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# Emigration as a Growth Strategy

CHARLES KENNY

## Abstract

The model of manufacturing export-led growth followed by a number of countries in East Asia and beyond is becoming ever more complex to emulate. But new pathways to rapid growth for developing countries are emerging. Higher-income countries are seeing rapidly declining working-age populations, creating an increased demand for immigrants. Emigration is already a significant source of household income and human capital investment, and remittances are on a similar scale to manufactured export revenues for many countries. But for emigration to be a key element of a growth strategy requires harnessing migration for structural transformation, involving a focus on emigration to countries that can provide the needed skills, investment, and trade opportunities to accomplish that.

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## Emigration as a Growth Strategy

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# Introduction

The model of manufacturing export-led growth followed by a number of countries in East Asia and beyond is becoming ever more complex to emulate. Global value added in manufacturing exports as a percentage of global output was higher in 2007 than ten years later. If current trends in the forces determining manufacturing employment continue, there might be about 65 million fewer people working in manufacturing worldwide in 2050 than today.[1] Related to this, cheap, abundant labor is ever less a source of comparative advantage: the remaining manufacturing jobs are both increasingly high-skilled and require significant physical and institutional infrastructure related to just-in-time and value-chain production approaches.[2]

But new pathways to rapid growth for developing countries are emerging. The working age population of high-income countries, which was growing at about six million people per year as recently as 2008, is now declining by two million a year as lower birth rates coincide with an aging population. Add in upper-middle-income countries, and the working age population will decline 10 million per year by the 2030s. At the same time, retirees have especially high demand for services from hospitality and entertainment through health care. Given a declining domestic workforce, that demand will create considerable pressure for the import of services and service providers. This economic reality is increasingly accepted even by rich country governments elected on a platform opposed to global links.[3]

Manufacturing export-led growth used an external source of demand to generate employment in a sector that saw higher productivity. External demand for workers supplied through emigration can generate employment in already high-productivity economies. At that level there is some similarity between a manufacturing-led and an emigration-led growth strategy. This paper will explore the obvious differences, as well as the comparative scale of the two strategies, in an attempt to calibrate the potential for emigration-led growth and suggest policy directions.

Thinking of emigration as a growth strategy is different from thinking of it as a human right (Article 13 of the Universal Declaration) or a general global welfare-enhancing strategy. Both other approaches would take into account the preferences of people who migrate and the second would take into account impacts in destination countries. For emigration to be a tool for growth it has to benefit those who *don't* move. And for it to be a significant tool, the net benefit needs to be large, despite the undeniable fact that the greatest immediate share of the benefits of migration usually

1 Charles Kenny (2023) The Future of Global Development and Implications for Aid Speech at the Oxford Martin School.
2 Rodrik New Technologies, Global Value Chains, and Developing Economies https://www.nber.org/papers/w25164.
3 Charles Kenny (2023) The Future of Global Development and Implications for Aid Speech at the Oxford Martin School.

flows to the migrant.[4] This paper makes the case that this condition can be met with a supportive policy environment.

The past few decades have seen waves of excitement followed by pessimism regarding the role of emigration in development.[5] And it is certainly fair to say that, despite the often considerable benefits of migration to those who stay at home, alone it will not remove structural constraints that foster slow growth or stagnation.[6] Furthermore it is very likely that different types of migration in different contexts will have the greatest potential impact on development prospects. A large emigrant stock of unskilled farm labor might well have a significant level effect on welfare in origin countries but might not have a growth effect for example. Again, it is possible that excess high skilled emigration is not only a symptom but a cause of weaker development prospects. Any statement about a cause of growth should be conditional, and emigration is no exception.

In that regard the (manufactured) export led growth thesis is not universally accepted nor always empirically confirmed in cross-country analysis, with some evidence it is a symptom of a fast-growing economy rather than cause (see Figure 1).[7] Nonetheless, the paper tries to compare the scale of the potential opportunities presented by the emigration-led model to the manufactured export model.

The next sections discuss potential channels for emigration-led growth including remittances, domestic labor market effects, human capital dynamics, technology transfer, trade and investment linkages, and cultural remittances. The paper turns to estimates of the total scale of the potential opportunity and evidence of any actual relationship between emigration and growth. It then discusses the political plausibility of an emigration-based growth strategy from the perspective of destination countries, before suggesting some policy conclusions.

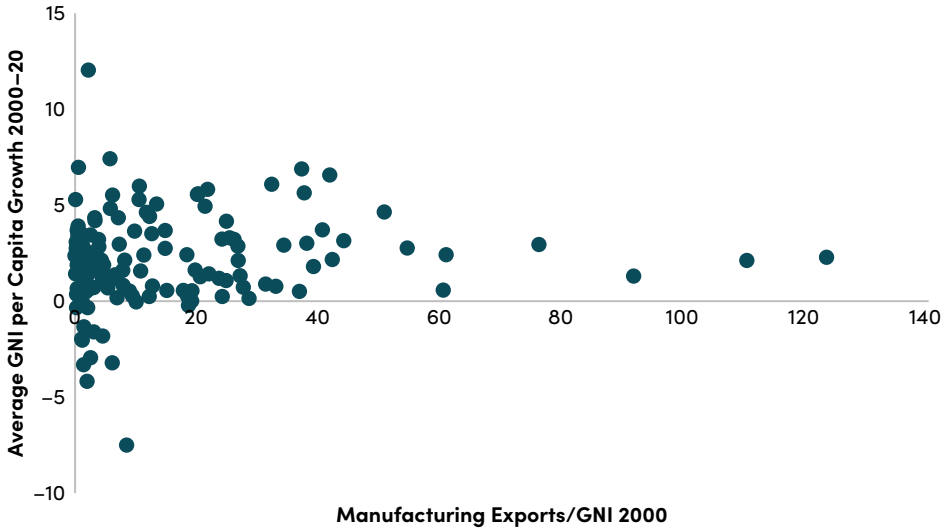
4 A study looking at top academic performers in high school from Tonga, the Federated States of Micronesia, Papua New Guinea, Ghana and New Zealand and tracking them down years later finds they stand to gain $40,000–75,000 per year from emigrating, provide remittances of $2,000–7,000, and trade and foreign direct investment effects which are at most of similar gross value to remittances. Batista, C., Han, D., Haushofer, J., Khanna, G., McKenzie, D., Mobarak, A. M., ... & Yang, D. (2025). Brain drain or brain gain? Effects of high-skilled international emigration on origin countries. *Science*, *388*(6749), eadr8861.

5 Gamlen, A. (2014). The new migration-and-development pessimism. *Progress in Human Geography*, *38*(4), 581–597.

6 De Haas, H. (2012). The migration and development pendulum: A critical view on research and policy. *International migration*, *50*(3), 8–25.

7 Sannassee, R. V., Seetanah, B., & Jugessur, J. (2014). Export-led growth hypothesis: A meta-analysis. *The Journal of Developing Areas*, *48*(1), 361–385. Hoekman, B., & Shepherd, B. (2017). Services productivity, trade policy and manufacturing exports. *The World Economy*, *40*(3), 499–516. Szirmai, A., & Verspagen, B. (2015). Manufacturing and economic growth in developing countries, 1950–2005. *Structural change and economic dynamics*, *34*, 46–59. Lodefalk, M. (2014). The role of services for manufacturing firm exports. *Review of world Economics*, *150*(1), 59–82. Dreger, C., & Herzer, D. (2013). A further examination of the export-led growth hypothesis. *Empirical Economics*, *45*(1), 39–60. Herrendorf B. et al. (2026) Unconditional Convergence in Manufacturing: A Reassessment American Economic Review: Insights, forthcoming.

**FIGURE 1. Manufacturing exports and growth 2000–2020**




*Data Source:* World Development Indicators (TX.VAL.MANF.ZS.UN, TX.VAL.MRCH.CD.WT, NY.GNP.MKTP.CD, NY.GNP.PCAP.KD.ZG).

## Why might emigration lead to growth?

There are three main mechanisms by which emigration could lead to growth: remittances (both financial and cultural), domestic labor market effects including the effect on stocks of human capital and skills (brain gain, drain and circulation), and trade and investment links.

### Remittances

Remittances are certainly macroeconomically significant for many countries. In Lebanon, Tajikistan, Honduras and Nepal, remittances account for more than a fifth of national income, and they account for about one-third of capital inflows to low- and middle-income countries as a whole.[8]

A considerable number of studies across Africa, Latin America and Asia suggest remittances reduce the depth and severity of poverty. In Nepal, climbing remittances may have accounted for as much as 40 percent of the decline in poverty rates between 2001 and 2011.[9] There is also evidence they help cushion income shocks, increase savings, support education and health spending (and through that human capital and health outcomes), and finance entrepreneurship.[10] Remittances to Mexico, for example, stimulate economic activity and employment, improve infant health and decrease infant mortality.[11]

8 World Bank (2023). World Development Report 2023: Migrants, Refugees and Societies Washington DC World Bank.
9 World Bank (2023). World Development Report 2023: Migrants, Refugees and Societies Washington DC World Bank.
10 Ratha, D., Mohapatra, S., & Scheja, E. (2011). Impact of migration on economic and social development: A review of evidence and emerging issues. *World Bank policy research working paper*, (5558).
11 De Haas, H., & Vezzoli, S. (2010). Migration and development: Lessons from the Mexico-US and Morocco-EU experiences.

Remittances data is subject to considerable measurement error, with much of the recent apparent increase in flows due to changes in measurement approaches. Regardless, panel data likely has too little power to detect the growth effects of remittances (even) accurately measured and any impact of remittances will be masked by the fact that emigration simultaneously raises remittances and reduces the size of the origin country labor force.[12] With those significant caveats, recent meta-analysis suggests the mean effect of remittances on overall recipient country growth is positive but small. There is disputed analysis that remittances have a greater impact on growth in countries with less developed financial systems by overcoming liquidity constraints, and similarly disputed evidence of a greater impact of remittances in the presence of FDI and strong institutions.[13]

An illustrative example from the literature is that a 10 percent permanent increase in remittances per capita increases GDP per capita by 0.13 percent.[14] A second study (looking at remittances on GDP) suggests the effect is 0.66 percent.[15] The second study also finds heterogenous impact: in countries where the increase in remittances is associated with an increase in investment, there is a greater impact on output. The estimated range across countries is from about −5 percent to 6 percent.

Remittances can involve more than money. Migration can also involve the transmission of norms. Remittances from Filipino migrants are related to measured government effectiveness at the provincial level, while a number of studies suggest political and gender norms in destination countries are transmitted to origin countries.[16]

12 Clemens, M. A., & McKenzie, D. (2018). Why don't remittances appear to affect growth?. *The Economic Journal*, *128*(612), F179–F209.

13 Cazachevici, A., Havranek, T., & Horvath, R. (2020). Remittances and economic growth: A meta-analysis. *World development*, *134*, 105021. See also World Development Report 2023 see also: Gapen, M. T., Chami, M. R., Montiel, M. P. J., Barajas, M. A., & Fullenkamp, C. (2009). *Do workers' remittances promote economic growth?* (No. 2009/153). International Monetary Fund. Ratha, D., Mohapatra, S., & Scheja, E. (2011). Impact of migration on economic and social development: A review of evidence and emerging issues. *World Bank policy research working paper*, (5558). Ekanayake, E. M., & Moslares, C. (2020). Do remittances promote economic growth and reduce poverty? Evidence from Latin American countries. *Economies*, *8*(2), 35. Perez-Saiz, H., Dridi, M. J., Gursoy, T., & Bari, M. (2019). *The impact of remittances on economic activity: the importance of sectoral linkages*. International Monetary Fund.

14 Christian Nsiah & Bichaka Fayissa, 2013. "Remittances and economic growth in Africa, Asia, and Latin American-Caribbean countries: a panel unit root and panel cointegration analysis," *Journal of Economics and Finance*, vol. 37(3), pages 424–441, July.

15 Francois, John Nana and Ahmad, Nazneen and Keinsley, Andrew and Nti-Addae, Akwasi, Heterogeneity in the Long-Run Remittance-Output Relationship: Theory and New Evidence (May 5, 2022). Economic Modelling, Vol. 110, May 2022, Available at SSRN: https://ssrn.com/abstract=4027593 or http://dx.doi.org/10.2139/ssrn.4027593.

16 World Development Report 2023 p. 135 Spilimbergo, A., 2009. Foreign students and democracy. American Economic Review 99, 528543. Docquier, F., Lodigiani, E., Rapoport, H., Schif, M., 2016. Emigration and democracy. *Journal of Development Economics*, 120, 209–223. Chauvet, L., & Mercier, M. (2014). Do return migrants transfer political norms to their origin country? Evidence from Mali. *Journal of Comparative Economics*, *42*(3), 630–651. Batista, C., Seither, J., & Vicente, P. C. (2019). Do migrant social networks shape political attitudes and behavior at home?. *World Development*, *117*, 328–343. Barsbai, T., Rapoport, H., Steinmayr, A., & Trebesch, C. (2017). The effect of labor migration on the diffusion of democracy: evidence from a former Soviet Republic. *American Economic Journal: Applied Economics*, *9*(3), 36–69.

## Sending country labor market effects

There is strong historical evidence from Europe that migration to the US 1870-1910 was associated with higher wages in sending countries. In Mexico, regions with a 10 percentage point higher share of emigrants than others in 1950 had wages that were 7–8% higher 50 years later. Workers with skills similar to emigrants gained, workers with different skill sets often lost in relative terms.[17] This suggests the potential risk that emigration could price labor out of export markets if emigration doesn't also lead to higher productivity. The good news is that we will see there is some evidence of such productivity effects, not least through human capital accumulation.

## Human capital accumulation/brain gain

Analysis of the Indian IT boom finds that students and workers in India acquired computer science skills to join the US IT industry. As the number of US visas was capped, many remained in India, which (combined with trade and investment links with the diaspora in the US and return migrants) enabled the growth of an Indian IT sector that eventually surpassed the US in IT exports.[18]

Again, migration from Malawi to South African mines encouraged children in communities with the easiest access to migrant jobs to stay in school longer, and those kids were subsequently more likely to move into services.[19] The number of nurses in the Philippines between 2000–6 was reduced because 27,000 due to emigration to US but 114,000 new nurses were licensed in that period and the number was so high in part because of the possibility to migrate—one estimate is that for each nurse migrant, nine additional nurses were licensed in the country.[20] More broadly, emigration from the Philippines increased domestic income, education levels, migrant skills, and later high-skilled migration. Almost three quarters of long-run income gains from emigration came from

17 Elsner, B. (2022). Does emigration increase the wages of non-emigrants in sending countries. *IZA World of Labor.*

18 The IT Boom and Other Unintended Consequences of Chasing the American Dream* Gaurav Khanna† Nicolas Morales† December 2024.

19 Dinkelman, T., & Mariotti, M. (2016). The long-run effects of labor migration on human capital formation in communities of origin. *American Economic Journal: Applied Economics*, *8*(4), 1–35. Dinkelman, T., Kumchulesi, G., & Mariotti, M. (2024). Labor migration, capital accumulation, and the structure of rural labor markets. *Review of Economics and Statistics*, 1–46. See also Batista, C., Lacuesta, A., & Vicente, P. C. (2012). Testing the 'brain gain' hypothesis: Micro evidence from Cape Verde. *Journal of Development Economics*, *97*(1), 32–45. See also: Shrestha, S. A. (2017). No man left behind: Effects of emigration prospects on educational and labour outcomes of non-migrants. *The Economic Journal*, *127*(600), 495–521. Also: Satish Chand & Michael A. Clemens, 2008. "Skilled emigration and skill creation: A quasi-experiment," International and Development Economics Working Papers idec08-05, International and Development Economics.

20 Abarcar, Paolo, and Caroline Theoharides. "Medical worker migration and origin-country human capital: Evidence from us visa policy." *Review of Economics and Statistics,* 106.1 (2024): 20–35.

domestic rather than migrant income, driven by human capital accumulation[21] Similarly, the African diaspora as a whole contributes significantly to income growth in Africa, the effect increases with the level of education of emigrants and runs mainly through origin country gains in human capital and productivity.[22] Global evidence regarding migration to OECD countries suggest a 'brain gain' effect that is most significant in the poorest countries.[23]

## Brain drain

Evidence of a domestic human capital investment response to migration opportunities suggests that much like the politics of immigration is dogged by the lump of labor fallacy, that of emigration is dogged by the lump of skill fallacy. Overall, for the considerable majority of countries and especially low-income countries, high-skill migration is associated with better economic outcomes from productivity through remittances and income.[24]

Nonetheless, on occasion skills *can* have lumpen characteristics. There is not always an education investment response to emigration opportunities, especially where markets don't operate well. For example, the limited evidence of a physician supply response in Sub-Saharan Africa to emigration may be because most physician education is publicly provided.[25]

There can also be a negative short-term effect of emigration on sending country firms and innovation.[26] Emigrants tend to be entrepreneurial, young, and better educated, and so their exit

21 Batista, C., Han, D., Haushofer, J., Khanna, G., McKenzie, D., Mobarak, A. M., ... & Yang, D. (2025). Brain drain or brain gain? Effects of high-skilled international emigration on origin countries. *Science*, *388*(6749), eadr8861. Khanna, G., Murathanoglu, E., Theoharides, C. B., & Yang, D. (2022). *Abundance from abroad: Migrant income and long-run economic development* (No. w29862). National Bureau of Economic Research.

The Philippines also suggests emigration can provide an escape valve for excess human capital. The government explicitly fostered emigration as a strategy to respond to a growing pool of highly educated workers produced by private institutions that the domestic labor market was unable to absorb. In 1975, 86 percent of students enrolled in higher education were enrolled at private schools. Already by the late 1960s unemployment rates were highest for high school graduates and those with some college education. Tertiary-educated workers made up about two thirds of the total Philippine workforce abroad, despite that the considerable majority were production process workers, transport equipment operations and laborers (in particular shipping) and service workers rather than employed in professional, technical, managerial, clerical or sales employment. Domestic helper positions filled by Philippines emigrees with tertiary education reached 37.5 percent in 2002 (and still better paid than staying at home). Ruiz, N. G. (2014). *Made for export: Labor migration, state power, and higher education in a developing Philippine economy* (Doctoral dissertation, Massachusetts Institute of Technology).

22 Gnimassoun, B., & Anyanwu, J. C. (2019). The diaspora and economic development in Africa. *Review of World Economics*, *155*(4), 785–817. See also: Chand, S., & Clemens, M. A. (2023). Human capital investment under exit options: Evidence from a natural quasi-experiment. *Journal of Development Economics*, *163*, 103112.

23 Cha'Ngom, N., Deuster, C., Docquier, F., & Machado, J. (2025). Selective migration and economic development: A generalized approach. *International Economic Review*, *66*(4), 1713–1732. See also Kosack, E. (2021). Guest worker programs and human capital investment: The bracero program in Mexico, 1942–1964. *Journal of Human Resources*, *56*(2), 570–599.

24 Cha'Ngom, N., Deuster, C., Docquier, F., & Machado, J. (2024). Migration of Talent: Implications for Countries of Origin.

25 Docquier, F. (2014). The brain drain from developing countries. *IZA world of labor.*

26 On innovation see Agrawal, A., Kapur, D., McHale, J., & Oettl, A. (2011). Brain drain or brain bank? The impact of skilled emigration on poor-country innovation. *Journal of Urban Economics*, *69*(1), 43–55.

can be associated with lower local entrepreneurial activity—although there is evidence that a larger emigrant stock can also increase origin country innovation.[27]

Brain drain should only be a concern at very high levels of emigration where it is plausibly a significant factor in the total level of human capital stocks at origin.[28] This is largely a phenomenon of small island states. For example, a majority of Caribbean countries may have seen more than 50 percent of their tertiary-educated population emigrate.[29] But once again, this is a larger problem if there is not a supply response and if the answer to the question 'what would they be doing if they weren't abroad?' is 'something highly productive.' Evidence from the Caribbean points to very high youth unemployment including amongst college graduates, suggesting that this may not be the answer.[30]

Similarly there is a question of the impact on domestic health outcomes of African doctor emigration, given what is known about the quality of diagnosis and treatment offered by doctors in many African countries.[31] As with emigration in general, a worryingly high skilled emigration rate is more plausibly a symptom than a cause of slower growth.

In 2016, IMF researchers argued that the skill-biased emigration from Eastern Europe (and limited return migration) after joining the EU marginally slowed growth and convergence in some of those countries 1995–2012 through lost productivity growth and the Dutch disease impact of remittances. That said, the study ignored diaspora impacts beyond remittances, and certainly convergence has occurred.[32] In 2008, the average Romanian worker earned 64 percent less than the average worker in Germany, that had shrunk to 51 percent by 2018.[33] More broadly, recent analysis suggests the countries that joined the EU in 2004 (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania,

27 Anelli, M., Basso, G., Ippedico, G., and Peri, G. (2023). Emigration and entrepreneurial drain. American Economic Journal: Applied Economics, 15(2):218–252. But see: Fackler, T. A., Giesing, Y., & Laurentsyeva, N. (2020). Knowledge remittances: Does emigration foster innovation?. *Research policy*, *49*(9), 103863.

28 Clemens, M. (2016). Losing our minds? New research directions on skilled emigration and development. *International Journal of Manpower*, *37*(7), 1227–1248. N. Cha'Ngom, C. Deuster, F. Docquier, J. Machado, "Selective migration and economic development: A generalized approach" (IZA working paper, 2023) World Bank WDR2023 p. 138.

29 Docquier, F., and A. Marfouk, 2005, "International Migration by Educational Attainment (1990–2000)," *Dataset Release 1.1.* (Washington: World Bank).

30 https://oecs.int/en/component/content/article/the-dark-cloud-of-youth-unemployment.

31 Ashley Sheffel, Kathryn G Andrews, Ruben Conner, Laura Di Giorgio, David K Evans, Roberta Gatti, Magnus Lindelow, Jigyasa Sharma, Jakob Svensson, Waly Wane, Anna Welander Tärneberg, Human resource challenges in health systems: evidence from 10 African countries, *Health Policy and Planning*, Volume 39, Issue 7, August 2024. Di Giorgio L, Evans DK, Lindelow M, Nguyen SN, Svensson J, Wane W, et al. Analysis of clinical knowledge, absenteeism and availability of resources for maternal and child health: a cross-sectional quality of care study in 10 African countries. *BMJ Global Health*. 2020;5:e003377. Conner, Ruben; Gatti, Roberta; Andrews, Kathryn; Avitabile, Ciro; Sharma, Jigyasa; Yi Chang, Andres. 2021. The Quality of Health and Education Systems Across Africa: Evidence from a Decade of Service Delivery Indicators Surveys. World Bank. Although see Okeke, E. N. (2023). When a doctor falls from the sky: The impact of easing doctor supply constraints on mortality. *American economic review*, *113*(3), 585–627.

32 Atoyan, M. R., Christiansen, L. E., Dizioli, A., Ebeke, M. C., Ilahi, M. N., Ilyina, M. A., ... & Zakharova, M. D. (2016). *Emigration and its economic impact on Eastern Europe*. International Monetary Fund. See also Giesing, Y., & Laurentsyeva, N. (2017). *Firms left behind: Emigration and firm productivity* (No. 6815). CESifo Working Paper.

33 Dorn, D., & Zweimüller, J. (2021). Migration and labor market integration in Europe. *Journal of Economic Perspectives*, *35*(2), 49–76.

Malta, Poland, Slovakia, and Slovenia) saw their GDP per capita double in the fifteen years afterwards, and that joining the EU alone accounts for about 32 percent of that 100 percent increase.[34]

## Brain circulation

In part this convergence will be because emigrants frequently return, often with valuable skills, knowledge and/or finance to start a business.[35] A U.S. program started in 1903 supported a small group of Filipino nurse graduates to study in the U.S. and return to the Philippines to assume faculty positions. This return migration was essential to build the local nursing industry. Post-war the nursing curriculum was changed to more closely match international standards, and the system expanded so that by 1998 there were 175 nursing schools graduating more than 9,000 students per year—as we have seen, many of those nurses then travel abroad to provide care.[36]

Similarly, return migration from the US to Mexico led to a significant shift in workforce distribution toward the manufacturing sector, increased per capita income, improved access to health care services, improvement in literacy, school attendance, and school completion rates.[37]

Return migration certainly doesn't always work to promote structural transformation: indeed, many Philippine returnees appear to have brought back skills that largely weren't useful to the local economy and ended up operating small businesses.[38] Similarly, in the late 1990s in Morocco, 41 percent of return migrants entered commerce, services or transportation. And 39 percent were self employed, having used their earnings from abroad to set up small businesses.[39] There is evidence migration and remittances improved living conditions, income, and educational outcomes, but they had limited impact on broader transformation toward higher productivity.[40]

Again, Turkey has had large scale labor migration agreements with Germany since the 1960s, and by the late 1960s as many as half a million workers travelled through official channels each year. Remittances reached above $2bn a year by 1980s. But returnees largely ended up farming, retail or transport, with limited evidence of investment in businesses that could scale.[41]

34 Basile Grassi (2024) The EU Miracle: When 75 Million Reach High Income, Bocconi University.

35 Bossavie, L., Görlach, J. S., Özden, Ç., & Wang, H. (2025). Temporary migration for long-term investment. *Journal of Development Economics*, *174*, 103360.

36 Ruiz, N. G. (2014). *Made for export: Labor migration, state power, and higher education in a developing Philippine economy* (Doctoral dissertation, Massachusetts Institute of Technology).

37 Bucheli, J. R., & Fontenla, M. (2025). The impact of return migration on economic development. *Review of Economics and Statistics*, *107*(2), 393–407.

38 Castles, S. (2000). The impacts of emigration on countries of origin. *Local dynamics in an Era of globalization: 21st century catalysts for development*, 45–57.

39 Ninna Nyberg Sorensen 2004 Migrant Remittances as a Development Tool: The Case of Morocco MIGRATION POLICY RESEARCH Working Papers Series.

40 De Haas, H., & Vezzoli, S. (2010). Migration and development: lessons from the Mexico-US and Morocco-EU experiences.

41 Castles, S. (2000). The impacts of emigration on countries of origin. *Local dynamics in an Era of globalization: 21st century catalysts for development*, 45–57.

The impact of return migrants likely depends considerably on what skills they left with and acquired, as well as the domestic opportunity to use such skills on return. For example, in the 1990s, 62 per cent of return migrants to Morocco were over fifty years of age, 53 per cent had little formal education, and many had originated from the agricultural sector and worked in that sector abroad. They would be unlikely candidates to foster a manufacturing boom.

## Trade and investment links

Conversely, India's experience with IT, which combined skilled emigration to the US, a domestic supply response creating a stronger human capital base for an IT industry in India, and return migration, provided the basis for significant investment from US based firms in the Indian IT sector and rapidly growing trade in IT and IT enabled services.[42] Similarly, the Bangladesh garment industry in part grew out of Bangladeshi workers going to South Korea to work in the garment industry and then returning home (alongside South Korean investment) to create a similar industry in Bangladesh.[43]

This linkage between (skilled) migration, return investment and export growth apparently holds more broadly. The share of foreign direct investment that low and middle income countries receive from the United States is strongly associated with the stock of college graduates from each country present in the United States.[44] Countries with more emigrants in the US producing patents see faster manufacturing growth at home,[45] and migration is linked to future exports to destination countries.[46] Again, a stock of skilled emigrants working in a country that exports a certain product is associated with an increased chance that the home country will start exporting that good.[47]

Overall the evidence suggests that emigration is reliably associated with poverty reduction and investments in human capital, while (especially) skilled (circular) migration to higher-income countries can be associated with structural transformation if conditions in the origin country are conducive.

42 Kapur, D. (2002). The causes and consequences of India's IT boom. *India review*, *1*(2), 91–110. Choudhury, P. (2016). Return migration and geography of innovation in MNEs: A natural experiment of knowledge production by local workers reporting to return migrants. *Journal of Economic Geography*, *16*(3), 585–610.

43 https://www.npr.org/sections/money/2013/12/05/247360903/nixon-and-kimchee-how-the-garment-industry-came-to-bangladesh.

44 Javorcik, B. S., Özden, Ç., Spatareanu, M., & Neagu, C. (2011). Migrant networks and foreign direct investment. *Journal of development economics*, *94*(2), 231–241. See also: Mayda, A. M., Parsons, C., Pham, H., & Vézina, P. L. (2022). Refugees and foreign direct investment: Quasi-experimental evidence from US resettlements. *Journal of Development Economics*, *156*, 102818.

45 Kerr, W. R. (2008). Ethnic scientific communities and international technology diffusion. *The Review of Economics and Statistics*, *90*(3), 518–537.

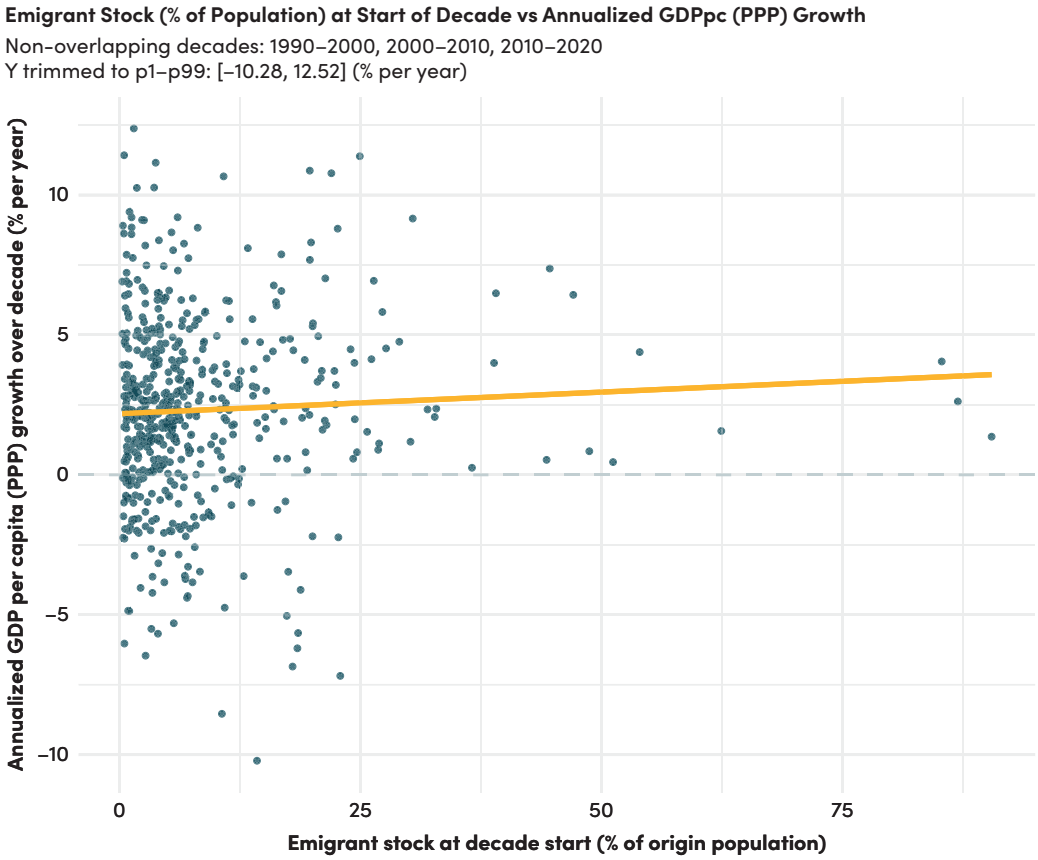
46 Rapoport, H. (2016). Migration and globalization: what's in it for developing countries?. *International Journal of Manpower*, *37*(7), 1209–1226. Parsons, C., & Vézina, P. L. (2018). Migrant networks and trade: The Vietnamese boat people as a natural experiment. *The Economic Journal*, *128*(612), F210–F234. Also returning migrants: Bahar, D., Hauptmann, A., Özgüzel, C., & Rapoport, H. (2024). Migration and knowledge diffusion: The effect of returning refugees on export performance in the former Yugoslavia. *Review of Economics and Statistics*, *106*(2), 287–304.

47 Bahar, D., & Rapoport, H. (2018). Migration, knowledge diffusion and the comparative advantage of nations. *The Economic Journal*, *128*(612), F273–F305.

# Growth potential

While being able to export manufactures at scale is a sign that key domestic markets are operating reasonably efficiently,[48] a large diaspora sometimes signals the reverse: a failed state or conflict situation, for example. The cross-country relationship between emigration and growth is likely to be particularly contingent and complex, and indeed the simple cross-country relationship is weak (Figure 2). This section looks at existing evidence of the migration-growth link, discusses the potential scale compared to manufacturing, and asks if higher-skilled migration to high income destinations might be more consistently associated with subsequent growth.

**FIGURE 2. Emigrant stock vs. GDP per capita growth**




*Data Sources:* See Appendix 1.

## More migrants = more growth?

To take one example, by the 1990s, the Philippines had four million residents abroad, with about half a million recruited each year and 16 percent of households receiving remittances.[49] Today about one in

48 Khandelwal, A. (2025) Trade and Development in a Fracturing World. NBER Working Paper 34333.

49 Castles, S. (2000). The impacts of emigration on countries of origin. *Local dynamics in an Era of globalization: 21st century catalysts for development*, 45–57.

ten of the population lives abroad.[50] At the same time, the country hardly screams development success in a region of miracle countries. Indeed, the 'Philippines Economic Mystery' is that of slow growth more akin to Latin America than East Asia (though note a historical a legacy that shares some Latin American features).[51] While the existing empirical evidence suggests emigration can be a force for growth it is hardly overwhelming.

Shift-share analysis suggests that on average emigration has had a negative and statistically significant impact on contemporaneous GDP growth across the Latin America and Caribbean region, while remittances (only) partially mitigate that effect.[52] Even analysis of the impact of migration based on a growth accounting approach that allows for the stimulation of human capital in the origin country suggests that most economies see an income gain from migration (only) in the region of between 0–20 percent.[53]

Nonetheless, there are reasons to believe the emigration prospect could be large if grasped correctly. Migration as a whole is a multi-trillion dollar opportunity with open borders having the potential to double the size of the global economy—even if the lion's share of the benefits went to those who moved, it suggests considerable potential for the countries that they migrate from.[54] Migration within countries and the EU demonstrates movement can be a significant force for income convergence, while case studies including Indian IT and Bangladesh garments suggest migration could help support structural transformation[55] And the forthcoming global demographic transition suggest the potential for hundreds of millions of unfilled jobs in wealthy countries.[56]

## Manufacturing for export versus migration

Take two cases (Table 1). In the first a multinational enterprise based in a rich country invests in manufacturing for exports in a poor country employing 100 workers. In the second, 100 workers migrate from the poor to the rich country. What are the effects? In the first, labor productivity rises thanks to the capital infusion (FDI) and additional jobs but remains low due to generally low

50 https://www.migrationpolicy.org/article/philippines-beyond-labor-migration-toward-development-and-possibly-return.

51 Nelson, R. H. (2010). (DP 2007–09) The Philippine Economic Mystery. *UPSE Discussion Papers*.

52 Carare, M. A., Baratas, A. F., Kilembe, J., Hadzi-Vaskov, M., & Zhang, W. (2024). *The Joint Effect of Emigration and Remittances on Economic Growth and Labor Force Participation in Latin America and the Caribbean*. International Monetary Fund.

53 Cha'Ngom, N., Deuster, C., Docquier, F., & Machado, J. (2023). Selective migration and economic development: A generalized approach. *International Economic Review*.

54 Clemens, M. A. (2011). Economics and emigration: Trillion-dollar bills on the sidewalk?. *Journal of Economic perspectives*, *25*(3), 83–106.

55 Ganong, P., & Shoag, D. (2017). Why has regional income convergence in the US declined?. *Journal of Urban Economics*, *102*, 76–90.

56 Kenny, C. Global Mobility: Confronting A World Workforce Imbalance CGD Note September 2021.

TFP in poorer countries.[57] This is reflected in low wages (as low as $1.50 per day in some cases).[58] The investment produces exports but also profit repatriation. There is the potential to tax profits and wages, and the investment likely involves technology transfer.[59]

In the second case of migration, the worker becomes far more productive—with wages increasing by as much as eightfold between poor and rich countries.[60] Perhaps 15 percent of that is sent back to countries of origin on average, suggesting that remittances can be worth more than the wages workers would earn at home in a factory.[61] Home labor productivity may increase if migration reduces the level of under/unemployment. There is no direct effect on exports, FDI, profit repatriation or technology transfer although we have seen there can be large indirect effects as trade, investment and technology linkages are strengthened by migration. Any tax impact depends on taxing remittance income.

This all suggests the investment is likely to have a much larger positive impact on trade while migration may have the larger impact on secondary income accounts. The direct effect on domestic output will clearly be larger with movement of capital, but the impact on national income might be a similar order of magnitude in the two cases. Spillover impacts on country productivity are likely to be greater with the movement of capital in the short term, but the long-term impact may depend on the nature of the investment and of the migration.

**TABLE 1. Receiving capital versus sending people as a source of growth**

| Low (Total Factor) Productivity Country | High (Total Factor) Productivity Country |
|---|---|
| **Labor ← Capital** | |
| Increased labor productivity<br>Worker Wages (low)<br>Rising exports<br>Rising FDI and profit repatriation<br>Tax revenue<br>Technology transfer | Capital returns |
| **Labor → Capital** | |
| Increased labor productivity?<br>Increased income<br>Rising remittances<br>Static FDI and profit repatriation?<br>Tax revenues?<br>Technology transfer | Worker wages (high) |

57 Hall, R. E., & Jones, C. I. (1999). Why do some countries produce so much more output per worker than others?. *The quarterly journal of economics*, *114*(1), 83–116.

58 Yan, H., & Sautman, B. (2023). China, Ethiopia and the Significance of the Belt and Road Initiative. The China Quarterly, 1–26.

59 Rodrik, D. (2013). Unconditional convergence in manufacturing. *The quarterly journal of economics*, *128*(1), 165–204.

60 Clemens, M. A., Montenegro, C. E., & Pritchett, L. (2008). The place premium: wage differences for identical workers across the US border. *World Bank policy research working paper*, (4671).

61 https://www.un.org/sw/desa/remittances-matter-8-facts-you-don%E2%80%99t-know-about-money-migrants-send-back-home.

How does the overall scale of migration compare to manufacturing for export? The Kenyan government has set the goal of sending a million workers abroad each year compared to a labor force of about 35 million—or about three percent of the workforce.[62] In 1970, about a decade into South Korea's three decade export-led boom, about 19 percent of manufacturing employment was generated by exports, or about 275,000 jobs out of a total 9.6 million employed—3 percent of the total.

Meanwhile manufacturing value added growth due to export expansion directly accounted for about 8 percent of total South Korean GNI growth over the period 1955–68. Domestic value added of Korea's manufactured exports was about 50 percent and exports as a percent of GDP 18 percent, suggesting value added in manufactured exports in GNI was about 9 percent.[63] For 34 countries remittances in 2023 were worth more than nine percent of GNI.

The World Development Indicators have 2023 data on both manufactured exports as a percentage of GDP and remittances received as a percentage of GDP for 154 countries. Table 2 provides some data and analysis on this country sample with the caveat that the manufacturing export data is not value added. I use below median and above mean to illustrate the lower and upper end of the distributions in a sample where the two are some distance apart because of positive outliers.

While both the mean and median value for remittances is about one third of that for manufactured exports, for 37 percent of countries, remittances as a percent of GDP are larger than manufactured exports. On that measure, especially allowing for the fact that the export data is not value added, remittances appear to be of a not dissimilar scale.

Table 2 also suggests that there is somewhat of a bifurcation: countries seeing high remittance flows do not see high manufactured export flows and vice versa. Countries with above-mean remittances see manufactured exports worth 8.8 percent of GDP as compared to 14 percent for the full sample. Countries with above-mean manufactured exports see remittances worth 3.1 percent of GDP, as compared to 5.1 percent for the whole sample. This may in part be driven by very small economies that are highly reliant on remittances but struggle with the scale and scope economies of manufacturing, and it suggests that manufacturing exports and migration as growth strategies might sometimes be suited to different economies even if they can also be complimentary.

62 https://www.reuters.com/world/africa/search-economic-boost-some-african-countries-send-workers-abroad-2025-02-11/; https://www.unfpa.org/data/world-population/KE.

63 https://fred.stlouisfed.org/series/KOREMPT, Westphal, L. E. (1978). The Republic of Korea's experience with export-led industrial development. *World Development*, *6*(3), 347–382. https://documents1.worldbank.org/curated/en/346251468739299894/pdf/Koreas-exerience-with-export-led-industrial-development.pdf.

**TABLE 2. Remittances versus exports as a percent of GDP**

| | Remittances % GDP | | Manu. Exports % GDP | | R'ces > M. Exp's |
|---|---|---|---|---|---|
| | Mean | Median | Mean | Median | |
| **Full Sample** | 5.1 | 1.8 | 14.0 | 6.0 | 37.0 |
| **Below median remittances** | 0.7 | | 15.9 | | 13.0 |
| **Above mean remittances** | 14.4 | | 8.8 | | 71.4 |
| **Below median manu exports** | 5.6 | | 2.2 | | 61.0 |
| **Above mean manu exports** | 3.1 | | 35.3 | | 2.0 |

*Source:* World Development Indicators (BX.TRF.PWKR.DT.GD.ZS, TX.VAL.MANF.ZS.UN, TX.VAL.MRCH.CD.WT, NY.GDP.MKTP.CD).

The ILO and UN between them provide data on both emigrant stock as a percentage of the total population and manufacturing employees as a percentage of the total population for 121 countries (Table 3). Note emigrant stock will include many people out of the workforce. With that caveat, across countries, the mean and median emigrant share is larger than manufacturing employee share. Once again, small countries see larger emigrant stocks and often smaller manufacturing shares.

**TABLE 3. Emigration versus manufacturing employment**

| | Emigrants | | Manu. Emp | | Emigrants > Manu Emps |
|---|---|---|---|---|---|
| | Mean | Median | Mean | Median | |
| **Full Sample** | 11.4 | 6.1 | 4.9 | 4.6 | 61.2 |
| **Below median manu emp** | 13.6 | | 2.7 | | 73.3 |
| **Above mean manu emp** | 9.8 | | 7.4 | | 50.0 |
| **Below median emigrants** | 3.2 | | 4.9 | | 30.0 |
| **Above mean emigrants** | 31.5 | | 4.7 | | 100.0 |

*Sources:* Manufacturing Employment: SDG Indicator 9.2.2 (ILO), prioritizing latest data and LFS over census; Employment-to-Population Ratio: ILO 2022–2024; Total Population & Age Structure: UN Population Division 2023; Emigrant Stock: UN DESA International Migrant Stock 2024.

## Growth and higher skilled migration to richer countries?

We can explore the association between total emigration and emigration at various education levels to OECD destinations and subsequent economic growth using country-level panel regressions with a 10-year growth horizon, constructed using non-overlapping decade transitions (1990–2000, 2000–2010, 2010–2020 when available). The outcome variable is 10-year GDP per capita growth, measured as the log difference in GDP per capita between the start and end of each 10-year window. Controls are initial log GDP per capita (from the same source) and initial score on the Penn World Table Human Capital Index (based on the average years of schooling and an assumed rate of return to education). The regression also includes country and decade fixed effects. The variables of interest are decade start total emigrant stock (% of origin population), total emigrant stock to OECD destinations, medium- and high-educated emigrant stock to OECD destinations, and high-educated emigrant stock to OECD destinations—all as a percent of origin population. Appendix 1 lists sources, definitions, means, and standard deviations.

The results in Table 4 suggest a weak positive relationship between overall emigrant stock and subsequent growth, with a larger and more significant coefficient on emigration to the OECD and a further increase in size and significance looking at medium and high education emigration to OECD countries.

**TABLE 4. Emigration growth regressions**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Initial log GDPpc | −0.927*** | −0.929*** | −1.114*** | −1.086*** |
| | (0.077) | (0.077) | (0.133) | (0.128) |
| Human capital index | −0.059 | −0.046 | −0.755 | −0.801 |
| | (0.355) | (0.353) | (0.667) | (0.675) |
| Total emigrant stock (% pop) | 1.117* | | | |
| | (0.537) | | | |
| Total emigrant stock to OECD (% pop) | | 2.206** | | |
| | | (0.724) | | |
| H+M education emigrant to OECD (% pop) | | | 3.651*** | |
| | | | (0.994) | |
| H education emigrant to OECD (% pop) | | | | 9.537** |
| | | | | (2.917) |
| Num.Obs. | 435 | 435 | 284 | 284 |
| R2 | 0.598 | 0.601 | 0.724 | 0.722 |
| R2 Within | 0.384 | 0.389 | 0.413 | 0.409 |
| RMSE | 0.27 | 0.27 | 0.23 | 0.23 |
| Std.Errors | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 |

*Notes:* + p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001.

These results are fragile and at best suggestive (See Appendix 2 for robustness results). While coefficients on migration to the OECD tend to remain positive under robustness tests, they lose all significance with the removal of country and decade fixed effects and some significance under the assumption that missing values in the OECD dataset reflect zero migration. Overall emigrant stock (OECD and non-OECD) loses any significance under all robustness tests. (Coefficients and significance do remain broadly stable splitting the sample into large (>2 million population) and small countries).

Furthermore, growing skilled emigration rates to high income countries might be a symptom of domestic change linked to growth as much as a cause of higher growth itself. Natural experiments involving changed immigration policies in richer countries might better untangle the link. Nonetheless, the evidence appears at least broadly compatible with the idea that emigration in particular of more educated workers to the OECD might be a potential source of origin country growth.

## Political plausibility in destination countries

There are good reasons to believe that the emerging migration challenge for rich countries is not too many migrants, but too few. High income countries are losing 46 million working-age people over the next thirty years.[64] Meanwhile, emigrant stocks as a percentage of the population tend to decline after a GNI of about $10,000 per capita, and more than half of the world has passed this 'migration hump.' Current patterns of migration supply and demand based in income per capita and fixed country features suggest that demand for migrants will outstrip supply by more than 30 million people by 2050—even as the stock of migrants continues to climb.[65]

Some richer countries are already failing to find the immigrants they want. In 2022, Malaysia actively tried to recruit nearly half a million migrant workers, but only 76,000 people applied, for example. And even many high income countries led by avowedly anti-immigrant politicians are in fact letting in more immigrants and increasing the attractiveness of their 'immigrant offer': better visa terms, financial support and so on.[66]

The numbers involved in responding to the demographic challenges of rich countries are significant but not overwhelming. Sustaining the absolute number of working age people in high income countries between 2020 and 2050 would require attracting additional working age migrants equal to about 0.1 percent of the total high income populations each year. Keeping dependency ratios—the proportion of working age populations to total populations—at their 2020 level would involve adding 0.5 percent of the total population each year. But this latter case would still involve 200 million additional migrants over the course of thirty years.[67]

Meanwhile, across countries the average link between local immigration flows and the vote share of anti-immigrant parties is zero (though with considerable variance). And attitudes towards accepting particular classes of migrant workers, especially to fill localized gaps (as it might be nurses) tend to be considerably more positive than towards migration in general.[68] None of this is to downplay virulent nativism in many rich countries, but it does suggest it may crest in the face of economic realities.

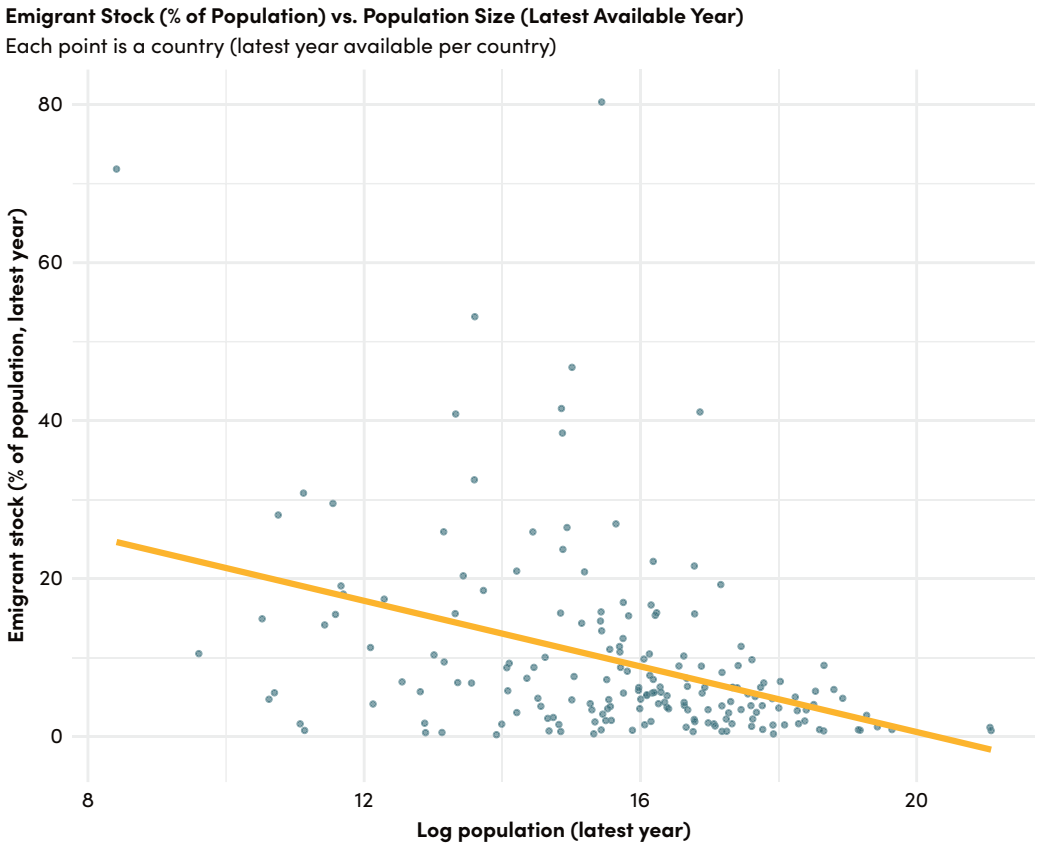
64 Charles Kenny (2023). The Future of Global Development and Implications for Aid Speech at the Oxford Martin School.
65 Charles Kenny and George Yang, 2021. "Can Africa Help Europe Avoid Its Looming Aging Crisis?" CGD Working Paper 584. Washington, DC: Center for Global Development.
66 Charles Kenny (2023). The Future of Global Development and Implications for Aid Speech at the Oxford Martin School.
67 Kenny, C. (2021). Global mobility: confronting a world workforce imbalance. *Blog. Center for Global Development (www.cgdev.org/publication/global-mobility-confronting-worldworkforce-imbalance).*
68 Cools, S., Finseraas, H., & Rogeberg, O. (2021), "Local Immigration and Support for Anti-immigration Parties: A Meta-analysis", *American Journal of Political Science*, 65 (4):988–1006. Kustov, A. (2023). "Testing the Backlash Argument: Voter Responses to (Pro-) Immigration Reforms", *Journal of European Public Policy*, 30 (6):1183–1203. Kustov, A. (2025), *In Our Interest: How Democracies Can Make Immigration Popular* (NYC: Columbia University Press).

## Policy lessons

Again it is clear that any relationship between emigration and growth is contingent. While a large emigrant stock might be fairly reliably associated with poverty reduction and investments in education and health, if emigration is to support structural transformation this is likely to involve particular types of movement—to specific countries and sectors, potentially of shorter duration to encourage brain circulation, potentially involving more skilled migrants. It also requires a conducive domestic environment to ensure the investment, human capital and skills flowing back to origin countries have the potential to create value.

The plausible role for migration as a development strategy depends significantly on country features. Not least, for the largest countries, it is unlikely that emigration will ever be a major source of overall employment for citizens (Figure 3). Meanwhile, for the smallest countries, migration may be the only way for citizens to benefit from employment that involves economies of scale or network effects for example (including some research).[69]

### FIGURE 3. Emigrant stock vs. population




*Data Sources:* See Appendix 1.

69 Gibson, J., & McKenzie, D. (2014). Scientific mobility and knowledge networks in high emigration countries: Evidence from the Pacific. *Research policy*, *43*(9), 1486–1495.

The nature of the origin economy will also determine the type of emigration likely to have the greatest impact on structural transformation. For landlocked or remote economies, (return) emigration with skills related to industries with high transport costs and low economies of scale might have the greatest impact on domestic productivity, while skills in industries with high value-for-weight trade (or weightless trade) are likely to have the largest potential for export-led growth.

It is also worth noting that the cases where migration appears to have played a role in structural transformation such as the Indian IT boom and Bangladesh's move into textile manufacturing were not the result of a specific origin country strategy to use emigration to that end. Related to that, there is comparatively little empirical evidence on the subject of the impact of policies to promote growth-enhancing emigration.[70]

## Increasing the absolute number of migrants

Historically, signing a bilateral labor agreement increases migration from an origin country to a destination country by 76 percent.[71] The spreading worker shortage in high income and upper middle income countries should provide ample opportunities to sign more agreements including with rapidly aging countries currently home to a limited number of migrants including China and Thailand.[72] The Philippines government is one amongst a growing number that has actively encouraged migration through such agreements.[73] The Philippines also set up an Overseas Employment Administration which provided pre-emigration training and certification as well as an Overseas Workers Welfare Administration to assist workers and help prevent exploitation.[74]

Again, Senegal and Spain signed cooperation agreements on migration in 2006 and 2007, through which 4,700 Senegalese were admitted into Spain to work on strawberry farms and fisheries. Companies conducted recruitment missions in Senegal to bring people on one-year visas. The Senegal Commission Nationale de Gestion et de Suivi des Offres d'Emploi (National Committee for the Management and Monitoring of Employment Offers) brought together ministries to distribute job opportunities select candidates and provide training, verify protection of migrant workers' rights, and ensure return.[75]

70 See David McKenzie's blog "International Migration as a Structural Transformation Policy" https://blogs.worldbank.org/en/impactevaluations/international-migration-as-a-structural-transformation-policy.

71 Shrestha, M., Kaila, H., Cha'gnom, N., & Adhikari, S. (2025). Do bilateral labor agreements increase migration? Global evidence from 1960 to 2020. *Journal of Development Economics*, 103673.

72 Clemens, M. A. (2025). From Root Causes to Shared Gains: Migration Policy for Low-Income Countries in a Labor-Scarce World.

73 https://blogs.worldbank.org/en/impactevaluations/international-migration-as-a-structural-transformation-policy.

74 Castles, S. (2000). The impacts of emigration on countries of origin. *Local dynamics in an Era of globalization: 21st century catalysts for development*, 45–57.

75 Toma, S., & Kabbanji, L. (2017). Emigration and development in Senegal. In *Emigration and diaspora policies in the age of mobility* (pp. 157–172). Cham: Springer International Publishing.

While there are limits to the impact of government efforts to facilitate flows through better information and financial and technical support to get needed documentation,[76] lending potential migrants the money required to move may help.[77] Governments should lower any tax on inbound remittances, reduce passport costs, and allow dual citizenship.[78]

Sending countries should also help ensure the security and wellbeing of emigrants, especially with regard to temporary unskilled migration to destinations with limited domestic protections. Kenya's recent attempts to increase emigrant numbers has already involved numerous cases of alleged abuse of women domestic workers employed in Saudi Arabia. The early response of the Kenyan government—victim blaming—is a derogation of its responsibilities.[79] They should follow the example of the Philippines in creating an agency that monitors and advocates for Kenyan worker safety and rights abroad.

## Increasing the growth impact of migrants

As we have seen, while emigration and remittances are associated with greater welfare and local poverty in source countries, simply increasing the number of emigrants is inadequate to ensure a more dynamic domestic economy. A growth-enhancing emigration strategy has to emphasize trade and investment links alongside the human capital, skills, and technology transfer behind structural transformation. This suggests the need for an industrial strategy based on people not machines, including the encouragement of migration to sectors that could be sources of growth at home. (And given that, the idea that migration and export-led strategies are alternates is misleading: countries can and should follow both).

Regarding human capital, the flow of people and scale of remittances will be enabled by a young developing country population that is more educated than miracle countries including South Korea at the start of their manufacturing export led growth (South Korea's average years of education in the working age population in 1965 was 5.7 years compared to Kenya's 6.7 years in 2020, for example, and

76 Beam, E. A., McKenzie, D., & Yang, D. (2016). Unilateral facilitation does not raise international labor migration from the Philippines. *Economic Development and Cultural Change*, *64*(2), 323–368. It is worth noting that lack of facilitation has been considered a major reason the skills development program of the Australian-Pacific Technical College did not support increased migration as much as it was designed to Clemens, M. A., Graham, C., & Howes, S. (2015). Skill Development and Regional Mobility: Lessons from the Australia-Pacific Technical College. *The Journal of Development Studies*, *51*(11), 1502–1517.

77 Angelucci, M. (2015). Migration and financial constraints: Evidence from Mexico. *Review of Economics and Statistics*, *97*(1), 224–228.

78 McKenzie, D., & Yang, D. (2015). Evidence on policies to increase the development impacts of international migration. *The World Bank Research Observer*, *30*(2), 155–192.

79 https://www.nytimes.com/2025/11/14/world/europe/kenya-president-saudi-arabia-maids.html.

the gap is larger for the younger population).[80] But there is still a role to tailor education programs to emigration opportunities.[81]

This might involve altering university and technical and vocational training curricula to match skills in demand abroad and domestically: German and Indian education institutions are following the pattern originally developed by the Philippines with regard to the US in developing joint nursing curricula, for example.[82] Linking technical and vocational training to migration opportunities could help increase the quality of the programs, placement rates and income gains all while improving takeup and revenues.[83]

Sending country institutions should also respond to the risk of limited market response to skilled worker migration—matching supply to demand for skills as opportunities increase, but ensuring the costs are better borne by migrants and receiving countries.[84] Education for migration is of primary initial benefit to the migrant and the destination country, and as such there is strong case for the financial costs of that education to be borne by these beneficiaries. This might involve systems that use loans to finance tertiary education (with payments suspended or reduced for those who provide public services at home).[85] It might also involve taking advantage of destination education systems like Germany's, where public university education is free regardless of citizenship (this will be one reason that more than 50,000 Indian students were enrolled at German universities in 2024).[86]

Skilled workers emigrating to Germany are placed free of charge by employment agencies (according to the "employer pays principle"), but aspiring apprentices still have to pay thousands of Euros in fees for language training and placement, in part because employers still have to provide training after arrival. As demand for migrants climbs, the cost of this type of specific skills training should be covered by destination employees. This is the logic behind the global skills partnership, where destination countries pay for skills development in origin countries, with the benefit of a flow of

80 Barro, Robert and Jong-Wha Lee, 2013, "A New Data Set of Educational Attainment in the World, 1950–2010." *Journal of Development Economics*, vol 104, pp. 184–198. http://barrolee.com/.

81 Educated migrants remit more Bollard, A., McKenzie, D., Morten, M., & Rapoport, H. (2011). Remittances and the brain drain revisited: The microdata show that more educated migrants remit more. *The World Bank Economic Review*, *25*(1), 132–156.

82 Kipp, D. (2025). A migration miracle? Indian migration to Germany: Opportunities and challenges. No 4/2025, SWP Research Papers. https://www.cgdev.org/event/skills-move-how-labour-migration-can-make-tvet-work.

83 Ahmed Iqbal and Helen Dempster. 2026. "Exploring Donor Investments in Green TVET." CGD Policy Paper 38K. Washington, DC: Center for Global Development. https://www.cgdev.org/publication/exploring-donor-investments-green-tvet.

84 Batista, C., Han, D., Haushofer, J., Khanna, G., McKenzie, D., Mobarak, A. M., ... & Yang, D. (2025). Brain drain or brain gain? Effects of high-skilled international emigration on origin countries. *Science*, *388*(6749), eadr8861.

85 The US Public Service Loan Forgiveness (PSLF) program is somewhat akin to this and a number of countries offer loan forgiveness to domestic medical and teaching professionals. OECD (2025). *Education at a Glance 2025: OECD Indicators*, OECD Publishing, Paris. https://doi.org/10.1787/1c0d9c79-en.

86 Kipp, D. (2025). A migration miracle? Indian migration to Germany: Opportunities and challenges. No 4/2025, SWP Research Papers.

workers trained to their requirements (and the origin country benefit both that not all trainees leave, some return, and the rest provide remittances and trade and investment connections).[87]

Origin countries should prioritize bilateral migration relationships and skills partnerships with countries seeking workers in sectors where there is also demand at home—or the potential to create globally competitive industries on the model of India-US IT-related migration and Bangladesh-South Korea textiles-related migration. One example is the India-Japan Technical Intern Training Programme which allows Indian migrants to acquire vocational qualifications through practical training at Japanese companies (though it has only involved 1,000 participants so far).[88] For origin countries with the potential for significant tourism or retirement-related immigration, skills related to management in hospitality and care services might be particularly valuable.

Countries can also build on their existing migrant skill base. The Philippines established a Medical Tourism Program in 2004 alongside medical tourism parks to leverage its growing human capital stock in healthcare created in part by migration flows. The country has a number of internationally accredited hospitals, and medical tourism sites note the international experience and training of many health professionals in the country. There were more than 30,000 medical tourists to the Philippines in 2023 (although this compares to about 2 million in Thailand).[89]

Related to this is the encouragement of circular migration for migrants with skills in demand at home. Governments should back bilateral agreements allowing temporary work abroad that develops needed skills alongside establishing returnee reintegration programs including job placement, housing, and skills recognition.[90] Morocco has an active program to encourage return migration including initiatives to bring them into public sector jobs and support new return migrant enterprises and bilateral agreements to ensure social security payments transfer.[91]

To support structural transformation using the acquired skills, governments should ensure families of migrants can open bank accounts, which increases savings rates.[92] They should also strengthen the investment climate for diaspora investors in priority sectors and advertise those opportunities.

87 https://gsp.cgdev.org/.

88 Kipp, D. (2025). A migration miracle? Indian migration to Germany: Opportunities and challenges. No 4/2025, SWP Research Papers.

89 Reyes, Jon Paul and Castillo, Stephanie B., Medical Tourism in the Philippines: A Systematic Narrative Review of Trends, Challenges, and Opportunities (July 08, 2025). Available at SSRN: https://ssrn.com/abstract=5500718 or http://dx.doi.org/10.2139/ssrn.5500718; https://businessmirror.com.ph/2024/07/17/medical-tourism-pitches-in-p25-billion-to-phl-economy-in-2023/; https://www.medicaltourism.com/destinations/philippines.

90 See IOM (International Organization for Migration). (2019). Reintegration Handbook Practical Guidance on the Design, Implementation and Monitoring of Reintegration Assistance.

91 Gasmi, F., Kouakou, D. C. M., Metevier, S., & Um, P. N. (2026). Capturing the positive effects of brain drain through return migration policies: An analysis of the 1980–2022 Moroccan experience.

92 WDR 2023 p. 131 Ashraf, N., Aycinena, D., Martínez A, C., & Yang, D. (2015). Savings in transnational households: a field experiment among migrants from El Salvador. *Review of economics and statistics*, *97*(2), 332–351.

Senegal has a number of such programs.[93] When Salvadoran migrants were offered matching funds for educational remittances, it led to increased educational expenditures, higher private school attendance and a significant crowding in of education spending.[94]

### Rich country policies

For rich countries facing an increasing demand for workers and more interested in mutually beneficial migration as a result, they might want to think about the role for temporary migrants and the negative impact of visa rules on such flows (migration restrictions have a larger effect on circulation of migrants than on the volume of migration).[95] They should also work to develop skills partnerships, potentially as part of broader trade and investment deals, and work with origin countries toward common certification standards (or overseas certification) in occupations with a high migrant-share.

## Conclusion

A large emigrant population is no guarantee of development success—indeed, sometimes it is simply a measure of past development failure. But with the right origin country policies, such a population has the potential to be a significant source of income, investment, trade opportunities and productivity growth. A growing global workforce imbalance suggests that (contrary to opportunities from manufacturing exports) this emigration-based growth opportunity is expanding. Developing countries should seize the opportunity—and it is in the self-interest of rich countries to support them.

93 Toma, S., & Kabbanji, L. (2017). Emigration and development in Senegal. In *Emigration and diaspora policies in the age of mobility* (pp. 157–172). Cham: Springer International Publishing.

94 Ambler, K., Aycinena, D., & Yang, D. (2015). Channeling remittances to education: A field experiment among migrants from El Salvador. *American Economic Journal: Applied Economics*, *7*(2), 207–232.

95 Czaika, M., & De Haas, H. (2017). The effect of visas on migration processes. *International Migration Review, 51*(4), 893–926.

# Appendices

## Appendix 1. Variable sources, definitions, means, and standard deviations

| Variable | Source | Definition | N | Mean | SD |
|---|---|---|---|---|---|
| 10-year GDP per capita growth (log diff) | Authors' calculations from Penn World Table version 11.0[96] (www.ggdc.net/pwt; accessed 12/10/2025) | Log difference in real GDP per capita between the start and end of a 10-year period. GDP per capita is defined as output-side real GDP at chained PPPs (2021 US dollars) divided by total population. Growth is measured over non-overlapping decade transitions (t to t+10). | 435 | 0.217 | 0.430 |
| Initial log GDP per capita (baseline) | Penn World Table version 11.0 (www.ggdc.net/pwt; accessed 12/10/2025) | Natural logarithm of real GDP per capita at the start of each 10-year period. GDP per capita is defined as output-side real GDP at chained PPPs (2021 US dollars) divided by total population. | 435 | 9.101 | 1.262 |
| Human capital index (baseline) | Penn World Table version 11.0 (www.ggdc.net/pwt; accessed 12/10/2025) | Human capital index at the start of the decade that captures years of schooling and returns to education. | 435 | 2.316 | 0.692 |
| Total emigrant stock (% of origin population) | Authors' calculations using International Migrant Stock 2024 (destination and origin)[97], United Nations Department of Economic and Social Affairs, Population Division (UN DESA), https://www.un.org/development/desa/pd/content/international-migrant-stock (accessed 11/18/2025). | Total emigrant stock from the origin country, summed across all destination countries, divided by the origin country's total population at the start of the decade. The variable is expressed as a share of the origin population. | 435 | 0.062 | 0.066 |
| Emigrant stock to OECD destinations (% of origin population) | Authors' calculations using the UN DESA Migrant Stock 2024 data and the Database on Immigrants in OECD nad non-OECD Countries (DIOC), https://www.oecd.org/en/data/datasets/database-on-immigrants-in-oecd-and-non-oecd-countries.html (accessed 01/24/2026) | Emigrant stock from the origin country living in "OECD destinations," summed across destinations and divided by the origin country's total population at the start of the decade. "OECD destinations" are defined as destination countries that appear in the OECD DIOC education data (i.e., destinations with any non-missing DIOC migrant stock or education-category counts in any year). The variable is expressed as a share of the origin population. | 435 | 0.040 | 0.059 |

**(Continued)**

96 Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2015). "The Next Generation of the Penn World Table" American Economic Review, *105*(10), 3150–3182, available for download at www.ggdc.net/pwt.

97 United Nations Department of Economic and Social Affairs, Population Division (2024). International Migrant Stock 2024.

| Variable | Source | Definition | N | Mean | SD |
|---|---|---|---|---|---|
| Medium+High educated emigrants to OECD (% of origin population) | Authors' calculations using the Database on Immigrants in OECD nad non-OECD Countries (DIOC), https://www.oecd.org/en/data/datasets/database-on-immigrants-in-oecd-and-non-oecd-countries.html (accessed 01/24/2026) | Medium- and high-educated emigrant stock from the origin country living in OECD destinations, summed across destinations and divided by the origin country's total population at the start of the decade. Education categories are defined according to the OECD DIOC classification. The variable is expressed as a share of the origin population. | 286 | 0.022 | 0.041 |
| High educated emigrants to OECD (% of origin population) | Authors' calculations using the Database on Immigrants in OECD nad non-OECD Countries (DIOC), https://www.oecd.org/en/data/datasets/database-on-immigrants-in-oecd-and-non-oecd-countries.html (accessed 01/24/2026) | High-educated emigrant stock from the origin country living in OECD destinations, summed across destinations and divided by the origin country's total population at the start of the decade. Education categories are defined according to the OECD DIOC classification. The variable is expressed as a share of the origin population. | 286 | 0.008 | 0.015 |

## Appendix 2. Robustness

Assume missing OECD/DIOC migration equals zero—pooled OLS

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| (Intercept) | 0.939*** | 0.942*** | 0.944*** | 0.949*** |
| | (0.166) | (0.165) | (0.165) | (0.165) |
| Initial log GDPpc | −0.117*** | −0.116*** | −0.116*** | −0.117*** |
| | (0.026) | (0.026) | (0.026) | (0.026) |
| Human capital index | 0.145** | 0.136** | 0.136** | 0.140** |
| | (0.048) | (0.049) | (0.048) | (0.048) |
| Total emigrant stock (% pop) | 0.088 | | | |
| | (0.316) | | | |
| Total emigrant stock to OECD (% pop) | | 0.288 | | |
| | | (0.368) | | |
| H+M education emigrant to OECD (% pop) | | | 0.627 | |
| | | | (0.610) | |
| H education emigrant to OECD (% pop) | | | | 1.251 |
| | | | | (1.609) |
| Num.Obs. | 435 | 435 | 435 | 435 |
| R2 | 0.047 | 0.049 | 0.050 | 0.049 |
| RMSE | 0.42 | 0.42 | 0.42 | 0.42 |

*Notes:* + p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001.

Assume missing OECD/DIOC migration equals zero—country fixed effect

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Initial log GDPpc | −0.913*** | −0.924*** | −0.932*** | −0.926*** |
| | (0.075) | (0.076) | (0.076) | (0.076) |
| Human capital index | 0.931*** | 0.898*** | 0.837*** | 0.854*** |
| | (0.170) | (0.169) | (0.174) | (0.174) |
| Total emigrant stock (% pop) | 1.142 | | | |
| | (0.699) | | | |
| Total emigrant stock to OECD (% pop) | | 2.833*** | | |
| | | (0.810) | | |
| H+M education emigrant to OECD (% pop) | | | 2.607*** | |
| | | | (0.752) | |
| H education emigrant to OECD (% pop) | | | | 5.609** |
| | | | | (1.885) |
| Num.Obs. | 435 | 435 | 435 | 435 |
| R2 | 0.525 | 0.532 | 0.538 | 0.532 |
| R2 Within | 0.377 | 0.386 | 0.395 | 0.387 |
| RMSE | 0.30 | 0.29 | 0.29 | 0.29 |
| Std.Errors | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 |

*Notes:* + p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001.

Assume missing OECD/DIOC migration equals zero—country and decade fixed effect

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Initial log GDPpc | −0.927*** | −0.929*** | −0.928*** | −0.924*** |
| | (0.077) | (0.077) | (0.077) | (0.077) |
| Human capital index | −0.059 | −0.046 | −0.034 | −0.040 |
| | (0.355) | (0.353) | (0.350) | (0.353) |
| Total emigrant stock (% pop) | 1.117* | | | |
| | (0.537) | | | |
| Total emigrant stock to OECD (% pop) | | 2.206** | | |
| | | (0.724) | | |
| H+M education emigrant to OECD (% pop) | | | 1.515* | |
| | | | (0.673) | |
| H education emigrant to OECD (% pop) | | | | 2.636 |
| | | | | (1.739) |
| Num.Obs. | 435 | 435 | 435 | 435 |
| R2 | 0.598 | 0.601 | 0.600 | 0.597 |
| R2 Within | 0.384 | 0.389 | 0.388 | 0.383 |
| RMSE | 0.27 | 0.27 | 0.27 | 0.27 |
| Std.Errors | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 |

*Notes:* + p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001.

Assume missing OECD/DIOC migration is NA (restricted sample)—pooled OLS

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| (Intercept) | 0.939*** | 0.942*** | 1.385*** | 1.386*** |
| | (0.166) | (0.165) | (0.202) | (0.202) |
| Initial log GDPpc | −0.117*** | −0.116*** | −0.167*** | −0.168*** |
| | (0.026) | (0.026) | (0.031) | (0.031) |
| Human capital index | 0.145** | 0.136** | 0.170** | 0.173** |
| | (0.048) | (0.049) | (0.059) | (0.059) |
| Total emigrant stock (% pop) | 0.088 | | | |
| | (0.316) | | | |
| Total emigrant stock to OECD (% pop) | | 0.288 | | |
| | | (0.368) | | |
| H+M education emigrant to OECD (% pop) | | | 0.209 | |
| | | | (0.650) | |
| H education emigrant to OECD (% pop) | | | | 0.254 |
| | | | | (1.716) |
| Num.Obs. | 435 | 435 | 286 | 286 |
| R2 | 0.047 | 0.049 | 0.102 | 0.102 |
| RMSE | 0.42 | 0.42 | 0.42 | 0.42 |

*Notes:* + p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001.

Assume missing OECD/DIOC migration is NA (restricted sample)—country fixed effects

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Initial log GDPpc | −0.913*** | −0.924*** | −0.986*** | −0.961*** |
| | (0.075) | (0.076) | (0.106) | (0.103) |
| Human capital index | 0.931*** | 0.898*** | −0.011 | −0.091 |
| | (0.170) | (0.169) | (0.359) | (0.371) |
| Total emigrant stock (% pop) | 1.142 | | | |
| | (0.699) | | | |
| Total emigrant stock to OECD (% pop) | | 2.833*** | | |
| | | (0.810) | | |
| H+M education emigrant to OECD (% pop) | | | 4.373*** | |
| | | | (1.177) | |
| H education emigrant to OECD (% pop) | | | | 12.131*** |
| | | | | (3.322) |
| Num.Obs. | 435 | 435 | 284 | 284 |
| R2 | 0.525 | 0.532 | 0.708 | 0.707 |
| R2 Within | 0.377 | 0.386 | 0.501 | 0.500 |
| RMSE | 0.30 | 0.29 | 0.24 | 0.24 |
| Std.Errors | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 |

*Notes:* + p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001.

Assume missing OECD/DIOC migration is NA (restricted sample)—country and decade fixed effects

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Initial log GDPpc | −0.927*** | −0.929*** | −1.114*** | −1.086*** |
| | (0.077) | (0.077) | (0.133) | (0.128) |
| Human capital index | −0.059 | −0.046 | −0.755 | −0.801 |
| | (0.355) | (0.353) | (0.667) | (0.675) |
| Total emigrant stock (% pop) | 1.117* | | | |
| | (0.537) | | | |
| Total emigrant stock to OECD (% pop) | | 2.206** | | |
| | | (0.724) | | |
| H+M education emigrant to OECD (% pop) | | | 3.651*** | |
| | | | (0.994) | |
| H education emigrant to OECD (% pop) | | | | 9.537** |
| | | | | (2.917) |
| Num.Obs. | 435 | 435 | 284 | 284 |
| R2 | 0.598 | 0.601 | 0.724 | 0.722 |
| R2 Within | 0.384 | 0.389 | 0.413 | 0.409 |
| RMSE | 0.27 | 0.27 | 0.23 | 0.23 |
| Std.Errors | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 | by: origin_iso3 |

*Notes:* + p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001.