

Article history: Received 2 November 2016

Migration, Trade and Remittances: Low- and High-Skilled Workers

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Abstract

International migration involves the movement of people over national borders, while international trade deals with the production of goods or services in one country and their consumption in another. Economic theory assumes that migration and trade are substitutes, so that freer trade between countries with different wage levels should reduce voluntary migration as trade leads to convergence in wages. However, free-trade agreements can produce a migration hump as the pace of change accelerates and economies adjust, as migration increases before investment creates enough jobs to generate stay-at-home development despite remittances from migrants abroad. Efforts to deal with the root causes of migration must be aware of potential migration humps.

Keywords: Remittances; development; high-skilled workers; trade; migration humps.

JEL Classification: F22, F16, F24, J24

Introduction

Migration can generate triple wins, for migrants who move and achieve higher incomes as well as for receiving countries that get jobs filled and sending countries that receive remittances. The major winners are migrants, who benefit from higher wages and new skills acquired abroad as their remittances increase family income at home, which often improves education and health care outcomes in migrant families (Adams, 2006; also see Jaumotte et al., 2016; Peri and Sparber, 2009). Countries that admit migrants increase economic activity and generate multiplier effects, as when the availability of migrants creates or preserves jobs for local workers. Migrant-sending countries that receive remittances and the return of

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more skilled workers can experience faster economic growth (see Imai et al, 2012; Wahba, 2015; Meyer and Shera, 2016).

The greatest gains from voluntary migration involve low-skilled workers.¹ The reason is simple: the gaps in wages and opportunities between countries are largest for low-skilled workers. One study found that the average wage gains for low skilled workers who move to the US, even after adjusting for the fact that living costs are higher in the US, were four to 10 times, that is, low-skilled workers who earn \$400 a month in Mexico earn \$1,600 a month in the US, and those earning \$400 a month in Vietnam earn \$4,000 a month in the US (Clemens, Montenegro, and Pritchett, 2009).

A series of reports, beginning with the Global Commission on International Migration in 2004, the World Bank in 2005, and the UNDP's Human Development Report 2009, highlighted the benefits of economically motivated migration to low-skilled migrants and their developing countries of origin. These reports called on richer countries to open more doors to low-skilled workers from poorer countries in order to allow more workers to earn higher wages, send home remittances, and return with new skills and ideas that speed up development. The flow of remittances to developing countries surpassed Official Development Assistance in the mid-1990s, and at over \$440 billion in 2016 remittances are three times ODA flows (World Bank, 2016).

Economic development is usually defined as a sustained increase in a country's per capita income. Income is not the only measure of development, but growth in per capita income is the most widely used indicator to compare countries. The Human Development Index developed by UNDP includes other indicators as well, such as life expectancy, infant mortality, and education levels. The UN's 2030 Sustainability Development Goals added sustainability, defined as development that meets the needs of current residents without diminishing the ability of future residents to meet their needs.

Regardless of exactly how development is defined, more development should slow the large-scale movement of low-skilled workers abroad in search of economic opportunity. When economic opportunities are similar across countries, relatively few low-skilled workers migrate, as within the European Union, raising the question of how currently richer countries can help to speed up development in poorer countries. In concrete terms, if richer countries open their

¹ For analyses on high skilled workers, see Peri (2014), Borjas and Doran (2012), Hunt and Gauthier-Loiselle (2008).

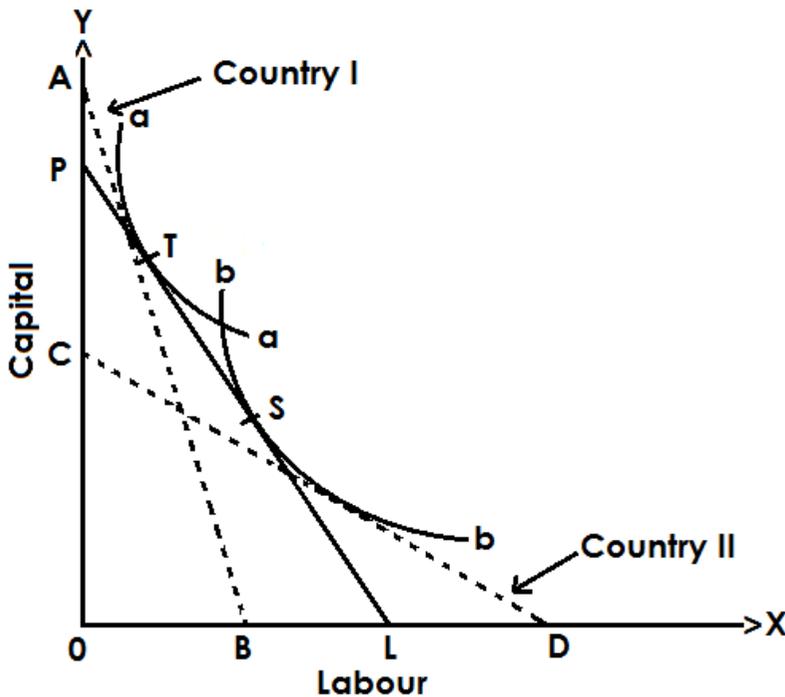


borders to more goods from developing countries, will they receive fewer unwanted migrants?

Trade and Migration: Low Skilled

The factor-price equalization theorem suggests that freer trade can be a substitute for migration. There should be less movement of low-wage workers from poorer to richer countries if the goods such workers produce can be traded more freely. With freer trade, economies grow faster as capital and labor is reallocated to where it is most productive, there are economies of scale in production, and competition lowers prices.

Figure 1. Factor Price Equalization with Freer Trade



The factor-price equalization theorem assumes that two countries, C1 and C2, produce two goods, G1 or **a** in Figure 1 and G2 or **b**, using the two inputs of capital and labor. If G1 is a capital-intensive good and G2 is a labor-intensive good, and the price of capital relative to labor, R/W , is lower in C1 than in C2, then C1 is the capital-intensive country and C2 is the labor-intensive country.

Comparative advantage posits that countries export primarily commodities that require intensive use of their relatively cheaper factor, so that capital-intensive C1 should export mostly capital-

intensive G1 to C2, while labor-intensive C2 exports labor-intensive G2 to C1. Figure 1 shows that freer trade will encourage C1 to specialize in producing good G1 or **a**, the capital-intensive good, and exporting it to C2, which produces more G2 or **b**, the labor-intensive good, and exports good G2 to C1.

With trade, the factor-price line for C1, which is AB, gradually rotates counterclockwise, reducing the price of capital, and the factor-price line for C2, which is CD, rotates clockwise. In equilibrium, there is a new common factor price line PL tangent to the C1 isoquant at T and tangent to the C2 isoquant at S. Different endowments of capital and labor mean that C1 continues to produce and export capital-intensive goods, but there is no incentive for migration because wages converge in the two trading countries.

Over time, this trade pattern, viz, the capital-intensive country exporting capital-intensive goods and importing labor-intensive goods from the lower wage country, should narrow differences in the cost of capital and labor in the two trading countries (Mundell, 1957), reducing economic incentives to migrate from the lower to the higher-wage country. In this way, freer trade acts as a substitute for migration, as capital-intensive countries specialize in producing capital-intensive goods and labor-intensive countries specialize producing labor-intensive goods (Samuelson, 1948).

NAFTA was the first free-trade agreement between an industrial and developing country, and its effects on migration are instructive. NAFTA increased trade and investment between Canada, Mexico, and the US, but freer trade also speeded up changes in all three countries, including movement out of agriculture in Mexico and de-industrialization in Canada and the US. Workers displaced from factory jobs in Canada and the US did not move to Mexico, but some of the rural Mexicans who found it harder to survive with more trade in farm commodities migrated to the US (Martin, 1993).

During NAFTA's first decade, there was a Mexico-US migration hump, or a surge in legal and unauthorized migration tied to changes in both Mexico and the US.² In Mexico, youth in rural areas realized that, with the US state of Iowa producing twice as much corn as all of Mexico, and at half the price, they would never achieve middle-class lives by farming in the same way as their parents and grandparents (Martin, 1993). However, these rural Mexican youth were often unable to get jobs in the auto and other factories that were created in response to NAFTA, since they lacked secondary

² However, some researchers found no effect, see: Hollifield & Osang (2005).



school diplomas and lived far away from where auto factories and parts plants were being created.

Instead, there were often better connections between rural Mexico and US labor markets than between rural Mexico and labor markets in booming areas of Mexico (Quintana and Salgado, 2016). The result was an upsurge in Mexico-US migration. An average of over 3,000 Mexicans a day were apprehended just inside the US during the late 1990s, when the Mexican labor force increased by a million a year but only 350,000 formal sector jobs were created in Mexico each year. The US, by contrast, was adding over 10,000 jobs a day, and many farm, construction, and service employers were eager to hire rural Mexicans with relatively little education.

The Mexican government and many researchers urged the US government to expand and create new guest worker programs so that Mexican workers leaving agriculture and joining the labor force could enter the US legally. President Clinton strongly opposed new and expanded guest worker programs, saying: "When these programs were tried in the past, many temporary guest workers stayed permanently and illegally in this country. Hundreds of thousands of immigrants now residing in the U.S. first came as temporary workers, and their presence became a magnet for other illegal immigration."³

During the 1990s, the US did not create any new guest worker programs for low-skilled migrants, and illegal migration surged. Over 1.8 million Mexicans were apprehended just inside US borders in 2000, an average of over 4,000 a day. Mexico-US migration slowed with the 2000-01 recession, but surged again during the US economic boom of 2002-07, when Mexican-born workers were very prominent in home-building and many service sectors. By 2007, over 10 percent of the 120 million people born in Mexico had moved to the US, and 60 percent of the estimated 12 million unauthorized foreigners in the US were Mexicans (Passel and Cohn, 2016).

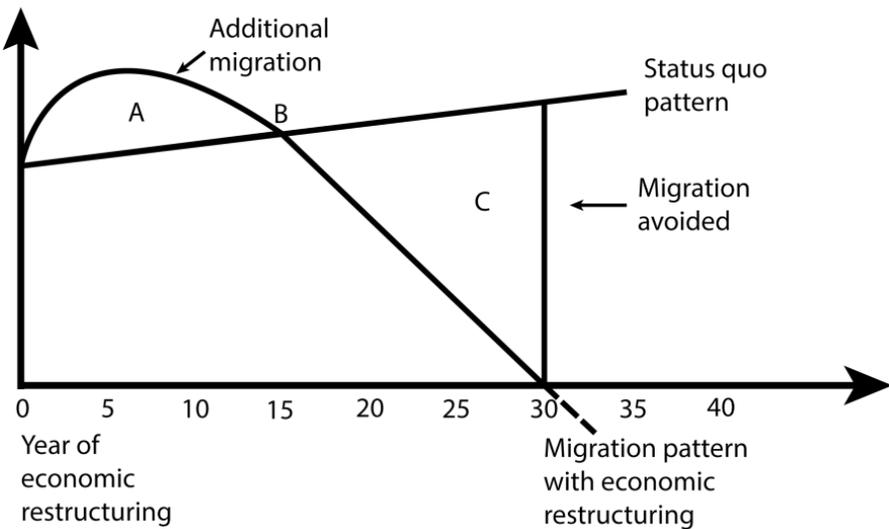
The 2008-09 recession slowed Mexico-US migration as the US unemployment rate topped 10 percent and federal and state enforcement efforts made it more difficult for unauthorized foreigners to enter the US and find jobs. Mexico-US migration began falling, so that the upsurge in Mexico-US migration between 1990 and 2010 appears as a hump, first rising with NAFTA but then falling to below the level of migration that would have occurred if there had not been NAFTA (Martin, 2011). As Mexico-US migration

³ Quoted at: <http://migration.ucdavis.edu/mn/more.php?id=1769>

continues to fall, the figure illustrates the migration avoided by freer trade.

The migration hump was not anticipated by politicians who suggested that freer trade would smoothly reduce Mexico-US migration.⁴ Then-Mexican President Carlos Salinas, for example, predicted in 1990 that freer trade would create enough new jobs in Mexico to absorb those who were displaced by NAFTA in rural Mexico (Martin, 1993). He said the US faced a choice of “accepting Mexican tomatoes or Mexican migrants that will harvest them in the United States.” The reality was that Mexican tomato imports and Mexican migrants increased together (Martin, 2005).

Figure 2. NAFTA and Mexico-US Migration



The NAFTA experience shows that industrial countries can succeed in “attacking the root causes” of unwanted migration, but perhaps with a migration hump that persists for a decade or two. There are many reasons for migration humps, but the simplest is that freer trade and displacement occur quickly, while time is normally required to invest in factories or other businesses that create jobs in the poorer countries participating in economic integration (Martin, 1993). If workers made worse off by freer trade have connections to jobs abroad, they may move, leading to a migration hump.

⁴ For example, Del Rio and Thorwarth (2007) argued there was an increase in irregular migration after NAFTA.



There are other reasons why trade and migration can rise together (Campaniello, 2014; Egger et al., 2012), as when countries do not share the same technologies. If tractors plow corn fields in the United States and oxen pull plows in Mexico, trade theory assumes that the reason for this difference is that Mexico has lower wages, not that tractors are unavailable in Mexico, that is, differences in labor and capital intensities are due solely to differences in factor endowments. In reality, rural Mexicans may not have access to tractors or credit to buy them, and some migrate to the US to get the money to buy tractors (Martin, 1993). Similarly, if the better infrastructure of the US makes Mexican workers more productive in the US than in Mexico, migration may increase alongside trade as US producers expand.

The clearest success of NAFTA is visible in the Mexican auto industry (Bennett and Sharpe, 2014). Mexico in 2015 was the world's seventh largest auto producer and the fourth largest exporter of cars and light trucks. NAFTA allows cars with at least 62.5 percent North American content to be traded freely between Canada, Mexico, and the US, encouraging most major auto producers to build assembly plants in Mexico, which in turn led to parts factories and jobs for over 600,000 Mexican workers.

Auto plants pay far more than Mexico's minimum wage of \$4 a day in 2016, often \$2 an hour or \$200 to \$300 a month with overtime, and auto wages are rising. In a bid to reduce turnover in Mexican auto plants, many firms are increasing benefits that range from free meals to transportation and bonuses. Some auto firms are opening training centers to take the many applicants for jobs and determine who among them are likely to be successful workers.⁵

Closer economic integration can raise the aspirations of potential migrants faster than economic development can fulfill them, prompting emigration. This may be happening in Africa, which experienced over five percent real economic growth between 2000 and 2010 as exports to China boomed, prompting the McKinsey Global Institute to dub African economies "lions on the move." Since McKinsey's optimism, the Arab spring that began in 2011 slowed growth in northern Africa, and falling oil and commodity prices slowed growth in other African countries.

⁵ Christina Rogers and Dudley Althaus, "Mexico's Auto-Production Boom Is Driving Up Labor Costs," Wall Street Journal, August 15, 2016. www.wsj.com/articles/mexicos-auto-production-boom-is-driving-up-labor-costs-1471201920.

The economic growth that occurred in Africa raised the expectations of increasingly globalized youth. A rural Senegalese man was profiled before leaving illegally for Europe after his brother drowned trying to get from Libya to Italy. Instead of being deterred by his brother's death, Samba Thiam concluded that he had to move 400 miles from his village to Dakar and from there to Libya and on to Italy in order to earn money so that his family, as well as his brother's widow and children, could get the smart phones and televisions common in the households of rural Senegalese with a migrant in Europe.⁶ Staying at home would deny rural Senegalese the consumer items introduced by successful migrants.

The Mexico-US migration hump lasted about 15 years, and Mexico-US migration is poised to remain on a downward trajectory due to slower labor force growth in Mexico and better education systems in rural areas to prepare the fewer youth there for jobs in Mexico (Passel and Cohn, 2016). The US has made it more difficult to enter the country illegally and work, and the number of unauthorized Mexicans has begun to shrink. The African migration hump could be far larger and last longer.

Trade and Migration: High Skilled

Most economic studies deal with the relationship between freer trade and the migration of low-skill workers. There are many reasons for this focus, including that most of the world's workers are low-skilled and that most governments have social safety nets to protect domestic low-skilled workers. Freer trade between richer and poorer countries could threaten the jobs of low-skilled native workers for whom governments feel special responsibility and increase social safety net costs.

By contrast, theory and experience suggest that trade and the migration of temporary professionals are often complements, that is, the movement of professionals often increases with more trade and investment (Globerman, 2000). There are three major reasons: complex goods, movements linked to multi-national corporations, and foreign investment. First, increased trade in complex goods, those that require specialized and customized inputs and are tailored to the needs of particular buyers, usually require the seller to educate the buyer before the sale and to provide services after the sale. Complex goods such as airplanes are often in service for years

⁶ Dionne Searcey, "Desperation Rising at Home, Africans Increasingly Turn to Risky Seas," New York Times, June 16, 2016. www.nytimes.com/2016/06/17/world/africa/african-migrants-mediterranean-sea.html.



or decades, so that the manufacturer has an ongoing relationship with the buyer to monitor and service the complex good.

Much of the professional migration linked to the sale and service of complex goods may be short term movements, as foreign specialists help potential customers to understand the benefits of the product and to service it after the sale (Howe and Owens, 2016). However, complex goods produced in one country and sold in another, as with airplanes and autos, can lead to the establishment of sales and service offices in the country where the sales are made, so that movements of professionals continue to rise with more trade. Establishing sales offices abroad, and eventually production facilities in the country in which complex goods are sold, can increase both temporary and settler migration of professionals.

The second reason that trade and professional migration can increase together is the spread of multinational corporations. Most multinationals move managers and skilled professionals to their subsidiaries abroad so that the techniques that ensured success in one country can be transferred to another. Introducing home-country management and production techniques in foreign subsidiaries, such as just-in-time inventories in manufacturing, usually requires the movement of managers who have experience with the technique in their home market (Martin, 2012). Over time, foreign professionals may be replaced by locally trained managers, but some multinationals rotate managers and professionals between their operations in various countries in order to ensure productivity and continuity and to provide future leaders with experience in all of the firm's operations.

The third reason that freer trade and the migration of professionals can be complementary involves investors who want to play a role in managing their investments abroad. Investors may go to the country in which they are investing or send professionals to begin the operation abroad, making an easy-entry visa a key part of an investor's decisions about whether and how much to invest. Not all investors have an operation in their own country, which is why some countries have probationary investor visas that eventually allow settlement for foreigners who invest at least a certain amount and create or preserve a certain number of jobs.

Most of the debate about the migration of professionals is in migrant-sending countries. The major issue is the brain drain, the fear that poorer countries are losing "too many" professionals educated at government expense to richer countries. During the 1960s and 1970s, there were demands that richer countries compensate poorer

countries of origin for the professionals they accepted as immigrants (Bhagwati, 1976). More recent analysis suggests that sending professionals abroad can accelerate development at home via the return of remittances and new ideas and skills, generating a “brain gain via a brain drain” for developing countries (Boeri, Bruecker, et al 2012).⁷

Remittances

Remittances are monies earned by citizens abroad that are sent back to the country of origin. If labor is considered an export, remittances are the share of foreign earnings that accrue to migrant-sending countries. Most are sent to relatives of migrant earners abroad, and most are spent on daily living expenses, as remittances replace what would have been earned if the migrant had stayed home.

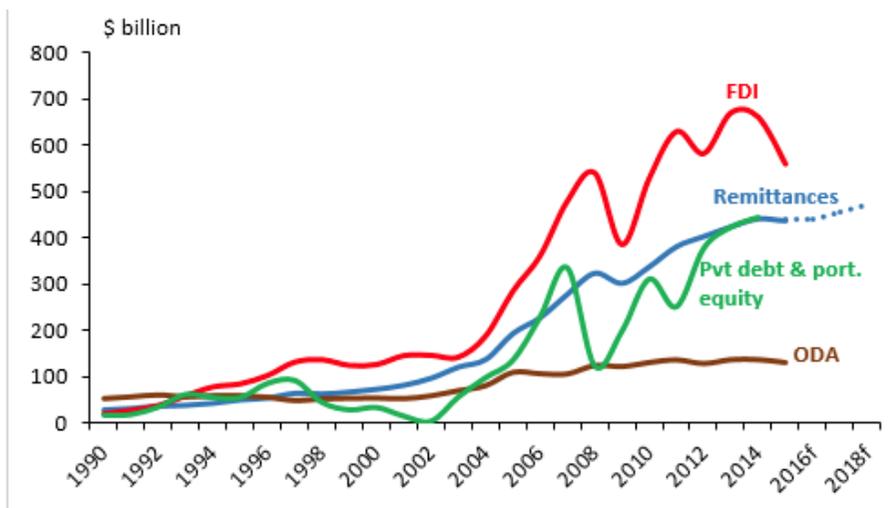
Remittances to developing countries are projected to be \$442 billion in 2016, about the same as in 2014 and 2015 (World Bank, 2015). Remittances doubled between 1990 and 2000 and tripled between 2000 and 2010, although some of this growth may reflect improved measurement of remittance flows rather than more money flowing to developing countries. Another reason for rising remittances may be property market booms in some developing countries, as migrants hope to profit from rising housing prices (Clemens and McKenzie, 2014, p.21).

Unlike foreign direct investment and private capital flows, remittances were stable during the 2008-09 recession, while foreign direct investment (FDI) and private capital flows to developing countries fell sharply (Sirkeci, Cohen, and Ratha, 2012). Remittances are often seen as a short-cut to development, enabling developing countries to acquire scarce capital by sending abroad workers who would have been unemployed or underemployed at home.

Figure 3. Remittances and other flows to developing countries, 1990-2018

⁷ In 2000, there were about 12 million migrants with post-secondary (tertiary) education from developing countries living in OECD countries, plus eight million tertiary-educated migrants from other OECD countries. The 20 million tertiary-educated migrants were about 11 percent of the estimated 182 million workers in OECD countries with tertiary education.





Source: World Bank, 2016

Remittances have two major components: Workers remittances, the wages and salaries that are sent home by migrants abroad 12 months or more, and compensation of employees (called labor income until 1995), the wages of migrants abroad less than 12 months. Many countries do not know how long the migrants who remit funds have been abroad, so most data combine workers remittances and compensation of employees. For example, Mexico reports most money inflows from individuals under worker remittances, while the Philippines reports most under compensation of employees.

The volume of remittances depends on the number of migrants, their earnings abroad, and their willingness to send money home. Six developing countries received over half of all remittances to developing countries in 2015. India received \$66 billion, followed by China, \$65 billion, the Philippines \$29 billion, Mexico \$28 billion, and Pakistan and Nigeria, \$20 billion each; the leading sources were the US, the source of \$54 billion in remittances, and Saudi Arabia, the source of \$37 billion (Ratha, 2016). Remittances are the largest share of GDP in a diverse group of countries, including Nepal, where they were 32 percent of GDP in 2015, Liberia 31 percent, Tajikistan, 28 percent, and the Kyrgyz Republic, 26 percent.

Most migrant-sending governments want to maximize remittances by sending more workers abroad and encouraging citizens abroad to send more money home. The G8 and G20 countries, as well as the Global Forum for Migration and Development, have embraced two goals related to remittances: (1) reduce the cost of small

international money transfers and (2) encourage more remittances to be sent via regulated financial institutions (Ratha, 2016).

The cost goal is being achieved; the average cost of transferring \$200 over national borders fell from 15 percent or \$30 in the late 1990s to eight percent or \$16 today (World Bank, 2015); the World Bank's goal is to reduce average remittance costs to three percent of the amount transferred by 2030. Average remittance costs are lowest in high-volume corridors such as US-Mexico (six percent) and higher in low-volume corridors into sub-Saharan Africa (12 percent).

The second goal is to encourage migrants to remit via regulated financial institutions such as banks in order to reduce the use of informal channels that can also be used by terrorists. Migrants transfer money via formal channels if it is convenient and cheap to do so, but this usually requires banking outlets in migrant communities abroad and at home and competition and technology, including mobile phones, to lower charges and fees. (See Beck and Martinez Peria, 2009)

Remittances have positive effects on the families receiving them, but their record in creating jobs so that children do not have to migrate is more mixed, in part because many migrants come from areas that offer few opportunities for investments that can improve livelihoods over time. Most migrants build new or improve existing housing, but many find it difficult to invest in projects that create jobs for non-migrants.

In short, remittances can improve the lives of migrants and their families, and their spending can speed economic growth and job creation, but remittances can also reduce pressure on governments to make the fundamental economic changes necessary for sustainable growth, including embracing economic integration. Just as with freer trade, remittances open a window to faster development, but do not assure that recipients can go through the window and achieve stay-at-home development (e.g. Singh, 2015; Fayissa and Nsiah, 2010).

Conclusions

Freer trade and investment speed economic growth and development, but how do rising flows of goods and capital affect migration? Economic theory suggests that trade can be a substitute for migration, as exemplified by the argument that Mexico can send tomatoes or tomato pickers to the US. However, the first free trade agreement between an industrial and developing country where the wage ratio was eight to one, NAFTA, showed that there can be a migration hump, or temporarily more migration as freer trade



displaces workers in previously protected sectors before investment creates new jobs. Furthermore, the workers displaced may not be able to get jobs in the sectors where freer trade creates jobs, leading to out-migration pressures.

NAFTA accentuated what would likely have been a demographic Mexico-US migration hump in the 1990s, as freer trade in agricultural commodities combined with rapid labor force growth and slow job creation to encourage especially rural Mexicans to follow well-established networks to the US, where employers who had been hiring Mexicans for decades expanded, especially in agriculture, construction, and services, adding US demand-pull forces to Mexican supply-push factors. Rural Mexicans were leaving for the US before NAFTA, but the free-trade agreement speeded up changes in Mexico, compressing a process that may have stretched for several decades into a decade.

Freer trade can also increase high-skilled migration, much of which is temporary rather than permanent. There are three major reasons why more professionals flow across borders as trade and investment increase. First, complex goods that are tailored to the needs of particular buyers often require the seller to educate the buyer before the sale and to provide services after the sale. Second, multinationals may move managers and skilled professionals between their subsidiaries, and third, investors may install themselves or managers in investments abroad. Increased migration of highly skilled workers is often anticipated in FTAs, which include provisions to facilitate the movement of professionals and investors.

The links between trade, migration, and development show that managing migration is more difficult than a first glance would suggest. People are far more complex than goods, as they react to changes in laws and regulations in ways that goods do not, as when they move as intra-company transfers rather than independent workers. The fact that both low- and high-skilled migration can rise with freer trade emphasizes that labor migration is a process to be managed on an ongoing basis rather than a problem that is solved in ways that allow policy makers to move on to the next issue.

The reward from working abroad is often remittances, the monies earned by individuals in one country and sent to their countries of origin. Remittances to developing countries have exceeded \$1 billion a day for the past decade, and they have become a lifeline for families with breadwinners abroad. However, there are few examples of remittances alone leading to stay-at-home development, and more evidence that remittances reinforce trade

and investment in speeding changes that can lead to a migration hump.

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