



SCIENCE FOR POLICY BRIEF

Migration of Talent: Implications for Countries of Origin



HIGHLIGHTS

- International migration is skill-selective, which means that the propensity to emigrate is much higher for the high-skilled than for the low-skilled.
- While the emigration of talent can deprive migrant-sending countries of essential resources for sustainable development, migration prospects induce a beneficial additional skill accumulation in the vast majority of countries of origin.
- The emigration of talent triggers various positive feedback mechanisms that can foster economic and human development in countries of origin and reduce global inequality.
- Migration policy frameworks should focus on the multiple channels of development to ensure that migration provides mutual benefits for countries of origin and destination.

QUICK GUIDE

This Science for Policy Brief summarises the results of the research described in the scientific article: Cha'Ngom, N., Deuster, C., Docquier, F. and Machado, J. (2023). Selective Migration and Economic Development: A Generalized Approach. IZA Discussion Paper Series, n. 16222.

In contrast to the existing literature, this research develops a novel generalised approach that takes into account country-specific characteristics, unifies different mechanisms in a single approach and provides results that are fully comparable across countries at the global level.

INTERNATIONAL MIGRATION IS SELECTIVE

Migration from the origin-country perspective

The debate on the effects of international migration appears to be traditionally dominated by an exclusive focus on countries of destination, thereby neglecting an important side of the phenomenon of human mobility. This Science for Policy Brief seeks to address less well-documented aspects of migration. It adopts the perspective of the countries of origin and aims to highlight some of the potentially favourable development channels associated with mobility for migrant-sending regions. In particular, it discusses the implications of high-skilled emigration for countries of origin.

Larger emigration rates of college educated

When analysing the skill dimension of emigration, it is important to note that international migration is skill-selective. This means that in almost all countries of the world, the emigration rate of the high-skilled significantly exceeds that of the low-skilled. Over the past 30 years, the average global emigration rate of college graduates amounted to approximately five per cent, while about 1.5 per cent of the less-educated were emigrants. This difference in emigration rates was particularly pronounced in low-income countries, where the high-skilled emigration rate was around 18 times larger than the low-skilled emigration rate. Nearly one in five college graduates born in low-income countries live and work in a more developed country. This skill selectivity of migration has raised concerns about the implications of emigration for countries of origin.

BRAIN DRAIN VERSUS BRAIN GAIN

Migration may deprive countries of origin of talent

The emigration of the high-skilled can result in a substantial loss of vital human capital for migrant-sending countries. For decades, academics and policymakers have emphasised the negative aspects of a depletion of talent, the so-called 'brain drain'. An exodus of the best and the brightest essentially implies a reduction in resources that could drive economic growth, provide essential public services, or pave the way for sustainable social, political and economic development (Bhagwati and Hamada, 1974).

Emigration can stimulate skill accumulation

Nevertheless, the prospects of emigration pathways for the high-skilled increase the expected returns to investments in skill accumulation (Docquier and Rapoport, 2012). This means that the prospect to emigrate may encourage people to increase their efforts to acquire education. If this incentive effect is strong enough, it can provide a substantial stimulus for additional skill formation and compensate for the potentially higher number of high-skilled emigrants, so that the level of human capital in the countries of origin can exceed that observed in a scenario without migration. In the development economics literature, this latter phenomenon is commonly referred to as 'brain gain' ⁽¹⁾ and can in turn have sizable effects on income levels and welfare in countries of origin (Beine et al., 2001).

BENEFICIAL TRANSMISSION CHANNELS

Several additional feedback mechanisms

In addition to a positive stimulus effect of high-skilled migration, several other transmission mechanisms associated with migration have the potential to boost or restrain development in countries of origin. These additional feedback mechanisms are typically denoted as externalities, a term used within the discipline of economics to describe the indirect costs or benefits to an uninvolved third party. A wide range of these so-called externalities can be distinguished, reflecting the main feedback effects of emigration discussed in the existing literature (Docquier and Rapoport, 2012).

Talent contributes to productivity

Among the externality effects, technological externalities, which capture the additional contribution of human capital to productivity, have been extensively discussed in the literature. Several studies reveal that high-skilled individuals are crucial for supporting democratisation (Docquier et al., 2016) and facilitating innovation and technology diffusion when knowledge becomes economically useful (Ciccone and Papaioannou, 2009). Two education-driven externalities can be distinguished that represent these effects: an aggregate productivity externality and directed technical changes. The former externality reflects that the average productivity level rises with the availability of more talent, while the latter one captures the increase in productivity of high-skilled workers with the average skill level of the workforce.

⁽¹⁾ It should be noted that this definition differs from the 'brain gain' term defined by the European Migration Network (EMN) as the 'benefit to a country as a result of the immigration of a highly qualified person' (see EMN Glossary).

Diaspora effects

Furthermore, the literature shows that expatriate populations, the so-called diaspora, help to reduce transaction costs between countries and facilitate trade and foreign direct investment (Felbermayr et al., 2010). This means that the productivity of economies tend to increase with the size of the diaspora population residing abroad.

Public expenditures effects

Moreover, government policies in countries of origin have several financial consequences that can be described as fiscal externalities. First, education systems are dominated by public institutions. This is particularly the case in countries where the cost of education is largely subsidised by the state. In a situation where the benefits of skill accumulation are lost through emigration and the responsibility for financing education falls predominantly on taxpayers, skill-selective migration will generate a fiscal loss. Second, sharing among a larger number of taxpayers the cost of public goods and services, which by definition can be consumed simultaneously by multiple individuals without interference or depletion, decreases the per capita burden on individual taxpayers (Alesina and Spolaore, 1997).

The size of markets

By reducing aggregate income and consumption levels, selective migration also diminishes the total demand for goods and services in the countries of origin. In a world where international trade is subject to additional costs, this reduces both the number of entrepreneurs and the number of goods, which in turn has a decisive impact on price levels.

Effects of remittances

Emigrants send considerable amounts of money to family members or, in some cases, to institutions in their home countries (Rapoport and Docquier, 2006). The individual capacity to remit may be higher among the more educated emigrants, who tend to earn higher incomes at destination. These financial remittances raise income levels particularly in countries that send large numbers of skilled migrants abroad and that are often characterised by low levels of development.

Return and circular migration

Finally, it should be noted that temporary migration and brain circulation, which describes the circular movement of high-skilled workers between countries of destination and origin, might entail additional potentially positive effects of emigration (Dustmann and Görlach, 2016). If return migration rates are high and returning workers transfer complementary knowledge and technical skills between countries of destination and origin, the temporary migration and brain circulation channel may generate strong benefits, especially for countries of origin that are losing large shares of their population.

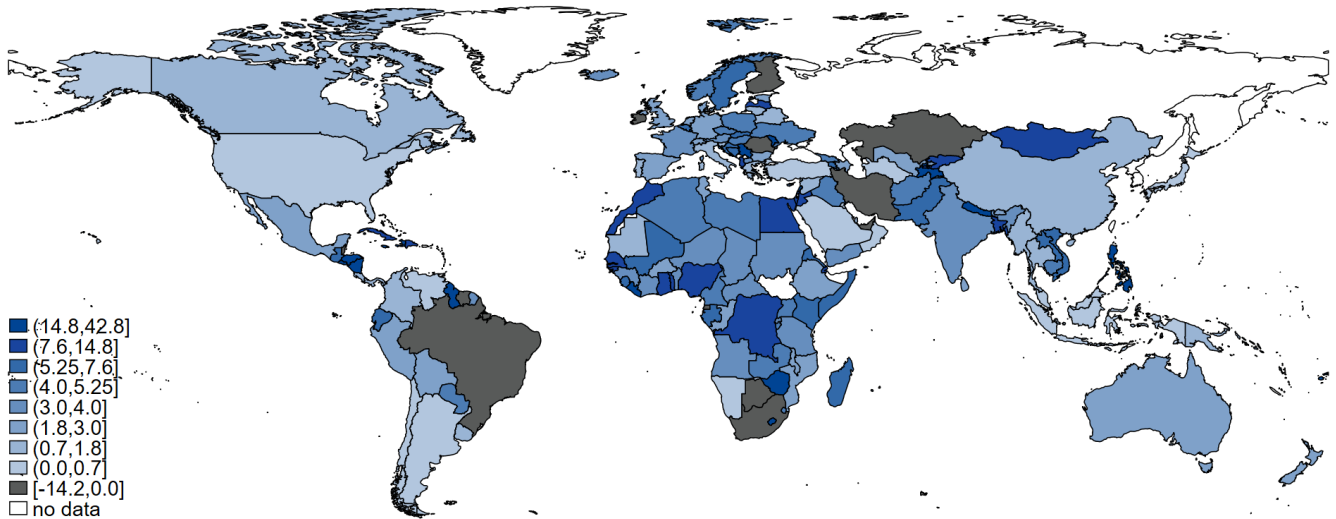
GENERALISED APPROACH TO STUDY IMPACTS OF MIGRATION

Model with country-specific effects

The multitude of transmission mechanisms described above indicates that the relationship between international migration and development in countries of origin is complex. We advance and contribute to the debate on the effects of selective migration by setting up an innovative micro-founded, multi-country, general equilibrium model that is particularly well suited for cross-country comparisons (Box 1). In economics, such equilibrium models are often used to analyse the interactions of different actors, such as consumers, producers and governments, within an entire economic system. We simulate an equilibrium of the global economic system under a hypothetical scenario without migration and compare the country-specific skill and per capita income levels of this scenario with the levels of a scenario reflecting the observed real world. This allows for the identification of winners and losers of skill-selective migration. In its most general configuration, the model shows that, from a welfare perspective, an overwhelming majority of countries worldwide benefit substantially from the prospects of skill-selective migration, with around 90 per cent of countries having higher per capita income levels in a world in which individuals have the opportunity to migrate internationally (Figure 1) ⁽²⁾. This provides substantive evidence for the validity of the 'brain gain' hypothesis.

⁽²⁾ In six small island states, losses in income levels exceed five per cent: Mauritius (-6.1 per cent), Barbados (-6.5 per cent), Trinidad and Tobago (-9.0 per cent), Saint Vincent and the Grenadines (-9.5 per cent), Grenada (-11.2 per cent) and Suriname (-14.2 per cent).

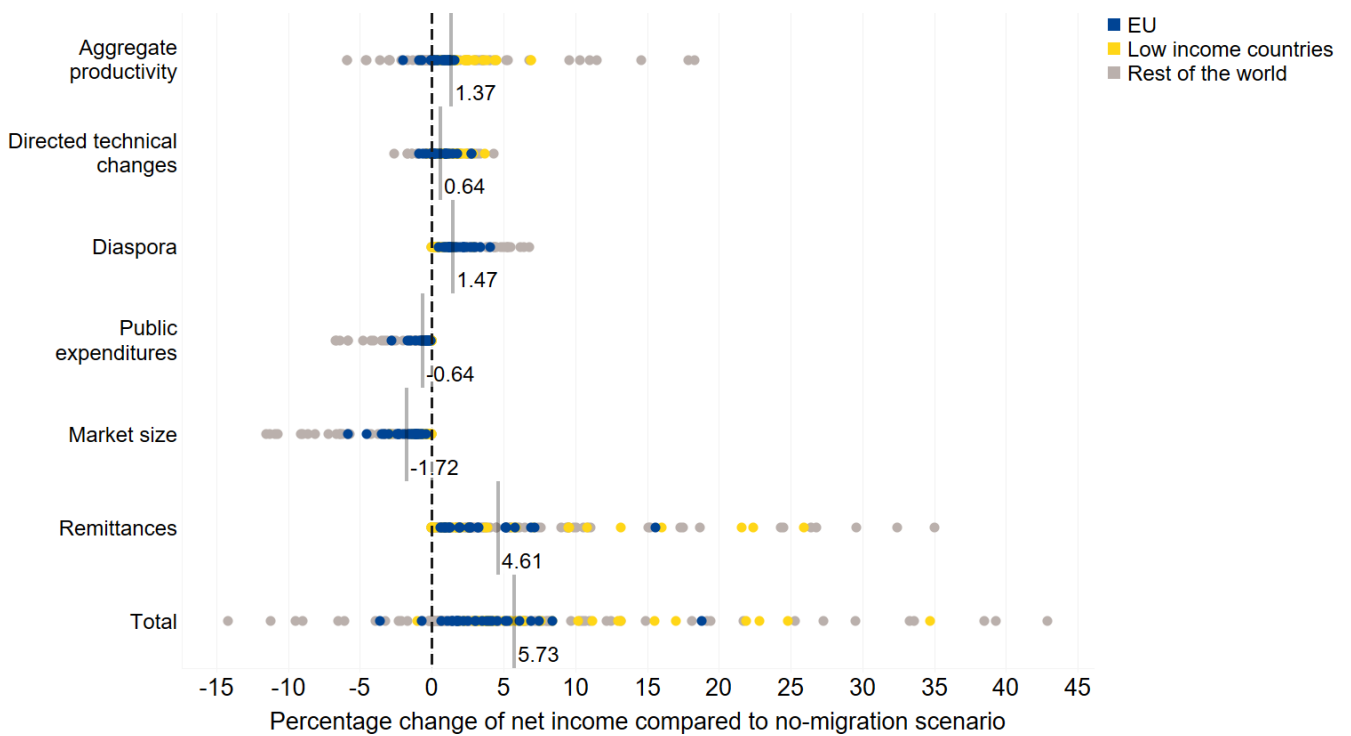
Figure 1 – Effect of selective emigration on disposable income by country



Source: Cha'Ngom et al. (2023).

Notes: This figure depicts the percentage change in per capita net income for each country, comparing values from a hypothetical no-migration scenario with values reflecting the actual state of the world. The map shows that a minority of around ten per cent of countries (dark grey) experience income losses due to skill-selective emigration, while around 90 per cent of countries (in blue) gain from emigration. Darker colours indicate a stronger effect.

Figure 2 – Effect of selective emigration on disposable income by specific channel



Source: Cha'Ngom et al. (2023).

Notes: This figure shows the percentage change in per capita net income for each country (the effect for each country is depicted by a small circle), comparing a hypothetical no-migration scenario with the values resulting from a simulation with specific externalities. The figure illustrates the effects for each of the transmission mechanism in isolation. Average effects are depicted as small vertical lines. For example, at the global level, the average net income level is 5.73 per cent higher with skill-selective migration than it would be without migration.

Box 1: Selective Migration and Economic Development: A Generalised Approach

We develop a novel model to assess the effects of high-skilled emigration on countries of origin. As opposed to existing models, our approach accounts for country-specific characteristics and relies on a consensus and state-of-the-art tool for analysing individual migration decisions, namely the Random Utility Model (RUM). This means that our model is micro-founded, i.e. it captures assumptions about individual behaviour and reflects the interactions of economic actors at the individual level. The model is calibrated using data on a total of 174 countries, thus providing a multi-country framework and simulating an equilibrium of the global economic system. It reconciles and extends existing empirical cross-country studies and allows for the investigation of the country-specific impact of skill-selective migration on development. In particular, our analysis provides the opportunity to distinguish the effects for each country of origin and incorporates multiple channels of development for countries of origin in a generalised framework. Consequently, unlike the findings of previous empirical studies, our results are fully comparable across countries.

For a detailed description of the advanced generalised approach and country level data by transmission channel, see Cha'Ngom et al. (2023).

Effects of feedback mechanisms

In addition to identifying country-specific outcomes, our compelling equilibrium framework enables us to account for the various additional transmission mechanisms described in the previous section. We assess the impact of each transmission mechanism on development and global income levels (Figure 2). As highlighted above, the percentage change in disposable per capita income is positive in the predominant majority of countries (right of the dashed line in Figure 2). Each of the transmission mechanisms discussed above can be observed in isolation, which shows the diverse effects of the externality channels on the economic development of countries of origin: technological externalities (ambiguous effects), diaspora effects (positive), public expenditure effects (negative), market size effects (negative) and the

effects of remittances (positive). The remittances externality is dominant in a large number of countries. On average, recorded remittances account for only three per cent of gross domestic product in less developed countries, but the results indicate that many countries benefit significantly from receiving monetary transfers from abroad.

IMPLICATIONS FOR POLICIES

Although migration is skill-selective and can therefore deplete countries of origin of vital talent for development, it has a stimulating effect on human capital formation. The overall effects are positive, meaning that migration supports human and economic development in the vast majority of countries worldwide. This suggests that cooperation policies between migrant-sending and -receiving countries that target the efficiency of higher education systems in countries of origin, as well as the expansion of legal migration pathways for talent, have the potential to significantly promote development and reduce global inequality. In addition, the various transmission mechanisms associated with emigration can have sizable beneficial effects on development. This indicates that international migration policy frameworks, such as the United Nations Global Compact for Migration, the European Union's New Pact on Migration and Asylum and the free movement within the European Union, should capitalise on these positive transmission channels and help mitigate the negative feedback effects. In particular, minimising the costs of sending remittances or strengthening policies that facilitate knowledge transfer can be part of an effective toolkit to support the ambitious goal of existing international migration policy frameworks to render migration beneficial for all: countries of destination, countries of origin and migrants themselves.

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