

Table 39 presents results from the recursive bivariate probit estimation, which jointly models entrepreneurship and return migration. The coefficient on the return-migrant indicator in the entrepreneurship equation is negative and statistically significant, indicating that return migration is associated with a lower likelihood of entrepreneurial engagement after controlling for observed covariates and correlated unobservables. As the reported coefficients are expressed in probit index units, their magnitude should be interpreted in terms of direction and relative strength rather than as a direct probability effect. In substantive terms, the estimates imply that return migration is associated

with a meaningful reduction in the probability of entrepreneurship relative to otherwise comparable non-returnee households.

Table 39: Recursive bivariate probit estimates: Entrepreneurship and return migration

	Entrepreneurship Eq.	Return Migration Eq.
Panel A. Baseline Controls		
Return Migrant	-1.515*** (0.350)	–
Age of household head (years)	-0.004 (0.011)	-0.005 (0.004)
Female household head	0.202 (0.311)	-0.162 (0.165)
Education of household head	0.173* (0.094)	-0.061* (0.032)
Household size (persons)	0.031 (0.050)	0.053*** (0.010)
Household, facing income economic challenge	-0.365 (0.225)	0.033 (0.068)
Log of remittances (USD)		-0.033 (0.037)
Constant	-3.899*** (0.648)	-1.746*** (0.340)
ρ (error correlation)	-0.559*** (0.059)	
Panel B. Expanded Controls		
Return Migrant	-1.321 (1.121)	–
Household size (persons)	0.007 (0.057)	0.060*** (0.012)
Female household head	-3.831*** (0.293)	-4.493*** (0.261)
Age of household head (years)	-0.011*** (0.004)	0.021*** (0.004)
Education of household head	0.049 (0.045)	-0.257*** (0.049)
Participation in community activities	0.553*** (0.202)	-0.063 (0.084)

	Entrepreneurship Eq.	Return Migration Eq.
Household has savings	0.538 (0.467)	0.225 (0.186)
Wage income (mln UZS/month)	0.011 (0.058)	-0.025 (0.024)
Agricultural income (mln UZS/month)	-66.297*** (7.693)	-0.001 (0.014)
Other incomes (mln UZS/month)	0.002 (0.039)	0.008 (0.008)
Log Remittances (USD)	-	-0.033 (0.039)
Constant	-3.294*** (0.385)	-2.298*** (0.240)
ρ (error correlation)	-0.688*** (0.137)	

Notes: Heteroskedasticity-robust standard errors are reported in parentheses. Geographic clustering is not implemented because the public-use dataset does not include administrative identifiers (region/district). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Negative and significant ρ indicates correlation between unobservables in the two equations, supporting the recursive structure.

Source: Estimations of the authors based on World Bank data (2025).

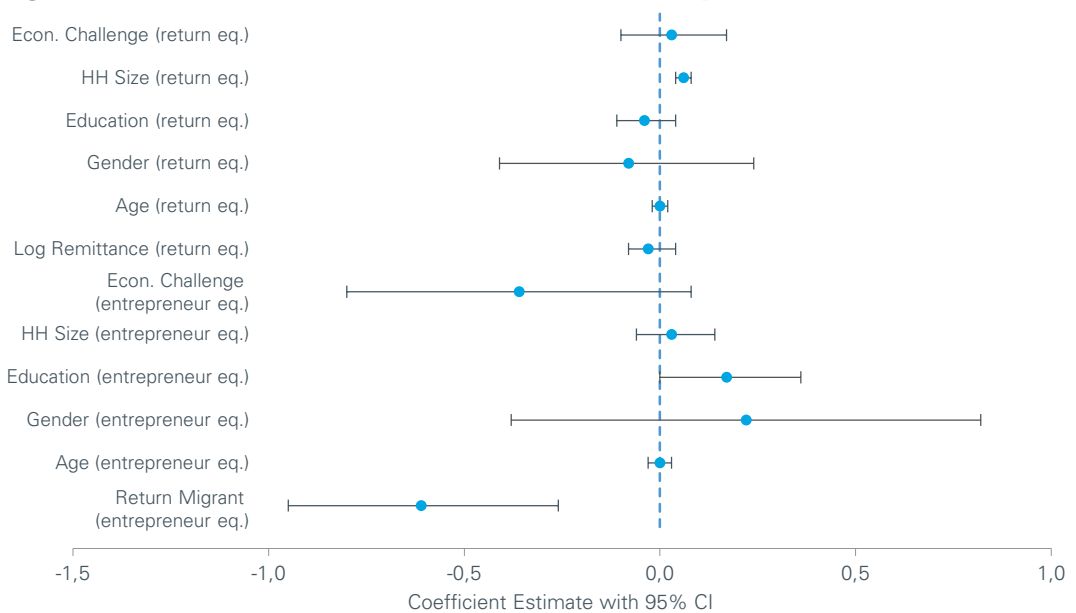
The recursive bivariate probit results presented in Table 39 provide further evidence that return migration is negatively associated with entrepreneurship after accounting for potential endogeneity in migration decisions. In the baseline specification, the coefficient on return migration is large, negative, and statistically significant, indicating that returnees are less likely to engage in entrepreneurial activities compared to otherwise similar households. Identification of the return-migration equation exploits migration-specific predictors, most notably the log amount of remittances received while abroad, which plausibly affects the likelihood of return through liquidity and savings channels but does not directly determine post-return entrepreneurial choices, conditional on household characteristics. Notably, the estimated error correlation (ρ) is negative and statistically significant across both sets of controls, indicating correlated unobservables across the two equations and supporting the use of the recursive bivariate probit framework.

When the model is expanded to include additional covariates, such as the gender and education of the household head, participation in communal activities, savings, and disaggregated income measures, the coefficient on return migration becomes statistically insignificant. While the sign remains negative and consistent with the propensity score matching results, this attenuation indicates that the estimated effect is sensitive to model specification. This pattern suggests that the association between return migration and entrepreneurship operates primarily through broader financial and social characteristics rather than through a direct channel. In particular, income composition and participation in communal activities (as a proxy for social capital) emerge as more salient predictors

of entrepreneurial engagement. The negative coefficient on agricultural income in the expanded specification likely reflects the dual role of farming in Uzbekistan's predominantly agrarian economy, where agricultural activity often substitutes for non-farm entrepreneurship rather than complementing it.

These findings are broadly consistent with the earlier PSM results. Both analytical approaches underscore a negative relationship between remittances and entrepreneurship, with the magnitude and significance of effects sensitive to model specification and the inclusion of control variables. While the PSM framework suggests that remittance receipt reduces entrepreneurial activity, the recursive probit model further reveals that return migration alone does not promote entrepreneurship. Instead, when considered alongside household financial conditions and opportunity costs, such as engagement in agriculture, return migration appears to have a neutral effect. The convergence of evidence across both models reinforces the central conclusion: rather than serving as clear catalysts for entrepreneurship, migration and remittance dynamics often act as substitutes for local business formation in Uzbekistan.

Figure 23: Coefficient estimates from recursive bivariate probit model (95% CI)



Source: Author's elaboration

As depicted in Figure 23, return migration has a consistently negative and statistically significant effect on entrepreneurship, whereas the influence of other covariates is more nuanced. Larger household size appears to increase the likelihood of returnee business ownership, while variables such as gender, age and education do not show statistically significant effects. These findings challenge the prevailing narrative that return migrants

are inherently entrepreneurial. In the context of Uzbekistan, returnees may encounter reintegration barriers, skill mismatches, or insufficient institutional support, all of which can constrain their entrepreneurial potential. These results highlight the need for targeted reintegration initiatives and financial intermediation programmes to help translate migration experiences into productive economic outcomes.

High-dimensional fixed effects results

To enhance the causal interpretation of our findings, we supplement the matching and recursive probit analyses with high-dimensional fixed effects (HDFFE) regressions. This method leverages the panel structure of our data by absorbing both household and survey-round fixed effects. In doing so, it controls for all time-invariant household characteristics, such as entrepreneurial culture and risk preferences, as well as common temporal shocks, including policy changes and macroeconomic fluctuations. HDFFE is particularly well suited to our context, where unobserved heterogeneity across households could bias simpler cross-sectional estimates of the relationship between remittances and entrepreneurship.

Table 40: High-dimensional fixed effects estimates: Remittances and entrepreneurship

	Dependent Variable: Entrepreneurship	
	Panel A: Baseline Controls	Panel B: Expanded Controls
Remittance Receipt	-0.228*** (0.018)	-0.225*** (0.019)
Female household head	-0.094** (0.025)	0.018 (0.060)
Age of household head (years)	-0.0015** (0.001)	-0.002 (0.001)
Household size (persons)	-0.001 (0.002)	-0.002 (0.002)
Education of household head	0.027*** (0.005)	0.028** (0.014)
Participation in community activities	–	0.008*** (0.002)
Household has savings	–	-0.006 (0.008)
Wage income (mln UZS/month)	–	-0.0004 (0.001)
Agricultural income (mln UZS/month)	–	0.003*** (0.001)

	Dependent Variable: Entrepreneurship	
	Panel A: Baseline Controls	Panel B: Expanded Controls
Other incomes (mln UZS/month)	–	0.0001 (0.002)
Household, facing income economic challenge	0.003 (0.003)	–
Constant	0.188*** (0.036)	0.110*** (0.010)
Observations	114,486	114,486
Clusters (HHID)	2,355	2,355
R-squared	0.470	0.467
FE absorbed	HHID, Round	HHID, Round

Source: Estimations of the authors based on World Bank data (2025). Notes: Robust standard errors clustered at the household level in parentheses. Both models absorb household and round fixed effects. Panel A includes baseline demographic and household characteristics; Panel B expands controls with female headship, savings, and disaggregated income sources. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

The HDFE estimates presented in Table 40 confirm a strong and consistent negative relationship between remittance receipt and business ownership. Across both the baseline and expanded model specifications, receiving remittances is associated with a roughly 23 percentage point reduction in the likelihood of engaging in entrepreneurial activity. These results are statistically significant and remain stable across various sets of control variables.

This finding aligns with the negative treatment effects identified in the PSM estimations and reinforces the conclusions drawn from the recursive bivariate probit model, which also found that return migration and remittance inflows reduce entrepreneurial engagement. The consistency of results across different methodological approaches, whether controlling for observable characteristics through matching, addressing simultaneity via recursive structures, or accounting for unobserved heterogeneity using HDFE, suggests that the observed relationship is not merely a product of model selection.

Taken together, the evidence indicates that remittances in Uzbekistan are primarily used for consumption smoothing and subsistence purposes, rather than being channelled into productive investments in entrepreneurship.

4.3.7 Conclusion

This study contributes to the empirical literature on migration and development by examining the causal relationship between remittance inflows and entrepreneurship

in migrants' home communities. Using rich, high-frequency panel data from the World Bank's L2CU survey (2018–2025) and focusing on Uzbekistan, a representative case of South–South labour migration, we employ propensity score matching (PSM) to estimate the average treatment effect on the treated (ATT) of remittance receipt on household-level entrepreneurial activity.

Our findings challenge the prevailing assumption that remittances inherently stimulate business creation. Across multiple specifications, including comparisons between households with and without migrants, with and without returnees, and stratifications by destination country and legal employment status abroad, the baseline results indicate a negative or statistically insignificant effect of remittances on entrepreneurship. When income and savings are incorporated, the difference in entrepreneurial propensity between remittance-receiving and non-receiving households disappears, suggesting that financial constraints remain a key barrier to entrepreneurial investment.

To address potential endogeneity between return migration and entrepreneurship, we apply a recursive bivariate probit model using a unified, log-transformed measure of remittances. The estimates reveal a significant negative correlation between unobserved factors influencing both return migration and entrepreneurship, pointing to self-selection mechanisms. However, this effect becomes insignificant when controls for social and financial capital are introduced, implying that returnees with adequate resources are as likely to engage in entrepreneurship as non-migrants.

These findings carry important policy implications. Financial instruments tailored to support entrepreneurial activities among remittance-receiving households and migrants could help overcome liquidity constraints. Additionally, targeted reintegration programmes, such as business training, networking opportunities and workshops, are essential to strengthen social capital and facilitate entrepreneurial engagement among returnees. Broader reforms to improve the domestic business climate remain critical for fostering inclusive and sustainable entrepreneurship.

4.3.8 Policy recommendations

Our findings underscore the need for targeted interventions to address structural and financial barriers that limit entrepreneurial activity among remittance-receiving households and return migrants. Based on the evidence, we propose the following policy options:

1. Develop financial instruments for entrepreneurial investment

- **Policy option:** Introduce microcredit schemes, low-interest loans and matching grant programmes specifically designed for remittance-receiving households.
- **Rationale:** Liquidity constraints appear to be a major barrier preventing remittance income from being converted into productive investment.

2. Facilitate migrant reintegration through business support programmes

- **Policy option:** Establish reintegration packages that include business training, mentorship and networking opportunities for return migrants.
- **Rationale:** Social capital plays a critical role in entrepreneurship, and migrants often lack strong domestic networks upon return.

3. Create incentives for formalisation and risk mitigation

- **Policy option:** Offer tax incentives, simplified registration processes, and access to insurance products for small businesses started by migrants and remittance-receiving households.
- **Rationale:** Reducing regulatory and financial risks can encourage entrepreneurial engagement.

4. Improve the overall business climate

- **Policy option:** Implement broader reforms to enhance property rights, reduce bureaucratic hurdles, and expand access to credit markets.
- **Rationale:** A supportive business environment benefits all entrepreneurs, including migrants and remittance-receiving households.

5. Leverage digital platforms for financial inclusion

- **Policy option:** Promote mobile banking and digital payment systems to facilitate savings and investment of remittance funds.
- **Rationale:** Digital tools can help overcome geographic and institutional barriers to financial access.

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CHAPTER 5: NEW FRONTIERS: PLATFORM ECONOMY AND SKILLS JUSTICE

5.1 Transformation of the labour market in selected countries: How platform work reshapes skills and cross-border mobility

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5.1.1 Preface

Over the past decade, Europe has experienced significant changes in labour structures and migration patterns, driven by macroeconomic pressures, digital transformation, and the platformisation of work. Physical location is no longer a strict condition for employment, and remote work through global platforms is reshaping traditional labour migration in the contexts of high youth unemployment in certain regions, stagnating real wages, and post-pandemic restructuring. This paper investigates how macroeconomic dynamics and technological change are enabling the rise of digital nomadism in Europe, and its implications for future mobility schemes.

The study examines how the platform economy, digitalisation and remote work reshape labour mobility and migration pathways. It focuses on the interaction between skills, digital platforms, and geographic mobility in EU17 and Western Balkan countries. These regions are marked by significant emigration and expanding digital infrastructure, making them a relevant case for analysing the transformative effects of platform work.

Drawing on data from Eurostat, ILO, OECD, the 2022 Eurostat pilot survey on Digital Platform Employment (EU17), the Gigmeter (2025) database, ETF and European country studies, and national sources, the paper analyses recent trends in platform work and labour mobility. The study combines a literature review with comparative country analysis and selected case studies of platform workers. It examines whether the platform economy reduces the need for physical migration or generates new forms of cross-border mobility, with particular attention to socioeconomic characteristics, income and regional inequalities in access to remote work. Artificial intelligence tools were used exclusively for language editing and proofreading purposes, including grammar, spelling and stylistic consistency. AI tools were not used for data analysis, interpretation of results, development of arguments, or formulation of conclusions. All substantive content, analysis and policy implications are solely the responsibility of the authors.

The paper contributes to the policy debate by highlighting the dual nature of remote work, which enables employment without emigration while generating new forms of mobility beyond traditional migration systems. It underscores the need for improved

migration governance, recognition of platform-based labour, and skills policies aligned with digital labour market demands. Framed as a structural response to macroeconomic and technological change, digital nomadism calls for adaptive policy frameworks that balance flexibility, protection, and transnational labour realities to ensure inclusive and resilient mobility in Europe.

This paper is based on research conducted within the project Deeper Economic Integration and Convergence of Croatia with the European Union: Challenges in the Second Decade of Membership (KoINTEGRA-EU2.0), led by the Faculty of Economics & Business, University of Zagreb, and funded by the European Union – NextGenerationEU under the National Recovery and Resilience Plan 2021-2026. The views and opinions expressed are those of the authors only and do not necessarily reflect the official views of the European Union or the European Commission.

5.1.2 Introduction

Over the past decade, Europe's labour markets have undergone significant transformation due to technological advancements, demographic decline and persistent regional inequalities. Digitalisation and online work have reshaped traditional employment, offering flexibility but also introducing new vulnerabilities (Eurofound, 2022). Three in five workers, significant share, are worried about losing their jobs entirely to AI in the next ten years, particularly those who actually work with AI (OECD, 2023, p. 5). As examined by Brattlund (2025), this vulnerability is reflected in different challenges that platform workers regularly face, such as low pay, income variability, limited access to social protection due to self-employment status, legal uncertainty in cross-border work, and exposure to algorithmic management. Labour migration patterns have also shifted, with many EU countries facing labour shortages, while southern and eastern Europe continue to experience youth emigration and skill drain (ILO, 2023b).

Digital labour platforms have further blurred the lines between domestic employment, remote work and migration (Pesole et al., 2018; European Commission, 2020). In the Western Balkans, structural challenges such as high youth unemployment, limited high-skill jobs, and wage gaps with the EU persist (ETF, 2022), driving many young, skilled workers to migrate. At the same time, improved connectivity and rapid technological adoption have created new opportunities for remote and platform-based work, potentially reducing outward migration, while exacerbating inequalities between those with and without digital skills.

This paper explores how the platform economy intersects with labour mobility and migration in contexts where digitalisation coexists with emigration pressures and institutional weaknesses. It focuses on three key questions: What is the scale of platform work across the Western Balkans?; How is platform work structured between online and on-location forms, and what does this mean for skills and income patterns?; In which sectors are platform workers most active, and what does this imply for skills and mobility? By examining these questions, the study seeks to understand whether

the platform economy can complement or substitute physical migration, and what this means for inclusive growth and policy design.

The analytical framework combines a comparative assessment of the EU17 and Western Balkans with a conceptual review of how digital platforms influence employment and mobility (Kässi & Lehdonvirta, 2018; Zwysen & Piasna, 2024). The analysis examines selected EU and Western Balkan countries using complementary secondary data sources, including the Eurostat 2022 pilot survey on Digital Platform Employment (EU17), covering 17 EU and EFTA countries, as well as regional data from Gigmeter (2020 and 2025), ETF (2022), and European country reports (2022) for the Western Balkans, supplemented by national labour force surveys and case studies of platform workers. Quantitative indicators from Eurostat’s EU17 dataset and Gigmeter are analysed alongside qualitative insights from country-level studies. The analysis examines selected EU and Western Balkan countries using two complementary datasets: the Eurostat 2022 pilot survey on Digital Platform Employment (EU17), covering 17 EU and EFTA countries (Belgium, Denmark, Ireland, Greece, France, Italy, Cyprus, Latvia, Hungary, Malta, the Netherlands, Poland, Portugal, Romania, Slovenia and Finland as EU countries, and Norway as an EFTA country); and regional data from Gigmeter (years 2020 and 2025), ETF (year 2022), and European country reports (year 2022) for the Western Balkans. These regions offer a valuable comparison, characterised by high outward mobility, rapid digitalisation, and growing platform economies. The Western Balkans are selected due to persistent emigration pressures, weaker labour market institutions, and the growing role of platform work in a context of rapid digitalisation. In contrast, the EU17 countries provide a benchmark of more mature platform economies operating within stronger institutional and regulatory frameworks, enabling a comparative assessment of how institutional contexts shape platform work and labour mobility.

The platform economy has emerged as a significant force driving labour market transformation in the 21st century, reshaping skills requirements and patterns of cross-border mobility. According to Eurostat’s pilot survey, around 3% of individuals aged 15-64 in the EU engaged in digital platform work in 2022, defined as having worked at least one hour in the previous 12 months (Eurostat, 2025a). This paper focuses on digital labour platforms (both online and on-location) due to their specific relevance for mobility and skills transformation in the Western Balkans. Their expansion has been fuelled by widespread internet access, mobile technologies, advancements in artificial intelligence, and the growth of the data economy. Internet connectivity combined with digital skills is now essential for participation in new forms of work. Over the past decade, platform activity has increased fivefold, with further acceleration following the COVID-19 pandemic (Dumančić & Obadić, 2024).

Platform work, a form of non-standard employment, classifies workers as self-employed or “independent contractors,” often excluding them from basic labour protections such as paid leave, health insurance and pensions (Rani et al., 2022). These developments have enabled individuals and firms worldwide to access online marketplaces for services ranging from design and translation to machine learning development.

Digital labour platforms encompass a broad range of activities, including remote online and on-location services. This paper focuses on crowdwork; small, low-value online tasks performed by dispersed workers. Despite post-pandemic economic growth, Western Balkan countries face limited workforce participation and weak human capital development. Digitalisation has introduced new job forms reliant on internet access and digital skills, prompting governments to prioritise digital strategies for economic growth, education and public sector reform (ETF, 2022).

The analysis covers five Western Balkan countries: Albania; Bosnia and Herzegovina; Montenegro; North Macedonia; and Serbia. A major challenge lies in the lack of official data on these new forms of work. Platform work is largely absent from national statistics, as firms seldom disclose relevant information (Božović, Jačimović, 2025; ETF, 2022, p. 10). Therefore, available evidence relies on identifying active domestic and international freelancing platforms such as Fiverr, Freelancer.com, Guru and Upwork.

While research on the platform economy has expanded rapidly, most studies focus on advanced EU economies, leaving the Western Balkans largely overlooked. Data for the region remain scarce, fragmented and inconsistent, as no unified statistical framework exists to measure the scale or structure of platform work. Existing research often neglects the connection between digitalisation, skills transformation and labour mobility in post-transition contexts. This paper addresses that gap by analysing new data sources for the Western Balkans and comparing them with the EU17 pilot survey, offering one of the first systematic overviews of platform work and mobility in the region.

The paper is structured into four sections. Section 2 reviews key literature on the platform economy, digital labour, and mobility. Section 3 presents an analysis of available data. Section 4 highlights the main findings and policy implications, emphasising how platform work affects skills, social protection, and new forms of mobility. The paper concludes with recommendations, and outlines future research.

5.1.3 Theoretical background and literature review

Conceptual definitions

Atypical employment is increasingly common in the Western Balkans due to the lack of well-paid, high-quality jobs (ETF, 2022). It encompasses non-standard employment and ICT-enabled forms such as remote freelancing and platform work. While offering flexibility, especially for young people and women, these arrangements are often insecure. This paper therefore focuses on platform work as a key outcome of digital transformation.

Commonly referred to as the platform or gig economy, platform work involves short-term or project-based tasks performed by independent contractors rather than employees (Dumančić, Obadić, 2024). Across the Western Balkans, it has become a prominent form of paid work, encompassing both remote digital labour platforms (online or crowdwork) and on-location, geographically tied services (ETF, 2022).

In the first category, tasks are performed remotely through freelance marketplaces that connect independent workers with clients. These platforms handle job postings, application management, communication and secure payments, but do not act as formal employers. Typical assignments include translation, design, software development, data processing and other online services. Key examples include Upwork, Fiverr, Freelancer, Guru, Clickworker, Toptal, 99designs, SoundBetter, Catalant, and Amazon Mechanical Turk (AMT).

In the second category, work is carried out in person at a specific location. Examples include accommodation (Airbnb), delivery (Deliveroo, Foodora), transport (Uber, Lyft), household services (Helping, TaskRabbit), and care provision (Care.com). Managed labour platforms, such as Delivery Hero, formally employ workers. A significant innovation in this model is algorithmic management, where technology assigns, monitors and evaluates work performance (Berg et al., 2018, p. 9).

Table 41 provides a comparative analysis of various digital platform work types. The examples and classifications are based on current industry practices and regulatory developments.

Table 41: Comparative overview of digital labour platform work types

Platform Type	Examples	Type of Work	Worker Status / Regulation	Payment	Main Advantages
Crowdwork	Amazon Mechanical Turk, Clickworker	Online microtasks	Freelance / informal	Per task	Flexibility, quick task completion
Freelance marketplaces	Upwork, Fiverr	Online projects and tasks	Freelance / informal	Per project, hourly	Wide range of jobs, global client access
On-demand labour platforms	Uber, Glovo, Bolt	Physical work / delivery	Freelancer or contract	Per task / ride	Flexibility, quick earnings
Online creative platforms	99designs, SoundBetter	Online creative projects	Freelance / informal	Per project	Access to global audience, portfolio development
Professional service platforms (high-skill)	Toptal, Catalant, Malt	High-skilled professional services (IT, consulting, finance)	Freelance / Contractor	High hourly rates / per project	Higher pay, stronger bargaining power

Platform Type	Examples	Type of Work	Worker Status / Regulation	Payment	Main Advantages
Care and household service platforms	Care.com, Helping, TaskRabbit	Care, cleaning, household services	Freelance / contractor / informal	Hourly or per task	Local demand, flexible scheduling
Managed labour platforms	Delivery Hero (formal contracts), platforms with employed riders	Various types of work	Formally employed	Fixed salary + bonuses	Social protection, more stable income

Source: Compiled by the authors.

Managed labour platforms are hybrid digital models that combine elements of traditional employment and platform work. Unlike typical gig platforms, they formally employ workers, providing contracts, social protection and regulated conditions, while digitally managing task allocation, schedules and performance. Although offering greater security, they often rely on intensive monitoring and limit worker autonomy.

Review of previous research

Employers across the EU and Western Balkans often highlight persistent skills mismatches (Obadić, Viljevac, 2024), pointing to weaknesses in education systems. Formal education struggles to prepare graduates for non-routine roles, such as managerial, professional and technological positions. At the same time, the working-age population (15-64) is shrinking due to ageing and emigration. In this context, the rise of digital labour platforms has fostered a generation of tech-savvy, entrepreneurial workers. Many “digital freelancers” see platform work as a way to take control of their careers, using their skills globally while staying in their home countries.

According to ETF research (2022), atypical and non-standard work are on the rise in the Western Balkans, largely due to a lack of well-paid jobs. Two main types of work dominate: non-standard employment (temporary, part-time or on-call); and new forms of work, including remote freelancing and platform-based jobs (Kasimati, 2022). Western Balkan freelancers rank among the top ten per capita globally, particularly in creative, multimedia and software development fields, where earnings often surpass those in traditional employment (ETF, 2022, p. 8).

To enable cross-country comparison and provide clearer contextual framework for the analysis, Table 42 presents a summary of population size, unemployment rates and intensity of platform work across all countries included in the study.

Table 42: Country comparison profile, 2024

Country	Population (1 st January 2024)	Unemployment rate (in %)	PW intensity
Albania	2,761,785	8.5	Medium–High
Bosnia and Herzegovina	3,412,000	12.6	Medium
Montenegro	623,680	11.5	Low
North Macedonia	1,826,247	12.4	High
Serbia	6,605,168	9.0	High

Source: Eurostat (2025b), WIIW (2025), World Bank Group (2025).

Notes: *Data for Albania are for 2023

**PW intensity was developed by the authors and is conceived as an “orientation compass”. It is an indicative, qualitative proxy based on Gigmetar data (2020-2025), reflecting both the estimated number of active platform workers per 100,000 inhabitants and the observed dynamics over time. Due to the absence of official national or Eurostat time-series data on platform work in the Western Balkans, this indicator is used solely for comparative profiling purposes.

Around two-thirds of freelancers in the region are men, mainly in IT and tech, while women are concentrated in writing and translation and generally earn less (ETF, 2022). Platform workers are typically young and digitally skilled, with limited access to formal training. During the COVID-19 pandemic, location-based platform work, particularly delivery and ride-hailing, expanded rapidly, serving as flexible student work or a substitute for lost jobs; delivery remains dominant following Glovo’s takeover of Delivery Hero’s Balkan operations in 2021 (Delivery Hero, 2021).

Despite its flexibility, platform work is marked by high insecurity and weak regulation, leaving many workers without basic labour rights, social protection or insurance coverage, and exposing them to income instability and precarious conditions (ETF, 2022; Fairwork, 2023; Rani et al., 2022).

5.1.4 Country-specific variations of platform work across Western Balkan countries

Albania

Platform work in Albania grew significantly during and after the COVID-19 pandemic. The pandemic forced many professionals to work remotely, increasing demand for freelance and remote services, especially in the ICT sector. Afterwards, platform-based work expanded further as daily activities like shopping, service delivery and education shifted online (Kasimati, 2022).

There is no data on the exact number of platform workers or their contribution to Albania’s GDP (Muskaj, 2025). Muskaj (2025) identifies two main types of platform work: online, web-based tasks (e.g. programming, graphic design, and digital marketing)

through platforms like Upwork, Freelancer, Guru, Fiverr and Duapune; and on-location services like ride-hailing (e.g. Speed Taxi, Patoko) and food delivery (e.g. Baboon, Foodini, Wolt). Until 2023, local companies dominated food delivery, but Wolt's entry has expanded the market, especially in urban areas like Tirana (Andjelkovic et al., 2024).

Platform work in Albania is largely informal, leaving workers without social protection and facing precarious conditions (Andjelkovic, 2024). Despite challenges, platform work offers opportunities for women and younger workers seeking autonomy and flexibility. Strong English and multilingual skills give Albanian workers a competitive edge (Muskaj, 2025). However, rural-urban imbalances drive migration, intensifying brain drain as young people leave rural areas for cities or abroad (Dionizi et al., 2023).

Albania also attracts digital nomads through its self-employed visa programme, allowing remote workers to stay for up to a year tax-free. The visa is free and easy to apply for online, though official statistics on applicants are unavailable (Vazquez, 2024). With continued investments in technology and government engagement, Albania's platform economy is poised for further growth and diversification.

Bosnia and Herzegovina

Disparities between Bosnia and Herzegovina's entities persist, with high unemployment (15.4% in 2022), low employment rates (40% in 2022), and a relatively high share of informal employment (14%) compared to the EU average (ILO, 2023a). Vulnerable groups, including women, youth, and low-educated workers, face particularly low employment rates (Jahić & Obadić, 2022; Fairwork, 2023). Informality is widespread, affecting 86% of workers with no education and 62% with only primary education (ILO, 2023a). High unemployment weakens the bargaining power of vulnerable job seekers, pushing many into informal or semi-informal work.

Trade unions in Bosnia and Herzegovina have limited capacity to protect vulnerable workers, with stronger presence in the public than in the private sector. Informal and platform work further weaken union representation, leaving private-sector platform workers largely without labour protections, including health and safety measures. Consequently, even existing laws often fail to ensure basic rights such as sick leave, holiday pay, or minimum income guarantees (OECD, 2024; Fairwork, 2023).

Platform work gained popularity in Bosnia and Herzegovina during the COVID-19 pandemic, though it was not entirely new. The food delivery sector is the most developed, with platforms like Glovo and Korpa offering delivery and e-commerce services. Other platforms cater to various needs, such as Fix.ba for home repairs, mojTaxi and Žuti Taxi for ride-hailing, and Daibau.ba for construction and home improvement services (Andjelkovic et al., 2024).

Despite legal requirements for platforms to pay taxes and social contributions, many workers cannot claim the associated benefits. Interviews with platform workers (OECD, 2024) reveal that most work without formal contracts. While labour inspections have been strengthened, substantial gaps remain in identifying and sanctioning non-compliance, especially in the fast-growing digital platform sector.

Montenegro

Although Montenegro's overall unemployment rate has dropped to its lowest level, forecast at 11.0% in 2025 (WIIW, 2025), youth unemployment remains high at 24.87% (Duković, 2022). Digitalisation and the lack of quality jobs have encouraged the growth of the platform economy, with freelancing particularly attractive to students for its flexibility.

According to Vucekovic et al. (2020), Montenegrin gig workers value flexible hours, earning potential and professional development, though the sector lacks clear regulation and reliable data (Božović & Jačimović, 2025). Freelancing is the most common form of platform work, yet many operate informally, without contracts or social protection (Unija slobodnih sindikata Crne Gore, 2022). Courier jobs are easy to obtain but require a residence permit and local language skills, while Glovo has dominated food and parcel delivery since taking over Delivery Hero's operations in 2021 (Delivery Hero, 2021).

Montenegro's lifestyle, affordability and fast internet make it appealing to digital nomads (Duković, 2022). A study by DeFacto Consultancy (Unija slobodnih sindikata Crne Gore, 2022) found that freelancers appreciate flexibility and remote work, but face insecurity and income instability, often combining freelancing with other employment. Most work from home, cafés or coworking spaces, for several to over ten hours daily.

North Macedonia

At the beginning of the 2010s, North Macedonia faced youth unemployment of about 50% and a large Not in Education, Employment or Training (NEET) population. Education reforms sought to extend schooling and expand tertiary education, increasing the number of graduates over the past 15 years. However, the school-to-work transition remains slow: according to ILO (2016), graduates need an average of 31.2 months to find stable employment, while those with only primary education wait up to 62 months (Mojsoska-Blazevski, 2016). Limited domestic opportunities have driven many young, educated people to migrate, with thousands leaving annually (Kostadinov, 2022).

Some workers have chosen to remain in North Macedonia, enhancing employability through short IT and digital skills courses that enable participation in global platform work. This sector has expanded rapidly, driven by improved internet access and the COVID-19 pandemic. Platform work includes both online and on-location activities, with international platforms such as Upwork, Fiverr, and Toptal dominating, alongside local platforms (Antikj & Frishchikj, 2025). Highly skilled workers mainly serve foreign clients in creative and software fields, while on-location work, such as delivery and ride-hailing, is concentrated among younger and less educated workers (Kostadinov, 2022; Blazhevski et al., 2021).

Field research by Antikj and Frishchikj (2025) shows many on-location workers are overqualified, with students frequently working as couriers. Upskilling and career advancement opportunities are limited, and the absence of regulation leaves workers exposed to informal employment, fake self-employment and poor social protection (Blazhevski et al., 2021).

Serbia

Platform-mediated work has expanded globally over the past two decades, with Serbia and North Macedonia ranking among the leading countries by the share of digital workers relative to population and employment by 2018. In Serbia, platform workers account for an estimated 0.5-1% of total employment (around 14,500-29,000 workers), with online work largely oriented toward international markets, particularly in IT and creative sectors (Aleksynska, 2021). Remote workers are typically registered as independent contractors, while on-site workers in delivery and transport are often subcontracted or self-employed (Friedrich-Ebert-Stiftung, 2023).

In 2024, most Serbian platform workers were active in creative services and multimedia (36%) and software development (28%), followed by administrative tasks, writing and translation, and sales and marketing. One third relied exclusively on online work, while over half combined platform work with offline jobs; women represented 33.1% of the workforce, and the presence of Russian IT professionals had increased since 2022 (Milinković, 2025).

Despite offering flexibility, platform work in Serbia remains highly insecure, marked by weak legal recognition, limited social protection and unclear taxation. The majority of workers are classified as self-employed, with two thirds of online workers in hidden employment and many lacking coverage for unemployment or pensions. These conditions have prompted collective responses, including the formation of the Association of Internet Workers (Milinković, 2025; Friedrich-Ebert-Stiftung, 2023).

5.1.5 Mapping platform work and emerging mobility patterns in the Western Balkans

Data sources and methodological note

The analysis draws on secondary data from ETF (2022), Gigmatar (2025), Eurostat experimental statistics (2022), and EUROPEUM country papers (2024-2025). Together, these sources provide insights into the scale, structure and dynamics of platform work across the EU and Western Balkans. Official statistics on platform work in the Western Balkans are limited, as national labour surveys do not systematically track this type of employment. Definitions and coverage also vary across datasets, making comparisons indicative rather than precise. Without national data or specific regulations, the exact number of platform workers remains uncertain. To estimate regional trends and cross-country differences, quantitative data from Gigmatar (2020-2025) were combined with qualitative insights from ETF (2022) and EUROPEUM (2024-2025). These sources together enable a descriptive and comparative analysis of platform work, digital skills and mobility patterns.

The comparison between the EU and the Western Balkans must be approached with caution due to differences in data sources, definitions and coverage. Eurostat's experimental Digital Platform Employment (DPE) dataset is based on a 2022 pilot survey,

implemented as a voluntary module of the EU Labour Force Survey (LFS), aimed to test the methodology, questionnaire design and feasibility of full-scale data collection. As a result, the findings are presented only at the aggregate EU17 level and cannot be broken down by individual countries.

In this framework, Eurostat's experimental Digital Platform Employment dataset provides comparable but limited insight into the scale and structure of platform work in the EU, offering a useful benchmark for qualitative comparison with Western Balkan evidence, which relies on analyses from Gigmetar (2025), ETF (2022) and Europeum (2025), derived mainly from sectoral and case-study approaches. While EU figures reflect measurable, formalised trends, the Western Balkan evidence remains indicative and qualitative. Nonetheless, comparing these two contexts allows us to identify directional differences in how platform work evolves under distinct institutional and economic conditions. CENTAR's Gigmetar is designed to monitor the activities and characteristics of gig workers from Serbia and surrounding countries using the set of criteria publicly available on one of the most popular global online platforms – Upwork. The platform keeps records for a far larger number of workers, but Gigmetar only continuously tracks those who are active in the period under observation (Gigmetar, 2025).

Platform work in the Western Balkans

Understanding the nature of platform work in the Western Balkans requires looking beyond its simple presence. The regional market is shaped by technological change, labour market fragmentation, and new cross-border work patterns. This section provides a descriptive overview structured around three guiding research questions (RQ) that link the scale, structure and sectoral composition of platform work to the region's skills base and mobility potential.

RQ1: What is the scale of platform work across the Western Balkans?

The first step is to assess how widespread platform work actually is. Using data from Gigmetar (2025), the analysis estimates the number of active gig workers per 100,000 inhabitants. This provides a baseline measure of the phenomenon's intensity, and helps identify which countries have the most dynamic digital labour markets and where platform work remains marginal.

RQ2: How is platform work structured between online and on-location activities?

Beyond measuring scale, it is essential to understand how people participate in this type of work. Drawing on ETF (2022) and Europeum background papers (2025), this part compares the relative share of remote online work versus location-based services. The distinction is important: online work often creates opportunities for high-skilled, export-oriented employment, while on-location work tends to be local, lower-paid and less secure. This comparison highlights the internal divide between countries where digitalisation opens global markets and those where platforms merely replicate traditional low-skill services.

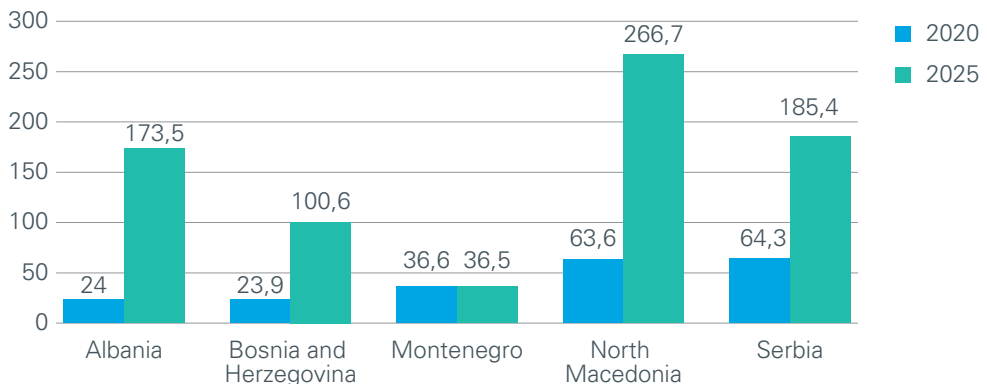
RQ3: In which sectors are platform workers most active, and what does this imply for skills and mobility?

The final step explores the types of work people do through platforms. Using Gigmeter’s 2025 data by profession, the analysis examines how workers are distributed across key occupational categories such as IT and software development, creative and multimedia services, writing and translation, sales and marketing, clerical work and professional services. This structure provides important signs about the skills supporting platform employment and the potential for cross-border mobility or digital nomadism. Countries with higher shares of ICT and creative workers are likely to experience different migration and upskilling dynamics than those dominated by delivery, marketing or clerical services.

Together, these three questions form the basis of the descriptive analysis that follows. Combining quantitative data from Gigmeter (2025) with qualitative insights from ETF (2022) and Europeum (2025), the analysis provides a detailed understanding of how the platform economy interacts with labour markets, digital skills and mobility trends. Beyond sectoral patterns, two additional dimensions – gender and earnings, shed light on who benefits most from digitalisation and whether platform work promotes inclusion or deepens inequality.

Platform and gig work in the Western Balkans vary significantly across countries, revealing three distinct groups. North Macedonia leads with approximately 266.7 (63.6 in 2020) gig workers per 100,000 inhabitants, highlighting the importance of online freelancing and platform work as a source of income and employment, particularly for younger, highly skilled workers (Figure 24).

Figure 24: Estimated platform workers per 100,000 inhabitants in the Western Balkans (2020, 2025)



Source: Gigmeter (Anđelković et al. 2020; 2025)

Note: Values refer to registered (observed) platform workers and are not directly comparable to official labour statistics

Montenegro has the smallest estimated gig workforce, with about 36.5 workers per 100,000 inhabitants, reflecting its small population and limited digital labour

market. Albania and Serbia report higher levels (around 173.5 and 185.4 per 100,000, respectively), close to the regional average and indicating their growing roles as digital work hubs. Bosnia and Herzegovina ranks somewhat lower, highlighting uneven access to platform work across the region.

Differences in the scale of platform work across the Western Balkans also reflect how workers engage in it. Beyond overall scale (Figure 24), an important distinction is whether platform work is performed online through remote marketplaces or on-location via app-mediated services. These structural patterns indicate levels of digitalisation, skill availability and mobility potential. Online freelancing dominates in Serbia and North Macedonia, driven by strong IT sectors and digitally skilled workers, while Bosnia and Herzegovina and Montenegro rely more on local, on-site services such as delivery and ride-hailing. Albania occupies an intermediate position, with a more balanced mix of both forms (Table 43).

It is important to highlight one methodological note. No official statistics exist on the distribution of online and on-location platform work in the Western Balkans. The indicative estimates presented below were developed by the authors based on a triangulated qualitative analysis combining: (1) **ETF (2022)** which distinguishes between remote (online) and location-based (on-site) platform work and describes their country-specific prevalence; (2) **Europeum (2025)** background papers for *Serbia* (Milinković, 2025), *North Macedonia* (Antikj & Frishchikj, 2025), *Montenegro* (Božović & Jaćimović, 2025) and *Albania* (Muskaj, 2025) which provide updated national insights into the structure and drivers of platform employment. Because none of these sources include quantitative data, the following **gradational procedure** was used. In other words, each country description in ETF (2022) and Europeum (2025) was coded according to keywords such as “dominant”, “mainly remote”, “balanced”, and “delivery-based”. These qualitative labels were ranked on a five-step scale (1 denotes fully on-location and 5 is fully online). Corresponding percentage shares were then assigned (e.g. 5 for around 70-75% online; 4 for 60-65%; 3 for 50-55%; 2 for 40-45%; 1 for 30-35%). Finally, the indicative values were cross-checked with evidence on ICT employment, digital-skills penetration and the presence of online freelancing communities in each country. Also, no dedicated Europeum paper exists for **Bosnia and Herzegovina**; therefore, its estimate relies solely on ETF (2022) descriptions and supplementary ETF country briefs. These values are illustrative and intended only to **visualise structural patterns** of platform work and their relation to digital readiness and mobility potential.

Table 43: Structure of platform work by type of engagement in the Western Balkans (% of total platform workers, 2025)

Country	Online platform work (%)	On-location platform work (%)	Dominant form	Key qualitative evidence
Serbia	70	30	Online	Strong ICT sector, global freelancing, software & creative industries (<i>Milinković, 2025</i>)
North Macedonia	65	35	Online	Remote projects for foreign clients, high English proficiency (<i>Antikj & Frishchikj, 2025</i>)
Albania	55	45	Balanced	Mix of remote digital and domestic delivery services (<i>Muskaj, 2025</i>)
Montenegro	45	55	On-location	Growth of food-delivery and courier platforms (<i>Božović & Jaćimović, 2025</i>)
Bosnia and Herzegovina	40	60	On-location	Predominantly delivery and transport, weak ICT infrastructure (<i>ETF, 2022</i>)

Source: Authors' compilation based on ETF (2022) *Embracing the Digital Age* and Europeum (2025) country papers (Milinković 2025; Antikj & Frishchikj 2025; Božović & Jaćimović 2025; Muskaj 2025). Indicative values only.

Platform work in the Western Balkans reflects differences in digitalisation and labour market development. Serbia and North Macedonia lead in online freelancing, supported by strong ICT sectors and skilled, English-speaking workers, while Bosnia and Herzegovina and Montenegro rely more on on-location services due to weaker digital infrastructure. Albania occupies an intermediate position, combining growing online activity with expanded local delivery services. This divide shows how advanced ICT sectors enable high-skilled remote work and may reduce emigration, whereas weaker digitalisation confines platform work to lower-skilled local tasks.

Task composition further reflects these differences, with some countries specialising in high-skilled digital services and others in lower-skilled activities. Gigmeter's 2025 survey confirms substantial cross-country variation in the sectoral structure of platform work.

Table 44 outlines the structure of the gig workforce across the five Western Balkan countries. The region is predominantly focused on digital and creative work, though national trends vary.

Table 44: Sectoral distribution of platform (gig) workers in the Western Balkans (% of total workforce, 2020 and 2025)

Country	Professional services	Creative & multimedia	Clerical & data entry	Sales & marketing support	Writing & translation	Software development & tech
Serbia	5.8 (4.1)	10.8 (13.1)	9.0 (6.7)	10.6 (10.5)	9.0 (21.4)	35.8 (44.0)
North Macedonia	6.6 (5.5)	19.0 (11.1)	11.8 (17.7)	11.7 (12.8)	9.0 (19.1)	29.7 (33.9)
Albania	9.1 (6.1)	16.3 (11.7)	8.8 (9.6)	15.4 (11.7)	9.0 (9.6)	26.7 (31.9)
Montenegro	6.3 (7.0)	8.7 (9.7)	9.2 (3.1)	13.0 (14.0)	10.0 (26.8)	32.9 (41.2)
Bosnia and Herzegovina	4.8 (3.6)	11.3 (10.6)	7.9 (6.7)	14.4 (12.8)	9.0 (29.7)	29.7 (36.7)

Source: Gigmetar (Anđelković et al. 2020; 2025) - Note: Values in parentheses refer to 2020 data.

Serbia leads in professional services, which grew from 4.1% in 2020 to 5.8% in 2025, while software development declined from 44.0% to 35.8%, reflecting a maturing IT sector. North Macedonia saw a strong increase in creative and multimedia, from 11.1% to 19.0%. In Bosnia and Herzegovina, the structure became more diverse: creative and multimedia increased (10.6% to 11.3%) and sales and marketing expanded (12.8% to 14.4%), while software development dropped (36.7% to 29.7%). Montenegro shows a similar rebalancing: software development decreased (41.2% to 32.9%) and writing and translation fell sharply (26.8% to 10.0%), whereas clerical and data-entry rose (3.1% to 9.2%). Albania stands out for its focus on creative and multimedia (11.7% to 16.3%) and sales and marketing (11.7% to 15.4%), showcasing its role in business-service outsourcing. Overall, the data reveal a dual structure: high-skill, export-oriented IT and creative sectors coexist with a growing lower-skill, service-oriented workforce, reflecting uneven digital transformation and a mix of opportunity- and necessity-driven participation.

Migration increasingly shapes on-location platform work in the Western Balkans. While online freelancing remains dominated by local, highly educated workers, on-location services rely more on migrants and lower-skilled domestic labour. Migrants are overrepresented in delivery, transport and personal services across Europe due to low entry barriers (Zwysen & Piasna, 2024), while regional migration flows are mainly low- and medium-skilled, reinforcing labour market segmentation (OECD, 2022). Evidence from Serbia suggests a gradual shift towards greater reliance on foreign workers in on-site platform jobs, particularly in delivery and care (Anđelković et al., 2020; 2025). These migration-driven divides are central to understanding evolving patterns of mobility, skills and inclusion in platform labour markets.

Gender is another important factor in shaping platform work in the Western Balkans. Although men still make up the majority, the share of women has increased to around 37%, showing a slow but steady move toward balance. Women are finding more opportunities in flexible, mid-skill online roles such as writing, clerical support and

professional services, while men continue to dominate in tech and delivery work. The gap is narrowing, but progress remains uneven and closely tied to the structure of each national labour market (Table 45).

Table 45: Gender distribution and main areas of female participation in platform work, Western Balkans (2020, 2025)

Country	Share of women in total workforce (%)	Recent trend	Main areas of female participation	Observed gender-specific shifts
Serbia	~37	Increase; from 31% in 2020	Professional and clerical services, writing & translation	Narrowing gender gap; stable participation of women in mid-skill remote tasks
North Macedonia	~40	Increase; from 34% in 2020. Strong increase in creative fields	Creative & multimedia, data entry	Fastest female expansion regionally (creative +69%)
Albania	~37	Decline; from 38,8% in 2020	Professional services, clerical work	Female losses in tech; persistence of traditional occupational patterns
Montenegro	~29	Decline; from 35% in 2020	Sales & marketing, clerical tasks	Largest contraction among women freelancers (-6.4%)
Bosnia and Herzegovina	~29	Stable to mid increase; from 25% in 2020	Sales & marketing, clerical support	Limited female growth; men dominate high-skill tech occupations

Source: Authors’ synthesis based on Gigmatar (Anđelković et al. 2020; 2025)

Women’s participation in platform work varies across Western Balkan countries. While overall numbers remain low, North Macedonia has seen noticeable growth, in contrast to declines in Albania and Montenegro. Women tend to focus on clerical, creative and service roles, while men dominate in technical and delivery jobs.

But participation and job types only tell part of the story. Earnings provide a clearer picture of the quality and sustainability of platform work. They highlight not just skill differences but also access to better-paying opportunities (Table 46).

Table 46: Average hourly rates of platform workers in the Western Balkans, by gender (USD, 2020 and 2025)

Country	Women 2020	Women 2025	Men 2020	Men 2025	Average 2020	Average 2025	Comment
Serbia	17.9	21.5	21.4	25.9	19.7	23.7	Steady growth for both genders, stronger among women (+6%); gender gap narrowed from 16% to around 13%.
North Macedonia	11.4	17.8	17.7	20.1	14.9	19.8	Lowest pay regionally but with notable improvement; female earnings rose from 64% to 88% of men's rates.
Albania	14.9	19.0	19.2	22.2	17.0	21.5	Modest growth and small gender gap; slight female decline (-0.3%) in recent years but stable male earnings.
Montenegro	8.3	19.3	11.9	28.8	9.6	21.4	Strong upward trend but persistent disparity; women's pay improved yet remains below 75% of men's rate.
Bosnia and Herzegovina	8.3	19.3	9.9	24.3	8.8	21.4	Significant rise from a low base; gender pay gap remains wide, women earn about 79% of men's average rates.

Source: Authors' synthesis based on Gigmatar (Anđelković et al. 2020; 2025)

Across the Western Balkans, average hourly rates remain modest, mostly between **USD 19 and USD 24 per hour**. **Serbia** leads in both average and women's earnings, suggesting a more mature digital labour market. **North Macedonia** and **Albania** record the lowest rates but also the narrowest gender gaps, while **Montenegro** shows the widest gap and lowest relative female earnings. In all countries, men continue to dominate higher-paid technical and software roles, while women remain concentrated in mid-skill online services. Although progress is gradual, these figures point to a slow move towards **greater gender balance and income convergence**. Differences in pay largely mirror sectoral specialisation: countries with stronger ICT and creative sectors achieve higher average rates and offer better opportunities for cross-border, remote engagement.

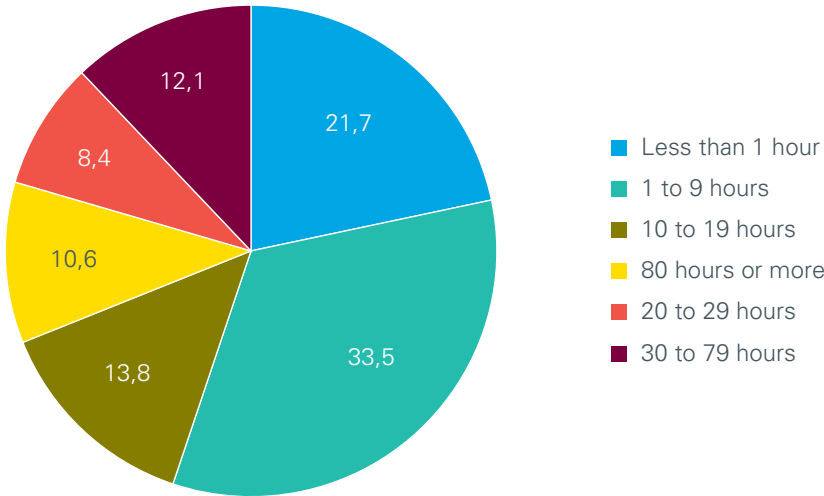
Platform work in EU selected countries

To provide a broader perspective, the analysis shifts to European-level data on platform work. While official statistics remain scarce, Eurostat has introduced experimental indicators under the Digital Platform Employment (DPE) framework, covering the aggregate EU17 variable in 2022, which refers to the 17 countries that provided the results from the pilot survey on Digital Platform Employment. These are: Belgium, Denmark, Ireland, Greece, France, Italy, Cyprus, Latvia, Hungary, Malta, the Netherlands,

Poland, Portugal, Romania, Slovenia and Finland as EU countries; and Norway as an EFTA country. For Cyprus, the survey covers only areas controlled by the Government of the Republic of Cyprus.

Although labelled as experimental, these indicators are currently the only comparable source for understanding the scale, structure and characteristics of platform workers across Europe. They offer a cautious yet valuable opportunity to compare the Western Balkans with EU averages, shedding light on similarities and differences in how digital labour markets are evolving in each context. Given the limitations of available EU data, the following figures focus on more informative indicators such as working hours, income composition and social protection coverage.

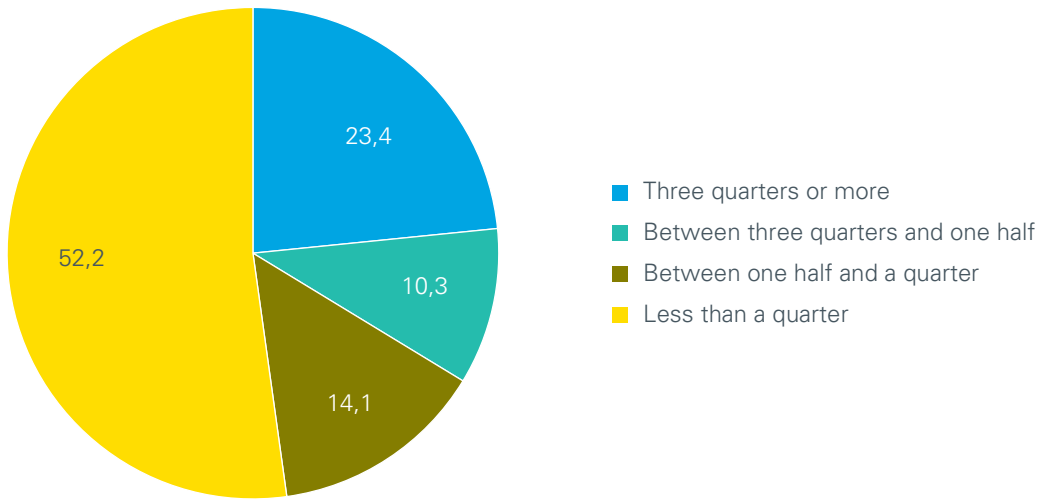
Figure 25: Distribution of working hours among digital platform workers (% , EU17, 2022)



Source: Eurostat (2025a), *LFS ad-hoc extraction – Pilot survey on Digital Platform Employment (EU17, 2022)*.

Figure 25 illustrates the working hours of digital platform workers in 2022 as a share of individuals aged 15-64 who had worked in the previous month. Most workers engage only occasionally: over half spent fewer than 10 hours per month on platform work, and more than one in five worked less than an hour. Only around 10% worked 80 hours or more, highlighting that full-time platform engagement is rare. Overall, platform work in the EU primarily serves as a secondary activity, complementing other employment or education. Income data support this view, as shown in Figure 26.

Figure 26: Share of platform income in total personal earned income in the last calendar month



Source: Eurostat (2025a), *LFS ad-hoc extraction – Pilot survey on Digital Platform Employment (EU17, 2022)*.

Figure 26 shows that platform work provides only a limited share of total income for most workers: over half earn less than one quarter of their income from platforms, while about one in four depend on it for three quarters or more. This illustrates the dual nature of Europe’s digital labour market, with a small group of highly active professionals alongside many occasional participants. Combined with Figure 25, these findings show that platform work in the EU primarily supplements other income rather than replacing traditional employment. The limited hours and modest earnings suggest that most workers use platforms for flexibility or extra income, while only a small minority depend on them full-time as professional digital freelancers.

Experimental data from Eurostat highlights significant gaps in social protection for platform workers across the EU. Over half of these workers are not covered by any form of unemployment, sickness or accident insurance (Table 47).

Table 47: Social insurance coverage of digital platform workers in EU17, 2022

Type of risk	Covered by at least one Platform or App (%)	Covered by another job (not by any Platform or App) (%)	Covered by another source (not by any Platform or App or other job) (%)	Not covered (%)
Unemployment	6.3	23.3	8.0	62.4
Sickness	6.4	25.0	12.4	56.3
Work-related accident	8.3	25.1	12.4	54.2

Source: Eurostat (2025a), *LFS ad-hoc extraction – Pilot survey on Digital Platform Employment (EU17, 2022)*.

Only a small percentage (6-8%) receive such coverage directly through the platform itself. About one quarter of platform workers are protected through another job, reinforcing the idea that most people treat platform work as a secondary or side activity rather than a primary source of income. 8.0% said they were covered by another source (not by any platform or app or another job) for unemployment, and 12.4% for sickness and work-related accidents. These findings reveal a clear institutional gap: while platform work offers new income opportunities, it often falls outside traditional labour protection systems, leaving many workers vulnerable to social and economic risks.

Key observations: comparing EU and Western Balkan trends

Platform work in the EU has reached a modest but stable level of maturity, functioning mainly as a form of occasional or supplementary income. Workers typically spend only a few hours monthly on platforms, and over half earn less than one quarter of their total income this way. Most participants are well-educated young adults seeking flexibility rather than a full replacement for standard employment. While social protection remains partial, roughly half have coverage through another job, and over 50% lack direct insurance. The EU's digital labour market operates within a formalised framework supported by gradual regulatory adaptation.

The Western Balkan platform economy remains smaller than in the EU but is expanding rapidly, driven by unemployment, wage gaps and informality. Online freelancing has emerged as an alternative to migration for educated youth, while on-location work, mainly delivery and transport, is dominated by younger, lower-skilled workers, increasingly including migrants from countries such as Uzbekistan, Kyrgyzstan, Cuba and Turkey. Unlike in the EU, platform work often represents a primary income source but lacks contracts and social protection, reinforcing labour segmentation between formal and informal employment.

Across the region, platform work functions primarily as an intermediary model rather than standard employment, classifying workers as self-employed and allowing platforms to circumvent core labour and social protection obligations. Although platform

work generates income opportunities and helps retain some skilled youth, weak institutionalisation leaves many workers exposed to insecurity and limited protection.

The comparison also highlights differing implications for skills and cross-border mobility. In the EU, digital platforms mainly complement existing job structures, offering flexible employment for skilled professionals. In the Western Balkans, however, they represent a substitute for limited domestic opportunities, allowing workers to access global markets remotely. This creates a unique mix of “stay-at-home globalisation,” where individuals participate in international labour flows without emigrating, and “new mobility,” visible in the rise of digital nomads and cross-border freelancers. Yet, the weak institutional setting and lack of recognition for platform work hinder skills certification, taxation and access to training.

The benefits of digital mobility depend on a region’s ability to develop, recognise and certify digital skills. Access to global online markets requires not only connectivity but also transferable competencies, which enable ICT and creative workers to reach foreign clients and earn higher incomes, while others remain confined to low-value local tasks. Strengthening digital literacy, upskilling and skills recognition is therefore key to transforming platform work from a survival strategy into a pathway for mobility and development.

While the EU is gradually integrating platform work into formal labour systems, the Western Balkans remain fragmented and underdeveloped. The region faces a dual challenge: expanding digital opportunities to retain skilled workers, while closing protection gaps that exclude many from formal employment. Policy priorities include better data collection, aligning digital skills with mobility strategies, and adapting social protection to hybrid forms of work.

Comparable data for the Western Balkans are not available, yet existing studies point to even weaker social protection mechanisms than in the EU. Unlike in the EU, where roughly half of platform workers have at least some coverages through another job, in the Western Balkans, most digital freelancers operate outside formal labour and insurance systems altogether. The absence of legal recognition for online freelancing, combined with high informality rates, leaves this group largely excluded from social insurance and employment rights. However, qualitative evidence suggests that the regional situation is likely to be even more fragmented, reflecting the broader structural weaknesses of social security systems and the high prevalence of informal employment. Therefore, comparisons should be interpreted with caution, focusing on directional trends rather than absolute levels.

5.1.6 Discussion and policy implications

The key findings summarise major empirical trends across the EU and the Western Balkans. Platform work is increasingly visible but differs markedly between regions. In the EU17, it mainly supplements regular employment, while in the Western Balkans it often represents a primary income source due to unemployment and informality. A clear

divide emerges: Serbia and North Macedonia are dominated by online freelancing; Bosnia and Herzegovina and Montenegro by on-location services; and Albania combines both forms. These patterns reflect differences in digital readiness, skills, and labour market structures. Stronger ICT and creative sectors are associated with greater participation in global digital labour markets, while others rely on low-skilled local services. In this context, platform work functions both as a substitute for migration and as a new channel of cross-border economic participation.

These findings align with earlier research by ETF (2022), which highlighted the rise of atypical work in the Western Balkans and its connection to labour market segmentation. They also confirm Kässi and Lehdonvirta (2018), who described the global online labour market as a form of virtual migration, and Zwysen and Piasna (2024), who showed that migrant and lower-skilled workers are overrepresented in platform-based services. The distinction between high-skilled online work and low-skilled on-location services supports the dual labour market hypothesis and reflects Dumančić and Obadić's (2024) argument that digital platforms increase flexibility while deepening inequality. Overall, the analysis confirms that the platform economy serves as both a pathway for inclusion and a source of new precarity.

Challenges and opportunities for national and EU-level policymakers refer to:

- Adapting labour market regulation: Clarifying the legal status of platform workers and extending labour protections, particularly in social insurance, health coverage and taxation.
- Strengthening digital skills: Promoting upskilling and certification systems that link digital and language skills to better job opportunities and international mobility.
- Modernising migration governance: Integrating platform-based mobility into national migration and employment strategies, as platform work blurs boundaries between domestic work, remote work and migration.
- Balancing innovation and protection: Supporting the growth of digital labour markets while preventing social exclusion and income insecurity, through coordinated action by national authorities, social partners and EU institutions.

Policy recommendations are derived directly from the analytical findings and are aligned with the existing ETF and EU policy framework, as well as through the authors' engagement with related research and policy discussions. No separate formal consultation process was conducted for the purpose of this paper.

Given the wide geographical coverage of the study, policy recommendations are formulated at a general level and are intended to be implemented through coordinated action involving national governments, public employment services, education and training institutions, social partners, and digital labour platforms, with the ETF playing a facilitating and knowledge-sharing role. Implementation modalities may include regulatory adjustments, capacity-building initiatives, and pilot programmes adapted to national institutional contexts.

5.1.7 Recommendations and conclusion

Although platform work is frequently described as an instrument of empowerment and inclusion, especially for underrepresented groups, empirical evidence indicates that it often reproduces existing inequalities, reinforces precariousness and undermines collective organisation, thereby raising critical questions about the sustainability and fairness of this evolving labour model in Europe.

This analysis shows that in the Western Balkans, work on digital platforms promises further growth and diversification. It is also clear that digitalisation has influenced the improvement of educational skills. The findings indicate different implications for skills and cross-border mobility. In the EU, digital platforms mostly complement existing job structures, offering flexible employment for skilled professionals. However, in the Western Balkans they represent a substitute for limited domestic opportunities, enabling workers to access global markets at a distance.

Therefore, with the support of continuous investments in technology, consistent government engagement and strengthened cooperation with international partners, it is possible to expect that the sector will rise to new levels of development in the coming years. In accordance with the above, a strong development of legal regulations is necessary to formalise the above forms of work as soon as possible. In this way, better statistical monitoring and analysis of such work would be supported.

The absence of specific legal frameworks administering platform work is evident across all analysed Western Balkan countries. The negative features of platform work are that they can result in unsafe working conditions and inadequate access to social protection and non-transparent operation on the market. To better integrate platform work, governments must expand digital opportunities to retain skilled youth while addressing protection gaps that exclude many from formal employment.

Therefore, it is considered necessary to transform labour market of platform work in two directions, developing sustainable growth and decent working conditions. On one hand, ensure the sustainable growth of digital work platforms and the transparency of their work. On the other hand, ensure decent working conditions for workers – as well as for people to whom the legal presumption of employment cannot be applied, and for those who work through such platforms based on another legal basis.

To enhance employment law protections for platform workers, governments should harmonise transnational mobility regulations and adapt national strategies for platform work in the short term by applying the directive of the European Commission (European Parliament, 2024) – the Platform Workers Directive – which was adopted by the European Parliament in October 2024. Digital nomadism and platform work should not be viewed as a question of the future; it is today's reality. The global labour market is being transformed, in a way that should be recognised as a structural response to economic and technological change in Europe.

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5.2 Towards sustainable migration pathways: Investigating migrant skill formation, mismatches and justice in North Macedonia

Filip Peovski, Bojan Kitanovikj, Violeta Cvetkoska

5.2.1 Preface

In the face of intense migration flows, persistence in talent outflow and the growing challenge of brain drain across developing economies is a topic of substantial interest among both researchers and practitioners. As a result, this study examines how skilled migrants in a country of origin, the Republic of North Macedonia, experience skill development, recognition and mismatch, and how these processes intersect with justice perceived through workplace discrimination. Theoretically, the research adds to the enduring paradox that many highly educated migrants remain trapped in jobs far below their competencies, investigating how migrant workers gain new skills and interact within the organisational conditions.

The study's methodology is based on a survey covering two distinct groups: foreign-born workers; and returned migrants – nationals who return after working abroad. The survey focuses on their demographics, skill development, skill mismatch and discrimination. For the empirical data analysis, a rigorous multiple regression model is estimated. In this sense, the quantitative data will allow us to model the predictors of skill mismatch and perceived unfair treatment.

Our study has twofold implications. It extends research on migrant human capital transferability by providing empirical evidence identifying policies in the domain of credentials recognition and targeted upskilling. Furthermore, it examines processes implemented to enforce fair work practices which maximise migrants' contributions towards local development, reducing brain waste and inequality. On the practitioners' side, the results aim to guide public employment services, technical and vocational education and training providers, higher education institutions, industry and social partners in designing inclusive skills partnerships that embed migrants' human capital into sustainable local development, to improve skill utilisation and labour market integration while reducing risks of brain waste and unfair treatment within the destination country.

5.2.2 Introduction

Migration today is understood as not just a demographic or economic phenomenon, but a fundamental force shaping skill formation, transferability, and overall global labour market conditions. Skill shortages and mismatches have been a centre of attention for years, and rightfully so, considering the impacts on economic growth and human capital development. As people naturally tend to migrate, problems emerge when this

does not yield a full utilisation of their capabilities. Since migrants often find themselves in positions below their specialisation or education level, this forces labour markets to experience overeducation, underemployment and persistent skill mismatches in destination countries (Visintin, Tijdens, and Van Klaveren, 2015). Individual characteristics may not be the sole reason why such outcomes happen, but rather they may be attributed to institutional settings, recognition systems, discrimination and workplace design that determine how education and practical experience gained elsewhere are valued.

Prior research notes that some skills are easily transferable, but others are difficult to align with the new work environment, as they need to be re-acquired and adapted to new, possibly more-advanced technologies, since migrants tend to move to more developed countries (Tverdstup and Paas, 2021). It is not uncommon for migrant workers to start their career abroad well below their qualification level, which determines subsequent wage progression and long-term career mobility (Banerjee, Verma, and Zhang, 2019). Consequently, combining such challenges with limited systems of recognition and reduced justice in the workplace expressed by discrimination towards migrant groups, skill mismatches limit economic productivity and waste human capital potential (Falter, 2009; Pivovarova and Powers, 2022).

This research focuses on a country of origin for migrants located in Europe's Western Balkans region, the Republic of North Macedonia. We observe both returned migrants – i.e. Macedonian citizens who return after living abroad – and migrant workers who perceive North Macedonia as their intermediary or final destination. As North Macedonia is characterised by substantial emigration, persistent labour shortages, and ongoing reforms in education and training, migrant workers view it as a good target to fill domestic labour vacancies. Based on data from 132 migrants and returned migrants, we look at how skill development, skill mismatch and workplace justice interact to determine how migration can become a viable path for people and the economy. Specifically, we tend to understand how skill development and justice at work, or work discrimination, shape migrants' perceptions of how well their skills match the Macedonian labour market.

Considering this, our research objective is to examine the factors associated with perceived skill (mis)match among migrants and return migrants in North Macedonia, with particular emphasis on the relations between willingness and opportunities for skill development, perceived workplace discrimination, host country exposure, and individual background characteristics. Building on existing human capital and labour market mismatch literature, and the workplace justice perspective, we address the following three research questions:

RQ1: How are migrants' willingness and opportunities for skill development associated with perceived skill match in the host labour market?

RQ2: How is perceived workplace discrimination associated with skill match after controlling for time in the destination country and education?

RQ3: To what extent do years spent in the destination country, gender and education level explain variation in perceived skill match in North Macedonia?

The findings support the majority of the set hypotheses and demonstrate complex interactions among institutional barriers, structural factors and individual effort that shape the labour market outcomes of migrant workers. The emphasis that migrants frequently seek additional training as a compensatory response to underutilisation is supported by the significant association found between lower skill match and willingness and opportunities for skill development. Additionally, skill matching was negatively impacted by perceived discrimination, indicating that structural barriers can hinder access to suitable employment. On the other hand, better skill matching when employed was associated with longer stays in the country of destination, demonstrating the crucial role of time and integration procedures when studying the cross-border transfer of human capital. While higher education level was still a significant determinant, gender had no distinct role in the model.

By empirically connecting the employability and skill mismatch experiences of migrants with workplace and institutional factors, and by converting these patterns into concrete policy implications relevant to EU accession and labour mobility governance in the Western Balkans, this work contributes to ETF's Community of Migration Experts' work by empirically linking migration-related labour market outcomes with human capital dynamics and workplace conditions. The case of North Macedonia is particularly relevant because it is simultaneously a country of emigration and a labour-market destination for specific migrant groups, which creates policy pressure to improve skills utilisation, matching and inclusion. In addition, as an EU accession country, North Macedonia's migration and skills governance is increasingly shaped by alignment with EU frameworks on skills development, fair labour mobility, integration and anti-discrimination (Directorate-General for Enlargement and Eastern Neighbourhood, 2025). Placing these findings in the context of the EU-oriented governance trajectory of the region, the research joins the call for policy learning and transfer across the wider Western Balkans region.

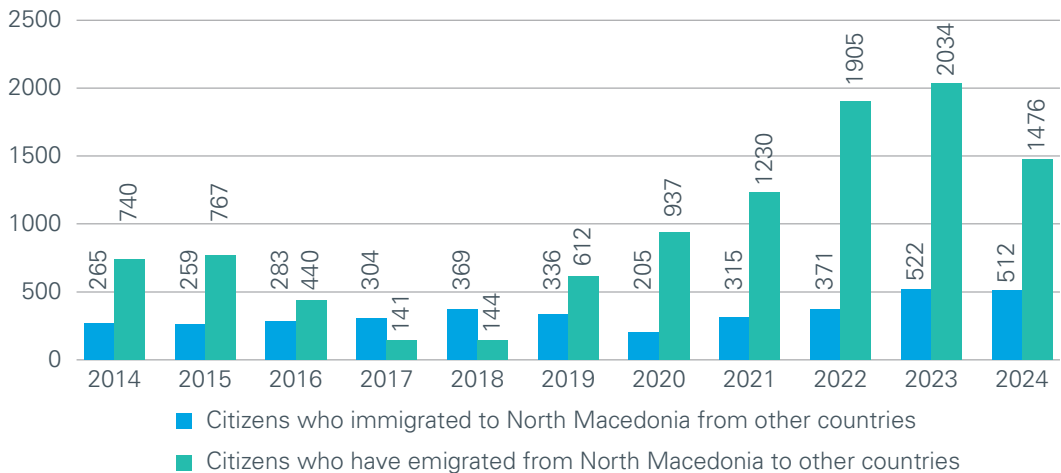
This study is structured in the following manner. After the brief introduction, Section 2 presents the theoretical background and context of our research, relating skill mismatch dynamics, discrimination at work, and workplace design for migrant workers. Section 3 presents the methods of our research, followed by Section 4 where the main findings are presented. In Section 5 we discuss the practical and policy implications from this study, followed by concluding remarks.

5.2.3 Theoretical background and context

The migrant labour force is considerably impacted by the interaction of skill mismatches, workplace discrimination and the development of skills. Migrants frequently encounter particular difficulties that worsen skill mismatches, such as discrimination in hiring procedures or evident obstacles to discussing recognition of their skills. In fact, because they often hold jobs that are not in line with their qualifications, migrants are more likely than native workers to be overeducated. Consequently, we elaborate these dynamics in this section.

We decided to situate the study in the migration context of North Macedonia, as the country experiences persistent mobility pressures that affect labour supply and skills utilisation. Official statistics show that international migration involves both citizens and foreigners, with foreign immigration exceeding foreign emigration in recent years, while citizen emigration remains a structural feature of the country’s demographic and labour-market outlook (see Figure 27).

Figure 27: Emigration and immigration flow in North Macedonia (2014-2024)



Source: State Statistical Office (2025).

North Macedonia is predominantly a country of net emigration, with substantial net emigration among younger cohorts and net immigration among older cohorts. Moreover, net outflow is concentrated mainly among low-educated and medium groups, and is strongest in the early-20s to early-30s age-groups, alongside evidence of a partial brain gain among highly educated, young cohorts driven by students returning after graduating abroad (Leitner, 2021). Administrative registrations of citizens who moved abroad also indicate a predominantly working-age stream and near gender balance (State Statistical Office, 2025). On the inflow side, long-term immigration is relatively modest compared to outflows, but the country has experienced major temporary inflows as part of the Balkan-route mobility system, becoming a transit country for around one million people in 2015-2016, with a smaller but continuing transit role thereafter (Bielenin-Lenczowska, 2025). At the micro level, evidence also shows strong emigration intentions among university students, singling out dissatisfaction with institutional quality, limited career opportunities, and systemic distrust as decision-making factors for emigration (Alili, King, and Gêdeshi, 2022). These contextual patterns demonstrate the uniqueness of this research context, motivating us to further understand why improving skill utilisation and workplace fairness for migrants and return migrants is relevant for sustainable migration pathways.

Skill flexibility and mismatch dynamics in migrant workers

According to empirical research, migrant workers frequently accept positions below their formal qualification level upon arrival, increasing the risk of underutilisation and overeducation from the first time they interact with an employer (Visintin, Tijdens and Van Klaveren, 2015). Because the first job can influence subsequent wage trajectories and access to training opportunities, early job allocation is also dynamically important (Banerjee, Verma and Zhang, 2019). Nieto, Matano and Ramos (2015) demonstrate that vertical mismatch varies systematically between migrants and natives, and is generally higher among migrants using Yun's decomposition method. In comparison to EU migrants, they also report a greater vertical mismatch among non-EU migrants. According to complementary data from Sweden's Longitudinal Integrated Database for Health Insurance (LISA), natives are more commonly seen in non-routine positions that prioritise interpersonal skills, whereas migrants are more concentrated in routine jobs requiring technical skills (Kazlou and Wennberg, 2023).

These studies suggest that mismatch is not only an individual issue but also reflects how labour markets and workplaces allocate tasks, recognise prior learning, and provide access to work training, especially at entry. From a policy perspective, this motivates a focus on early-stage matching and on mechanisms that accelerate access to appropriate tasks and learning opportunities (such as bridging training, work-based learning, or structured assessment), while avoiding universal assumptions about migrants' occupational placement.

The unequal mobility of human capital provides a helpful lens through which to view these trends. As task-specific human capital is embedded in technologies, standards and work organisation, it frequently needs to be recreated in the host setting, while general human capital may transfer more easily across borders (Tverdostup and Paas, 2021). This view supports claims that skilled immigration can influence incentives for the development of domestic skills (Behrens and Sato, 2011) and is consistent with the idea of an effective skill, which refers to the abilities that workers can clearly use in their local environment (van der Velden and Bijlsma, 2019). Accordingly, policy discussions increasingly emphasise skills validation and work assessment in addition to credential recognition. This is because observed overeducation and mismatch may partially reflect a gap between qualifications and locally verifiable performance.

The understanding of mismatches is however limited, mostly due to the fact that migration involves self-selection, as migrant workers make labour decisions based on their skills and opportunities. This is significant for the analysed context because outward mobility focuses on younger, well-educated groups whose initial employment abroad sets the stage for expectations and the development of host-specific skills (Bussi and Pareliussen, 2017). According to the study conducted by Pivovarova and Powers (2022), a mismatch between the acquired education and the job profile contributes to skill mismatches in the migrant labour force. They also advocate that Black and Asian American workers are more likely to experience racial discrimination, which results in higher rates of overmatching even when their educational backgrounds match those

needed for the position, leading to discrimination as a determinant of skill mismatches among migrant workers.

Discrimination at work and organisational processes that sustain mismatch

For firms, labour allocation matters as much as entrance because it shapes migrants' opportunities to demonstrate and further develop skills after hiring. For instance, frequent under-utilisation in terms of assigning migrant workers to narrow tasks with limited customer contact, and fewer opportunities to display advanced work skills, has been studied by Rafferty (2020). This suggests a mechanism through which discriminatory treatment and narrow task assignment can translate into perceived skill deficits and sustained underutilisation within the workplace. Based on pooled data from 2010 and 2015 European Working Conditions Surveys, the author extensively studied discrimination at work, indicating a paradox where individuals reporting discrimination are more likely to feel under-skilled which is self-assessed skill adequacy, potentially reflecting restricted access to training, feedback or complex tasks, indicating a need for further training to adequately perform their jobs. Consistent with these firm-level mechanisms, when discussing how discrimination in the workplace impacts firms' output, Larsen and Waisman (2016) find evidence that the impact appears to be stronger when discrimination exists in sectors requiring higher skill level compared to when it is limited to low-skilled sectors. In turn, this leads to wage reduction and higher levels of unemployment for both domestic and migrant workers. Evidence on returns to education leads in the same direction since equivalent education can yield lower returns for minorities, and while both African and Asian immigrants have high rates of college education and over-education in the USA, the wage disadvantage for Africans is notably larger, as per Tesfai (2017). The author also suggests that the wage disadvantage faced by African migrants is consistent with discrimination-based mechanisms (such as differential employer evaluation or screening), as employers rank them lower than white colleagues for high-skilled occupations – indicating a clear problem with discrimination at work based on ethnicity.

The mechanisms are illustrated by sectoral evidence, which focuses on employer screening and task assignment as well as different access to training and opportunities. When client-facing standards and local compliance requirements dominate the workflow, field-of-study alignment and horizontal mismatch seem to coexist in sectors such as IT and engineering (Mahmud, Alam, and Härtel, 2014), especially when employers use culture, language barriers or foreign credentials as screening factors that unfairly disadvantage migrant workers. The authors suggest that skill mismatches centred in three areas – English proficiency, formal qualifications and cultural awareness – restrict the ability of migrants to perform their jobs. Successful labour market integration is largely dependent on employers' attitudes and generalised perceptions of migrants, in addition to individual ability. When discrimination based on nationality or ethnicity prevents migrants from obtaining jobs that match their skill levels, these mismatches may get worse (Visintin, Tjidsens, and Van Klaveren, 2015). According to related research, one of the main causes of wage disparities and lower job satisfaction among migrant

workers is workplace discrimination (Badillo-Amador and Vila, 2013). Siar (2013) goes on to demonstrate how mismatch is reinforced by entrenched prejudice, preference for local experience, and poor recognition of foreign credentials, which leads to downward mobility and fewer career opportunities. These findings suggest that firm practices in destination countries, regarding who receives mentoring, who gets adequately trained, and who is placed on corporate-visible teams, will determine whether early emerging mismatches close or stubbornly persist (Hagan, Demonsant, and Chávez, 2014).

Can mismatches and skill shortages be targeted through recognition and workplace design?

Skill shortages and mismatch can be considered as two faces of the same institutional coin. Policy that treats them separately misses how training design, signalling and workplace rules produce labour market outcomes, a point which has been developed by Kahn (2015). Skill transferability rises when tertiary education and Vocational Education and Training (VET) programmes are aligned with targeted occupations in destination countries, while also noting that acquiring language mastery earlier has been a traditional step toward reduction of skill mismatches (De Alwis, Parr, and Guo, 2020). Thus, we note that recognition reforms and even bilateral arrangements that accept competency can shorten the time needed for migrant workers' matching in the targeted labour markets. Recognition systems influence what employers can reasonably observe and trust about the skills of migrants. This clearly affects workplace choices regarding task distribution, training access and advancement, all of which are important processes through which mismatch either gradually improves or becomes self-reinforcing. According to a Swiss study (Pecoraro, 2011), gaining experience in the host country improves migrants' language skills and networks for finding employment. However, discrimination, particularly against immigrant women with small children, widens the gap between desired jobs and migrants' educational background, increasing both overqualification and underqualification. With an emphasis on the hospitality industry, Treuren, Manoharan and Vishnu (2021) contend that in order to enhance employment outcomes, employers need to identify more accurately and validate the competencies of skilled migrants. In this regard, monitoring is an essential tool for guaranteeing justice and fairness in labour markets, and should not be viewed as a purely bureaucratic extra. Monitoring pay increases, task distribution and training opportunities shows unequal penalties and helps locate areas where mentoring and rotation procedures might be unequally allocated based on migrant status and ethnicity, in line with discriminatory pathways identified in organisational research (Rafferty, 2020). Since the causes and effects of mismatch are dynamic, and change when recognition and workplace learning guidelines change simultaneously, evaluation designs should track employees through treatment exposure and progression (Dostie and Javdani, 2020). It is worth noting that effective workplace design can include job re-design and better integration into supply chains, which helps in addressing skill mismatches and shortages (Eddington and Toner, 2012). Moreover, as Braňka (2016) notes, skills recognition systems aim to make informal or non-formal skills visible, thus addressing the issue of under-utilisation and skill mismatch in organisations.

As the global literature indicates, migrant workers' skill mismatches are caused by deep-rooted institutional and organisational dynamics that influence how skills, including formal credentials, are valued and rewarded. While having incomplete recognition regimes further prolong mismatch even when migrants possess relevant qualifications, discrimination in hiring, evaluating, promotion and task assignment further contributes to the core problem of underutilisation of migrant talent. At the same time, adaptation and early integration into competency frameworks are essential. This is necessary in order to align migrant skills obtained in their countries of origin with labour market demands in destination countries.

5.2.4 Methods

The target population for data collection consisted of foreign citizens in the Republic of North Macedonia who hold the status of a legal migrant and are currently employed in organisations operating within the country's territory, as well as nationals who previously worked abroad and have returned (returned migrants). Data were collected through online questionnaires disseminated to members of the target population, as well as physical copies of questionnaires delivered to organisations with employees who expressed interest in participating in the study. The core empirical analysis of this research is based on primary survey data collected between May and September 2025 from migrants and return migrants residing in North Macedonia. The survey data are used for all statistical analyses reported in the following section. In addition to the primary survey, we used administrative statistics and policy reports to contextualise the setting between migration and employment in North Macedonia, using them as contextual evidence rather than qualitative datasets, usually subject to format theme-coding. These secondary sources were not merged at the individual level with the survey. Instead, they were used for triangulation by comparing broad patterns (e.g. migrant composition, duration of stay, labour market context) with the survey profile, and by informing the interpretation of results and feasibility of policy implications. Where discrepancies emerged, we report them as contextual constraints rather than treating the survey as being representative of the population.

Non-probability convenience sampling and snowball sampling were used due to the practical challenges of identifying eligible respondents through administrative lists. This helped access hard-to-reach respondents and enabled the capture of variations in their experiences of skill (mis)match and professional development in a new country after emigration. Specifically, the sample may over-represent respondents who are easier to reach, more integrated into networks, or more motivated to participate, and it may under-represent more precarious workers or those with limited language proficiency. Accordingly, the findings should be interpreted as evidence of associations within this sample rather than population estimates, relating to the specific context of the country of interest for this research. In practice, these sampling methods facilitated access to the target population, contributing to the collection of a sufficient number of responses within the study's timeframe (Hair et al., 2010). Moreover, this sampling approach is common in research on migrant workers where access is mediated by employers,

networks and community channels, but it also introduces potential selection bias (Barglowski, 2018).

The instrument for data collection (presented in Table 48) was conceptually designed in English with additional versions created by the research team in local languages, including Macedonian and Turkish, then translated back into English for easier analysis. Survey questions were designed to capture migrant's experiences in terms of skills match, their willingness and opportunities for skill development, and discrimination practices towards them in the destination country.

Participation in the survey was completely anonymous and optional. Respondents were informed on the opening page of the questionnaire that participation was anonymous and voluntary, and that the data would only be used for research. By consenting to take part and complete the questionnaire in writing, participants gave their explicit consent. Moreover, no sensitive or directly identifying personal information was gathered, and neither children nor other vulnerable groups were singled out or included. According to the relevant data protection standards, the data was de-identified before analysis and kept on safe, access-restricted systems.

After removing duplicate entries, missing data, or data from respondents who answered negatively on the question if they immigrated to the country of destination, we reached a final sample of 132 valid surveys.

In terms of measuring the variables, the survey was based on a five-point Likert scale with answers ranging from 1, meaning strongly disagree, to 5, indicating a strong agreeableness with the provided statement. To maintain consistency in the directionality of responses, all negatively worded items (SM3, SM4, D1) were reverse-coded so that higher scores corresponded to higher levels of the construct measured. This procedure allowed for the calculation of reliable composite scores, minimising response bias and ensuring conceptual alignment across all items.

Hence, the construct of willingness and opportunities for skill development was measured with three items, while skill match and discrimination were measured with four items each. The items and the variables they measure are provided in Table 48 together with the descriptives.

Table 48: Measured variables and descriptives

Variables	Items	Mean	SD	Cronbach's α
Skill matching	SM1: My current job fits well with the education I received in the country I come from.	3.64	0.96	0.661
	SM2: In the country where I live now, I feel competent to do my work.	4.36	0.64	
	SM3: I needed additional job training to match my skills with my current work.	3.18	1.06	
	SM4: My job requires a lower level of education than I have.	3.00	1.18	
Willingness and opportunities for skill development	WOSD1: In this country, I can enrol in the training courses needed for my work if needed.	3.45	1.27	0.692
	WOSD2: In this country, I would like to start my own business if I have the opportunity.	3.22	1.28	
	WOSD3: I came to this country to become better in my professional area.	3.96	0.97	
Discrimination at work	D1: I am not discriminated against as an immigrant.	1.88	0.92	0.845
	D2: I experience discrimination against my gender.	1.53	0.88	
	D3: I experience discrimination against my ethnicity.	1.64	0.94	
	D4: I experience discrimination because of the geographical region/country I come from.	1.69	0.97	

Source: Authors' calculations.

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.68, while the results from Bartlett's test of sphericity were $\chi^2 (df = 55) = 760.69, p < 0.001$, confirming adequacy (Hair et al., 2006).

The demographic profile of respondents (Table 49) reflects a relatively young and mid-career population, comprised mostly of working age participants. Most participants are between 25 and 44 years old (63.64%) and identify as male, which aligns with the typical age of economically active migrants (Paloma et al., 2021). In terms of educational attainment, respondents are diverse. While 28.03% completed general upper secondary education, another 22.73% hold higher education qualifications, and a combined 30.3% completed vocational or primary education. This distribution indicates a mix of both skilled and semi-skilled migrant groups, which was relevant for analysing patterns of skill utilisation and potential mismatch.

Table 49: Respondents' demographic characteristics

Characteristics	Number of respondents	%
Age		
18-24 years	12	9.09
25-34 years	46	34.85
35-44 years	38	28.79
45-54 years	25	18.94
55-67 years	11	8.33
Gender		
Female	47	35.61
Male	82	62.12
Other	3	2.27
Education		
Primary education	13	9.85
General upper secondary/high school education	37	28.03
Vocational upper secondary education	20	15.15
Higher education	30	22.73
Vocational course	20	15.15
No school-based education	9	6.82
Prefer not to say	3	2.27
Size of organisation		
Small	42	31.82
Medium	64	48.48
Large	26	19.70
Years spent in the country of destination		
Less than a year	45	34.09
1-5 years	66	50
6-10 years	13	9.85
More than 10 years	8	6.06

Source: Authors' calculations.

Respondents are employed across different organisational sizes, with nearly half (48.48%) working in medium-sized organisations, followed by small enterprises (31.82%) and large organisations (19.70%). Notably, a large majority of respondents have been in the destination country for five years or less, suggesting a relatively recent migration experience. This indicates that many respondents are in the early phases of labour market integration, where entry penalties and skill underutilisation risks are typically most pronounced. Organisational size also varies, which is relevant because matching and training opportunities may differ between small firms and medium or large employers.

Besides the main variables – willingness and opportunities for skill development, and discrimination at work – control predictors were included in the form of years spent in the new country (country of destination), gender and education. Moreover, education was included as a categorical control, and higher education was specified as the reference category. Consequently, the reported coefficients reflect differences in skill match between each education level and the higher education group. A negative coefficient indicates a lower skill match relative to those with higher education and vice versa. After pre-testing the model, age and size of the organisation did not make any statistically significant changes to the analysis, both in model fit and coefficient significance.

Based on prior theoretical aspects elaborated earlier and de facto context of the labour market in North Macedonia, we develop five hypotheses which drive this research:

- H1: Higher willingness and more opportunities for skill development have a negative association with current skill match.

The first hypothesis aims to verify whether migrants who encounter a skill mismatch are more likely to pursue or participate in development opportunities to make up for the discrepancy between their job requirements and their qualifications.

- H2: Higher perceived discrimination is negatively associated with skill match.

We set the second hypothesis considering that discrimination in the workplace can make it more difficult to find acceptable employment, which can lead to underutilisation of skills or occupational downgrading.

- H3: More years spent in the destination country is positively associated with skill match.

The rationale behind the third hypothesis is that extended stays enhance social networks, language proficiency and credential recognition, improving job-skill alignment.

- H4: Gender has no significant effect on skill match once other factors are controlled for.

The relationship between gender and skill matching is observed with the fourth hypothesis, as gender disparities are often mediated through other labour market structures rather than direct gender effects.

- H5: Migrants with lower levels of education (general upper secondary, for instance) have lower skill match compared to those with higher education.

Having in mind that higher education typically offers more access to specialised employment because it is more recognised and transferable, we use it as reference in our model, thus observing the influence of educational attainment on skill matching among migrant workers in North Macedonia.

To test these hypotheses, we estimate a rigorous multiple linear regression model where perceived skill match is the dependent variable. The predictors include willingness and opportunities for skill development, perceived workplace discrimination, years spent in the destination country, and controls for gender and education categories. All multi-item constructs are measured on a five-point Likert scale and aggregated into composite scores after reverse-coding negatively worded items to ensure consistent directionality. Standard diagnostic checks are reported to assess model adequacy and multicollinearity.

5.2.5 Main findings from North Macedonia

A multiple linear regression analysis was conducted to examine the determinants of skill match or mismatch among migrants which is used as a dependent variable. The predictors included willingness and opportunities for skill development, perceived discrimination, years spent in the host country, gender, and education level. The model was statistically significant, $F(9, 122) = 5.985$, $p < 0.001$, and explained approximately 30.6% of the variance in skill match, while the Durbin-Watson indicates no major autocorrelation concerns, respecting the recommended threshold (Hair et al., 2010) (see Table 50). All VIF values were below 2.1, suggesting no multicollinearity issues (Hair et al., 2010).

Table 50: Model fit statistics

R ²	Adjusted R ²	F-statistic	df1, df2	p-value	Durbin-Watson
0.306	0.255	5.985	9, 122	0.000	1.5

Source: Authors' calculations.

Willingness and opportunities for skill development were negatively associated with skill match ($B = -0.145$, $p = 0.004$; $\beta = -0.247$). This finding suggests that individuals who report higher motivation or access to skill development opportunities are associated with lower skill match in their current jobs. This aligns with the interpretation that migrants facing skill underutilisation or occupational downgrading are more inclined to seek training and development as a compensatory strategy rather than an indicator of already well-aligned employment.

Moreover, perceived discrimination also emerged as a significant negative predictor of skill match in our target population ($B = -0.119$, $p = 0.047$; $\beta = -0.166$). This demonstrates that higher levels of perceived discrimination are associated with lower skill match, indicating that discriminatory experiences can act as barriers to achieving employment

that corresponds to individuals' qualifications and competencies. It can operate as a 'sticky' barrier in the transition from first employment to a skill-matched trajectory, particularly when complaint mechanisms are weak or when enforcement is low in sectors with high turnover. Where monitoring and sanctioning are perceived as limited, discriminatory sorting may persist even as migrant workers accumulate experience over time.

The number of years spent in the host country was positively associated with skill match ($B = 0.046$, $p = 0.004$; $\beta = 0.260$). This finding is consistent with integration and human capital transfer theories, suggesting that longer residence facilitates labour market assimilation, improved language skills, and greater recognition of foreign qualifications (Kearns and Whitley, 2015). Time in the host country can be read as a proxy for cumulative access to information, social networks, and even institutional know-how, for example how to navigate recognition, where to apply, or which credentials matter.

Gender was not a significant predictor ($p = 0.680$), supporting the hypothesis that gender does not directly influence skill match once other variables are accounted for. This null finding suggests that any gender differences in skill match are likely mediated through other structural factors rather than direct gender effects.

Education level was also significantly related to skill match. Respondents with general upper secondary education reported lower skill match compared to those with higher education ($B = -0.164$, $p = 0.013$; $\beta = -0.269$). Other education categories did not differ significantly from the reference group. This reinforces the importance of educational stratification in labour market outcomes, where higher education levels tend to be more easily transferable or recognised across borders. In this sense, other educational categories such as primary education, vocational, no-school-based and 'other' were not significant. Table 51 shows the results of the regression model.

Table 51: Results of the regression model of skill (mis)match

Predictor	B	SE	β	t	p-value	Tolerance	VIF
Constant	4.198	0.281	-	14.929	0.000	-	-
Willingness and opportunities for skill development	-0.145	0.05	-0.247	-2.907	0.004	0.787	1.27
Discrimination at work	-0.119	0.059	-0.166	-2.01	0.047	0.829	1.206
Years in new country	0.046	0.016	0.26	2.965	0.004	0.739	1.353
Gender	0.03	0.074	0.033	0.413	0.68	0.897	1.114
Primary education	-0.266	0.171	-0.145	-1.555	0.123	0.655	1.527
General upper secondary education	-0.164	0.065	-0.269	-2.516	0.013	0.498	2.01

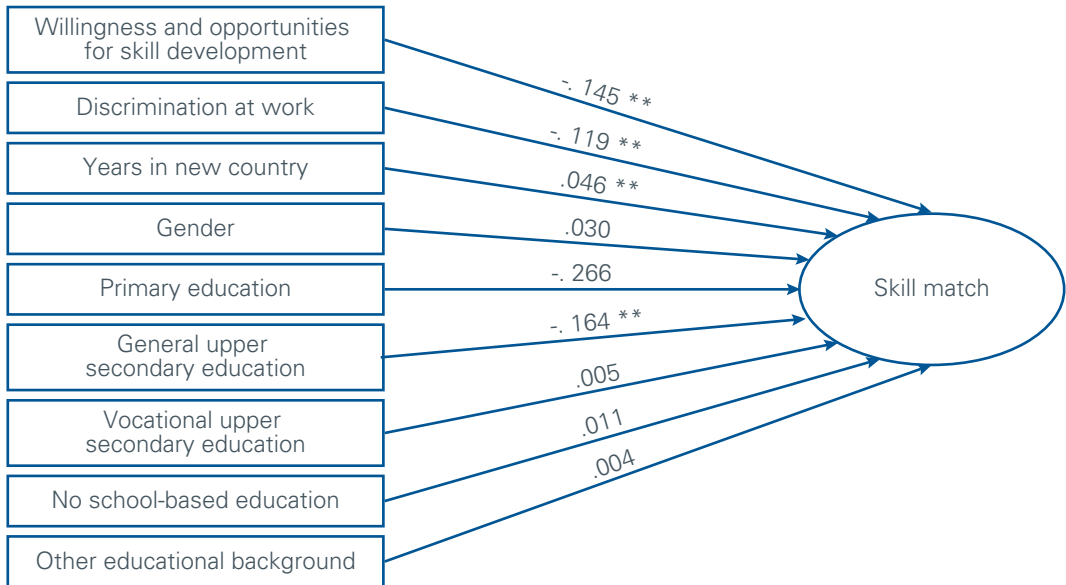
Predictor	B	SE	β	t	p-value	Tolerance	VIF
Vocational upper secondary education	0.005	0.046	0.01	0.114	0.91	0.687	1.456
No school-based education	0.011	0.04	0.023	0.261	0.794	0.73	1.371
Other educational background	0.004	0.015	0.024	0.248	0.805	0.615	1.625

Source: Authors' calculations.

From a process standpoint, migration routes frequently influence the initial placement of migrants in particular industries and entry-level positions, which may limit the use of their pre-migration skills in the host labour market. Even in cases where the overall supply of skills is sufficient, skills are often diverted into lower-complexity jobs when early access to regulated occupations or formal hiring channels is restricted. This clarifies why, even in the face of individual human capital, mismatch may continue. This pattern is consistent with a sequencing mechanism where migrants often pursue training after encountering occupational downgrading, not before securing a matched position. In other words, skill development functions as an adaptive response to institutional frictions (e.g. recognition delays, limited bridging routes), rather than a direct marker of integration success.

Overall, the results provide support for the hypothesised model. Willingness and opportunities for skill development (H1) showed a significant negative association with skill match, indicating that individuals experiencing lower job-skill alignment are more likely to seek additional training as a compensatory strategy. Perceived discrimination (H2) was also negatively associated with skill match, which reinforces the role of structural barriers in shaping employment outcomes. In line with expectations and prior literature, years spent in the host country (H3) were positively associated with better skill utilisation, consistent with expectations that integration may strengthen over time. Furthermore, gender (H4) showed no significant effect, while education level (H5) was significant, with individuals holding lower levels of education reporting lower skill match compared to those with higher education.

Figure 28: Model of variables associated with skill match



Note: †, *, **, and *** denote 10%, 5%, 1%, and 0.1% levels of significance, respectively. Higher education was used as the reference category for education. Source: Authors' calculations.

5.2.6 Discussion and policy implications

The research findings address the compensatory relationship between skill match and willingness/opportunities for skill development. Subsequently, we analysed how perceived discrimination relates to skill matching outcomes, revealing new-found implications for overall workplace justice and institutional practice. Also, we examined host-country exposure and background factors to clarify why some groups move into better skill matches faster than others.

Furthermore, the findings of this study indicate that both individual and structural factors are associated with migrants' ability to achieve adequate skill match in the labour market. The regression model explained a significant portion of the variance in skill match, with willingness and opportunities for skill development, perceived discrimination, years spent in the new country, and educational attainment emerging as significant predictors. Specifically, greater willingness and opportunities for skill development and higher perceived discrimination were associated with lower skill match, whereas longer residence in the host country and higher education levels were associated with better alignment between skills and employment. Gender and other education categories were not statistically significant.

These results point to a dual dynamic shaping the outcomes of migrants' skill matching. Individual-level efforts reflected by the migrant's willingness to develop their skills are

not sufficient on their own and may be more pronounced among individuals already in mismatched jobs, while structural factors such as time in the host country and educational background remain significant drivers of skill recognition and job alignment. This means that in practice, migrants may invest in skills while remaining in positions where those skills are not fully recognised or used.

Importantly, we found that perceived discrimination negatively affects skill matching, which relates to the systemic barriers in host labour markets where migrants, especially minorities, may face restricted mobility, limited progression, and lower returns to education. Hence, we believe that these findings reflect a compensatory mechanism, too, where migrants who feel overqualified or underutilised are more likely to invest in upskilling, yet face persistent barriers that limit the immediate returns of such efforts. In such scenarios, policies focusing solely on training without addressing recognition mechanisms and discriminatory practices may be less effective in improving actual skill utilisation outcomes and transparent job progression pathways (Solano, Schmid, and Helbling, 2024). These findings point to the need for policies that combine early integration support, fair workplace practices, and functional recognition systems that translate skills into better job allocation.

The reported statistical results identify associations between perceived skill match and key explanatory factors without establishing causal effects. Accordingly, conclusions are framed as evidence of correlational patterns within the surveyed sample, and policy implications are presented as feasibility-oriented responses that align with observed relationships and the institutional context in North Macedonia. Where broader system-level recommendations are discussed, these are explicitly positioned as extrapolations informed by the evidence base.

Entry penalty, education and host-specific accumulation of skills

Early positions often fall short of workers' de facto qualification level, with matches getting better as experience in the host nation builds. This pattern is consistent with worldwide evidence of migrant underutilisation upon arrival in the destination country, as it is observed for migrant workers who are typically overqualified (Visintin, Tijdens, and Van Klaveren, 2015). Our data's correlation between years of residency and improved skill match supports both this adjustment process and the theory that, as migrants gain locally observable experience, labour markets may eventually acknowledge prior education. This could be a reflection of a time when employers assign better-suited roles gradually after initially depending on observable performance. Task execution often requires adaptation to local standards, technology, norms and workplace culture, even though certain skills are transferable across borders. Tverdostup and Paas (2021) characterise this as a recomposition of human capital, through which skills must be adapted to local norms and technologies before their value can be realised. Our results support this view. Furthermore, it seems that language ability is a significant supplementary factor. Employers can play a critical role by offering supervised placements or trial tasks that allow migrants to demonstrate their skills in a timely and visible manner. Such measures can assist migrants in transitioning into roles that align with their qualifications and assist

employers in identifying their abilities by narrowing the gap between performance and potential.

Although there are limited short-term improvements in matching, we find that people who feel mismatched are in fact more willing to enrol in training programmes. Instead of focusing only on course completion, employers take action based on verified performance in the country of destination. According to van der Velden and Bijlsma (2019), this is the distinction between effective skill and nominal qualification where effective skill is demonstrated through task-based evidence of performance that managers can observe and rely on. On the other hand, Falter (2009) finds that when signals are weak or not in line with hiring practices, there is a persistent mismatch. The concept of learning-to-placement pathways rather than just isolated classes is supported by evidence from linked data from employers and employees that training related to internal mobility decisions improves match quality and tends to raise wages for migrant workers (Dostie and Javdani, 2020).

Compared to respondents with tertiary credentials, those with general upper secondary education report worse matches. Bussi and Pareliussen (2017) show that destination systems are far more ready to recognise tertiary credentials, which strengthens the first match for migrant workers. This gradient can be mellowed by recognition design. Faster transition into suitable roles and a decreased risk of long-term deskilling are linked to practical licensing that assesses an individual's abilities rather than where a diploma was awarded (Tani, 2021).

Internal labour mobility and workplace discrimination

Our model shows that perceived discrimination and lack of justice in the workplace are negatively associated with perceived skill mismatches. Although the estimated association is modest, it is consistent with broader evidence that minorities face lower returns per given level of education, as they are usually hired for manual, repetitive tasks. This may contribute to higher risk for persisting under-utilisation of human capital and a slower correction to the early identified skill mismatch, aligned with the work of Tesfai (2017). Research on credential devaluation demonstrates that even strong profiles are redirected into routine roles that do not utilise their competencies when foreign experience is not readable by the decision-makers, employers (Cameron, Farivar, and Dantas, 2019). Thus, maintaining transparency when hiring migrant workers is one of the key prerequisites to correcting such trends. Indicators of language competency can be included, and doing so will make it clearer how time improves skill matching for migrant workers. Additionally, for a better and more efficient monitoring of which interventions result in a higher skill matching, training records can be connected to subsequent role changes during the time of employment. This is in line with the proposed ideas to examine how individual capability turns into performance in the countries of destination and to de facto observe effective skill rather than just looking at credentials (van der Velden and Bijlsma, 2019). Consequently, improved measurement encourages faster programme design modifications and increases the likelihood that policies will alter actual task distribution rather than focusing on training course completion rates.

Our findings indicate that even though time spent in the country of destination, North Macedonia in our case, plays a positive role in skill matching, relying on this alone may be insufficient after all. The time needed for migrants to find employment that fits their qualifications can be shortened with early, well-designed support services. When training generates results that employers can see and identify, it is more likely to be successful and financially justified. Although educational credentials are still deemed crucial, opportunities for individuals without complete tertiary qualifications can be increased, and weaker signals can be strengthened by using modular recognition systems and improving assessment of practical work. Targeted changes to hiring and task-assignment procedures are justified, even in cases where workplace discrimination is comparatively low.

Policy implications

Building on this, results suggest structured policy interventions and recommendations, grounded in empirical patterns, that address structural barriers while promoting the efficient utilisation of skills among migrants. Each recommendation below is informed by the observed associations, particularly the negative links of discrimination and skill development seeking with skill match. The feasibility of these recommendations was assessed through alignment with existing institutional responsibilities and policy instruments in North Macedonia, using official documentation and ETF-related governance descriptions as contextual guidance.

Overall, the inverse relationship between skill match and willingness and opportunities for skill development motivates early and targeted skill upgrading pathways on a macro level that can result in better skill matching. The negative association between discrimination and skill match can advocate for strengthened enforcement, monitoring, and workplace-level prevention so that jobs are fairer and more equally accessible to everyone. The positive effect of time spent in the destination country supports early, front-loaded integration assistance to reduce migrants' entry barriers. Finally, the education outlook calls for competency-based approaches and bridging educational ways that reduce stratification through formal-informal education models. These priorities follow the variables that were statistically significant in the model (training/skill development seeking, discrimination, years in country, and education), while gender showed no independent association once controls were included.

Early intervention and intensive support programmes. Integration tends to improve gradually, often slowly, according to the positive correlation between time spent in the destination country and skill match, as well as evidence that skill-development initiatives can partially offset mismatch. Because willingness and opportunities for skill development were negatively associated with current skill match, training is best framed as a response to mismatch, so measures should link training to observable placement or progression (e.g. trials, task-based demonstrations) rather than treating course participation as an endpoint. Policy could concentrate on reducing the time to a first skill-matched job through early, structured assistance rather than providing services over extended periods of time. Options include: competency assessments (such as task-

based evaluations); workplace familiarisation; intensive language training; sector-specific orientation; and brief workplace trials that enable migrants to showcase their skills and swiftly transition into appropriate roles.

Credential recognition reform through competency-based assessment. The findings' suggested educational stratification is consistent with broader demands for recognition schemes that give demonstrated competencies precedence over credentials' place of origin. In reality, policymakers might take into account modular recognition strategies like competency-based licensing linked to demonstrated ability, supervised practical assessments, and micro-credentialing that permits incremental qualification building. Industry associations could help in various ways, for example by: developing fast-track certifications for specific occupations; promoting apprenticeship-style pathways that assist in converting current skills into locally recognised credentials; and investigating standardised skills assessments that recognise prior experience.

Systematic anti-discrimination measures and monitoring. Perceived discrimination is associated with skill mismatch, consistent with structural barriers that may limit access to appropriate employment. Perceived discrimination was negatively associated with skill match in our sample, suggesting that discriminatory experiences can coincide with constrained access to skill-matched jobs. This suggests that anti-discrimination enforcement and monitoring, including that based on migrant status, country of origin, and language proficiency, may be crucial at all stages of employment. Employers can lower the risk of overt discrimination in allocation decisions by implementing structured hiring practices with clear task-assignment protocols and documented decision criteria at the organisational level. Enhanced monitoring systems could aid in locating and resolving systemic injustices.

Public employment services as integration coordinators. The model indicates that a significant share stems from institutional rather than individual factors. Public employment services or similar organisations could take a coordinating role in integration, offering culturally competent services, assigning individual case managers to support migrant workers, and organising regular sector-specific forums that bring together employers, training providers and credential recognition bodies. Diaspora engagement can be another interesting aspect, complementing these public sector coordination efforts, rather than placing responsibility solely on them. In other words, diaspora engagement strategies and bilateral labour mobility agreements may support circular migration, enabling skills and knowledge to flow back to the economy.

Sector-specific integration partnerships. For policy creators, the short-term direction suggested by the study is a transparent process of labour market integration in two or three large sectors that hire many migrants. In the Republic of North Macedonia, hospitality and manufacturing can serve as plausible starting points, given their recent role in absorbing migrant labour. By developing a transparent structure of integration, employers can make progress visible and reduce their ongoing reliance on informal judgments of whether or not a migrant is fit for the job, especially in targeted sectors.

Rigorous monitoring and evaluation systems. The findings refer to the importance of systematic monitoring, too. Given that the model explains about 30.6% of the variance

in skill matching, monitoring systems are important for identifying additional drivers not captured in the current specification, and for testing which interventions shift real job allocation. Considering that, policymakers may consider engaging in integrating data systems, linking migration records, employment history, training participation, credential recognition and earnings data to enable longitudinal analysis. Continuous evaluation using reliable and uniform indicators would allow more timely policy adjustments so that interventions are effective and responsive to real outcomes.

To avoid one-size-fits-all responses, implementation should prioritise subgroup-sensitive measures, especially where discrimination exposure and credential transferability risks are higher, even though gender itself was not an independent predictor in the multivariate model. For migrants in the first year of employment, intensive orientation, job-matching support, and rapid referral to short modular training can reduce entry barriers. For vocationally educated and medium-skilled migrants, sector-based partnerships with employers can provide targeted modules, supervised practice, and documented competence portfolios that employers can trust. On the other hand, for women migrants and groups reporting higher discrimination exposure, interventions should combine safe reporting channels, workplace audits, and targeted placement support into occupations with clearer progression ladders. When it comes to migrants aiming at regulated or credential-sensitive roles, assessment pathways should be designed to turn prior learning into locally legible relevant knowledge, reducing the probability of underemployment.

Policy implementation requires clear assignment of responsibilities across institutions. It's important to note that we believe both domestic and international stakeholders have made significant progress in this area. Skills recognition and qualification comparability can be coordinated through a distinct function housed within the Ministry of Education and Science, alongside relevant qualification framework bodies and sector stakeholders (European Training Foundation, 2023). Validation of non-formal and informal learning can be supported through the Adult Education Centre and accredited providers, ensuring that competence-based evidence is produced in formats employers can use (European Training Foundation, 2024). Labour market integration measures, particularly early profiling, referrals to training, and activation services, can be coordinated through the Employment Agency in collaboration with employers, chambers, municipalities, and civil society organisations that work with migrants. Financial sustainability can be strengthened by blending state budget allocations with employer co-financing for work-based learning and by leveraging EU-type funding streams for activation, training and system integration, while ensuring monitoring and evaluation capacity is maintained beyond project cycles.

Limitations

While the study provides important insights in how migrant skill development, skill mismatch, and workplace justice expressed through discrimination interact, several limitations to our approach are worth noting.

Context and generalisability. While the study provides important insights into how migrant skill development, skill mismatch, and workplace justice expressed through discrimination interact, one downside is the geographic and policy context. Namely, the research is conducted in a small and open economy that hosts an inconsiderable number of migrant workers on a global scale. This may limit the generalisability of the study overall. Relatedly, institutional settings and ongoing labour market structures vary across countries, even within North Macedonia's neighbourhood, which further proves the uniqueness of the context in relation to the broader inference.

Research design and temporality. The study has a cross-sectional nature, which may not be the most precise in capturing temporal dynamics and shifts in perceptions that may be related to sudden policy changes.

Data source and measurement bias. Even though a large sample of migrant workers is analysed, the use of self-reported survey data may be linked to a risk of measurement bias. Individual expectations or cultural influences may shape respondents' perceptions of discrimination, skill use and mismatch in ways that may not be fully compliant with objective conditions.

Model scope and explanatory power. Besides the analysed variables, the research proposes that other key factors may contribute to skill matches. As there was no direct measurement of potentially significant factors, such as sector-specific institutional barriers, employer practices, or detailed language proficiency levels, we recognise both the strengths and constraints of the proposed conceptual model. The omission of other significant factors reduces the model's capacity to explain the proposed idea and may overlook influences on skill mismatch for migrant workers. While the main model captures average associations across the sample, the underlying mechanisms likely differ across subgroups, meaning by gender, education profile and migration background. The present dataset does not allow robust subgroup modelling without risking unstable estimates due to limited cell sizes. Therefore, subgroup differences are treated as policy-relevant considerations rather than statistically confirmed effects in this research. Future work could expand samples and explicitly test subgroup relations to identify which combinations of barriers matter most for specific migrant groups.

These limitations suggest that future research should focus more explicitly on institutional barriers and additional employer practices and perceptions. Notwithstanding these limitations, the results provide propositions regarding the joint relationship between workplace equality conditions and individual skill-development dynamics and perceived skill match among migrants and return migrants in North Macedonia. These findings are translated into policy actions that are pertinent for similar labour markets in the Western Balkans.

5.2.7 Conclusion

This study examines how migrant workers in North Macedonia move from initial job placements into roles that are a better reflection of their qualifications, thus observing the presence of skill mismatches. Subsequently, we connect individual preferences

with institutional factors and workplace practices. We find that skill mismatch is not just a matter of personal deficit in ability in knowledge, but rather it depends on how credentials are perceived by employers, how job opportunities help in allocation of migrant workers, as well as the time migrants need to effectuate their knowledge mostly gained in their country of origin.

Compensatory behaviour is a key theme found in the data. Empirically, respondents who feel underutilised report higher motivation and easier access to development opportunities in North Macedonia. Such patterns point to a gap between effort and returns, where training is only beneficial when it yields reliable evidence for those involved in decision-making, task allocation, and vertical mobility in the organisation. It also helps explain why spending time in the destination country enhances job results. We find that the structure of education is also important. While general upper secondary education is more difficult to convert into skilled work without further proof, tertiary credentials seem to be understood as stronger signals for employers. The conceptual model also specifies a negative association between perceived discrimination and skill matching.

The study suggests that such mechanisms connect human capital development with labour market design, considering the case of North Macedonia. Instead of being dispersed over many years, support should be concentrated early in the employment process for migrant workers. For instance, short supervised task trials in priority occupations can be combined with diagnostic language assessment. Better coordination between employers by public employment agencies is thus necessary. When migrant workers without a higher education degree experience higher skill mismatches in their job roles, supervised practice can replace strict reliance on the credentials' origin, which in fact does not lower standards when hiring but instead makes them much more observable. However, discrimination at work can remain a constraint on the use of migrants' skills. As an organisational plausibility it operates through the screening of applicants and routine choices about who receives training or deals with clients for instance. Informal sorting can keep skilled workers in routine tasks and as a result, there are fewer opportunities to produce the task evidence that managers use to assign accountability and compensation. The observed gaps should be targeted even at the recruitment level by allowing migrant workers a greater access to the desired training and job rotation, so that the discrimination's effects diminish gradually over time and opportunities to prove competence are dispersed more fairly among new hires.

We contribute to the global literature by demonstrating how the process of effectuating human capital in the context of migrant workers helps in determining sustainable migration pathways. Building connections between skills and assigned work that are visible to both parties is the central challenge for North Macedonia, but more broadly may also apply to other destination labour markets where migrants' skill utilisation is shaped by workplace recognition and allocation. By doing so, the process results in a shorter time to the first suitable job, an earlier start to wage progression, and a more complete realisation of educational returns in both the origin and destination economies.

ANNEX

Table 52: Demographic information section of the survey used in the study

Item Nr.	Item	Choices
1	<p>Were you born in this country where you live now?</p> <p>NOTE: If the answer is 'Yes,' the questionnaire should stop for this participant because only foreign-born persons will be included.</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No. Please write the country of your birth:</p>
2	<p>Are you an immigrant (legal foreign worker, refugee, asylum seeker, ...) in this country?</p> <p>NOTE: If the answer is 'No,' the questionnaire should stop for this participant.</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> I am a returned migrant</p>
3	<p>What is your age?</p> <p>NOTE: Participants below 18 and above 67 will be denied further access.</p>	<p><input type="checkbox"/> Below 18</p> <p><input type="checkbox"/> 18-24</p> <p><input type="checkbox"/> 25-34</p> <p><input type="checkbox"/> 35-44</p> <p><input type="checkbox"/> 45-54</p> <p><input type="checkbox"/> 55-67</p> <p><input type="checkbox"/> 68 or more</p>
4	<p>What is your present status in this country?</p>	<p><input type="checkbox"/> Legal migrant</p> <p><input type="checkbox"/> Refugee/Asylum seeker</p> <p><input type="checkbox"/> Irregular immigrant</p> <p><input type="checkbox"/> Returned migrant</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> Prefer not to say</p>

Item Nr.	Item	Choices
5	Are you currently employed in this country? <i>NOTE: If the answer is 'Never employed,' the questionnaire may stop for this participant since he/she will be inexperienced.</i>	<input type="checkbox"/> Yes, I am employed and have a work contract. <input type="checkbox"/> Yes, I am working, but without work contract. <input type="checkbox"/> I am unemployed now, but I was employed earlier for at least three months. <input type="checkbox"/> I have never been employed after arriving in this country. <input type="checkbox"/> I am self-employed/a business owner. <input type="checkbox"/> I am an asylum seeker. <input type="checkbox"/> I am a refugee with protection state. <input type="checkbox"/> Prefer not to say
6	How long have you been in this country?	<input type="checkbox"/> Less than a year <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
7	What is your gender?	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other <input type="checkbox"/> Prefer not to say
8	What was your highest level of educational attainment in the country you come from?	<input type="checkbox"/> No school-based education <input type="checkbox"/> Only able to read and write <input type="checkbox"/> Basic education <input type="checkbox"/> General upper secondary/high school education <input type="checkbox"/> Vocational upper secondary education <input type="checkbox"/> Master, Craftsman's/Technician <input type="checkbox"/> Vocational Course <input type="checkbox"/> Higher education <input type="checkbox"/> No answer <input type="checkbox"/> I did not receive any education in the country I come from.
9	What is the number of employees in the company/organisation you are employed?	<input type="checkbox"/> More than 250 <input type="checkbox"/> 10 to 250 <input type="checkbox"/> 1 to 10 <input type="checkbox"/> I am self-employed/working in my own.

Source: Authors' work.

Table 53: Skills and discrimination section of the survey used in the study, responses given on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree)

Item Nr.	Sub-section	Item
10	Willingness and opportunities for skill development	In this country, I can enrol in the training courses needed for my work if needed.
11		In this country, I would like to start my own business if I have the opportunity.
12		I came to this country to become better in my professional area.
13	Skill match/ mismatch	My current job fits well to my education I received in the country I come from.
14		In the country where I live now, I feel competent to do my work.
15		I needed additional job training to match my skills with my current work.
16		My job requires a lower level of education than I have.
17	Discrimination	I am NOT discriminated against as an immigrant.
18		I experience discrimination against my gender.
19		I experience discrimination against my ethnicity.
20		I experience discrimination because of the geographical region/ country I come from.

Source: Authors' work.

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ACRONYMS

2SLS	Two-Stage Least Squares
ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
AI	Artificial Intelligence
AMT	Amazon Mechanical Turk
ANAPEC	National Agency for Employment and Skills (Morocco)
ANSD	National Agency for Statistics and Demography
APA	American Psychological Association
AVRR	Assisted Voluntary Return and Integration
BA	Bundesagentur für Arbeit (Federal Agency of Employment, Germany)
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BMET	Bureau of Manpower, Employment and Training
BRAC	Bangladesh Rural Advancement Committee
BRD	Bureau for Diaspora Relations
CA	Central Asia
CCME	Council of the Moroccan Community Abroad
CEDEFOP	European Centre for the Development of Professional Training
COVID-19	Coronavirus Disease 2019
CPD	Centre for Policy Dialogue
DDI	Diaspora Direct Investment
DESI	Digital Economy and Society Index
DMD	Diaspora, Migration and Development
DMS	State Migration Service of Ukraine
DPE	Digital Platform Employment

EC	European Commission
EE	Eastern Europe
EFTA	European Free Trade Association
ESCO	European Skills, Competences, Qualifications and Occupation
ETF	European Training Foundation
ETUI	European Trade Union Institute
EU	European Union
EU17	Group of 17 EU and EFTA countries covered by the Eurostat pilot survey on Digital Platform Employment
EUDiF	EU Global Diaspora Facility
FDI	Foreign Direct Investment
FES	Friedrich-Ebert-Stiftung
FY	Fiscal Year
GAMM	Global Approach to Migration and Mobility
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GFEMS	Global Fund to End Modern Slavery
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)
GS4S	Global Strategy for Skills, Migration and Development
GSP	Global Skill Partnership
GVC	Global Value Chains
HEI	Higher Education Institutions
ICMPD	International Centre for Migration Policy Development
ICT	Information and Communication Technologies
ILO	International Labour Organisation
IO	International organisation

IOM	International Organization for Migration
IPA	Instrument for Pre-Accession Assistance
ISCO	International Standard Classification of Occupations
ISIC	International Standard Industrial Classification of All Economic Activities
IT	Information Technology
IV	Instrumental Variable
KIHS	Kyrgyz Integrated Household Survey
KII	Key Informant Interview
LFS	Labour Force Survey
LISA	Longitudinal Integrated Database for Health Insurance
MDCMRE	Ministry of Moroccans Living Abroad
MFA	Ministry of Foreign Affairs
MIGCOM	Migration and Competitiveness
MoEWOE	Ministry of Expatriates' Welfare and Overseas Employment
MoU	Memorandum of Understanding
NBKR	National Bank of the Kyrgyz Republic
NEET	Not in Employment, Education or Training
NGO	Non-governmental organisation
NSC KR	National Statistics Committee of the Kyrgyz Republic
NSDA	National Skills Development Authority
NSDP	National Skills Development Policy
NSDS	National Skills Development System
NSE	Non-Standard Employment
NSIA	National Migration and Asylum Strategy
NTVQF	National Technical and Vocational Qualifications Framework
ODA	Overseas Development Aid

OECD	Organisation for Economic Co-operation and Development
OKUP	Ovibashi Karmi Unnayan Program
OSCE	Organization for Security and Co-operation in Europe
PARE 1+1	Programme for Attracting Remittances into the Economy
PCD	Policy Coherence for Development
PKSF	Palli Karma-Sahayak Foundation
PSHTA	Prevention and Suppression of Human Trafficking Act
PW	Platform Work
RMG	Ready-Made Garments
RQ	Research Question
SDGs	Sustainable Development Goals
SEET	South Eastern Europe and Turkey
SEIP	Skills for Employment Investment Program
SEMED	Southern and Eastern Mediterranean
SICIP	Skills for Industry Competitiveness and Innovation Program
SMP	Skills Mobility Partnerships
TFEU	Treaty on the Functioning of the European Union
THAMM	Towards a Holistic Approach to Labour Migration Governance and Labour Mobility in North Africa
TTC	Technical Training Centre
TÜBİTAK	Scientific and Technical Research Council of Türkiye
TVET	Technical and Vocational Education and Training
UN	United Nations
UN DESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNHCR	Office of the United Nations High Commissioner for Refugees

USA	United States of America
USD	United States Dollar
VET	Vocational Education and Training
VIF	Variance Inflation Factor
WB	Western Balkans
WIIW	Vienna Institute for International Economic Studies
YÖK	Turkish Council of Higher Education
YTB	Presidency for Turks Abroad and Related Communities



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