

Diasporas and Economic Development: A Review of the Evidence and Policy

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Abstract

The paper reviews recent literature on the economics of migration and diasporas, focusing on economic gains and opportunities that these diasporas could represent for home countries. In addition, the paper discusses policies aimed at leveraging this “diaspora capital”.

JEL-Codes: O330, F140, F220.

Keywords: migration, diaspora, trade, FDI, remittances, knowledge.

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1 Introduction

Migration is a very old phenomenon in world history, much older than trade and capital flows. Scientists believe that the first massive migration of modern humans happened between 80,000 and 60,000 years ago, from Africa to Asia (Gugliotta, 2008). In modern history, and in particular in the past few years, migration has typically been the subject of heated policy and political debates, often relying on rhetoric not always supported by empirical evidence in economics or the social sciences more broadly.

The number of people living in a country other than where they were born increased from 75 million in 1960 to about 266 million nowadays. Despite the significant nominal increase, the number of migrants relative to global population has remained steady at about 3.5 percent for the past decades. Yet, as of today, many countries have significant communities of their own citizens living abroad, or diasporas.

This likely irreversible trend begs the question: Can growing diasporas represent an opportunity for their home nations –many of them developing countries– in nurturing their economies? The purpose of this is to review some of the literature on the gains from diasporas and the economic opportunities that these diasporas represent to their countries of origin. In addition, the paper presents a discussion on policies aimed at leveraging the "diaspora capital".

This paper is structured as follows. First, I describe some of the stylized facts regarding diasporas, their sizes and geographical distribution. Then, I review available evidence on some of the different ways through which diasporas can be an asset for the economic development of their home countries and discuss policy ideas around them. I focus on three specific channels: remittances, business networks and the diffusion of knowledge. A final section presents concluding remarks.

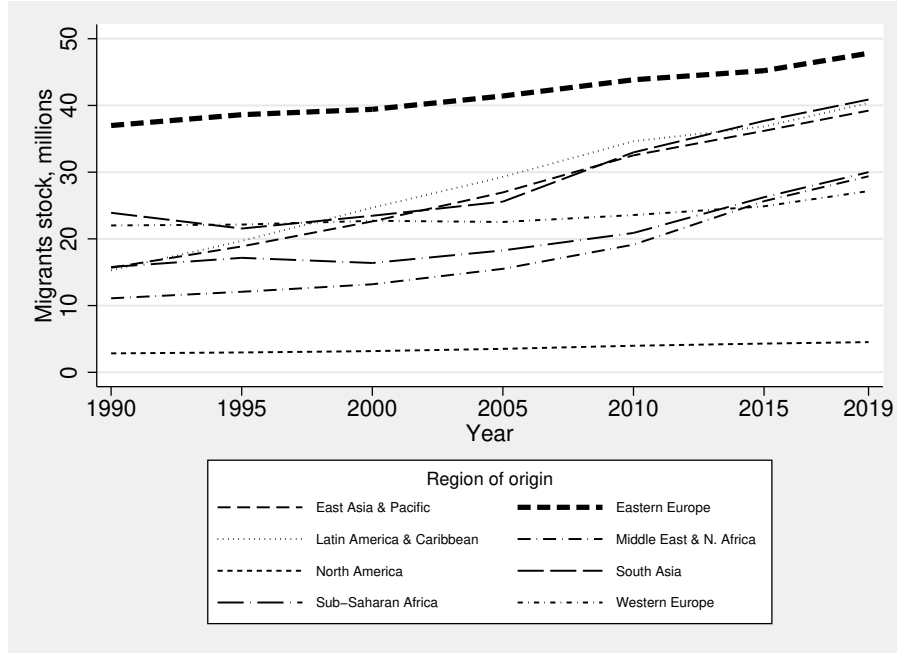
2 Where and how large are the diasporas?

Many countries have very large and significant diasporas,¹ and they tend to be quite spread out around different regions of the globe, according to the definitions by the World Bank.² Figure 1 presents the evolution of number of

¹For the purpose of this paper, diasporas are defined as citizens of the country living abroad, as defined by the available data.

²I use the World Bank definitions, except for Europe and Central Asia, which I divide in two: Western Europe, and Eastern Europe and Central Asia.

Figure 1: Stock of migrants by region in 2019, millions



The figure shows the total stock of migrants (in millions of people) from each region in the world for year 2019. The regional classification is based on that by the World Bank, except for Western European countries which are grouped in a separate category. Source: UN Nations Population Division (2019 revision) and authors' calculations.

migrants by region of origin over the past few decades and until 2019, using data from the UN Nations Population Division. According to the numbers, by 2019, there are about 45 million migrants around the World from Eastern Europe and Central Asia, as noted in the introduction. This region stands out by having the largest diaspora in nominal value. South Asia follows, with just over 40 million people, followed closely by East Asia and the Pacific as well as Latin America and the Caribbean (which includes the Mexico). Then, there are regions such as Sub-Saharan Africa, the Middle East and North Africa and Western Europe, with about 25 to 30 million sized-diasporas each. Finally, North America –which includes only the US and Canada– has very small diasporas in comparative terms, with about 5 million individuals.

Note that, in terms of trends and rankings, that the Latin American diaspora has more than doubled since 1990, driven in part by the Mexican migration to the United States. The Western European diaspora has stayed steady for the past decades at around 20 to 25 million people, passing from being the 3rd

largest (in terms of regions) to the seventh, just above North America. Note, too, that Eastern European countries have stood out by having the largest diasporas for a few decades already, which likely responds to massive migration out of Former Soviet Union countries after its dissolution (and other countries belonging to the communist bloc), further supported by the enlargement of the European Union towards Eastern European nations during the 2000s and beyond. The large diasporas of Eastern European countries stand out even more when measuring its size relative to the population of origin, standing at about 10 percent, alongside countries from Latin America and the Caribbean.

In terms of countries, as of 2019, the five origin countries with the largest diasporas are India, Mexico, China, Russia and Syria (the latter driven by the refugee crisis due to the conflict in the late 2000s).

These migrants are, in fact, also quite geographically spread around the globe, as shown in Figure 2 which visualizes the distribution of destination regions for the different regional groups of countries for the year 2019. A recurring pattern across all regions, as expected, is that the largest portion of their diasporas are in other countries within the same region, with the exception of Latin America and the Caribbean and South Asia, for which their largest destination regions are North America and the Middle East, respectively.

The Figure also visualizes that North America (namely the United States of America and Canada) are an important destination for migrants for all over the world, as well as Western Europe in some cases. Thus, an important share of these diasporas is located in developed countries.

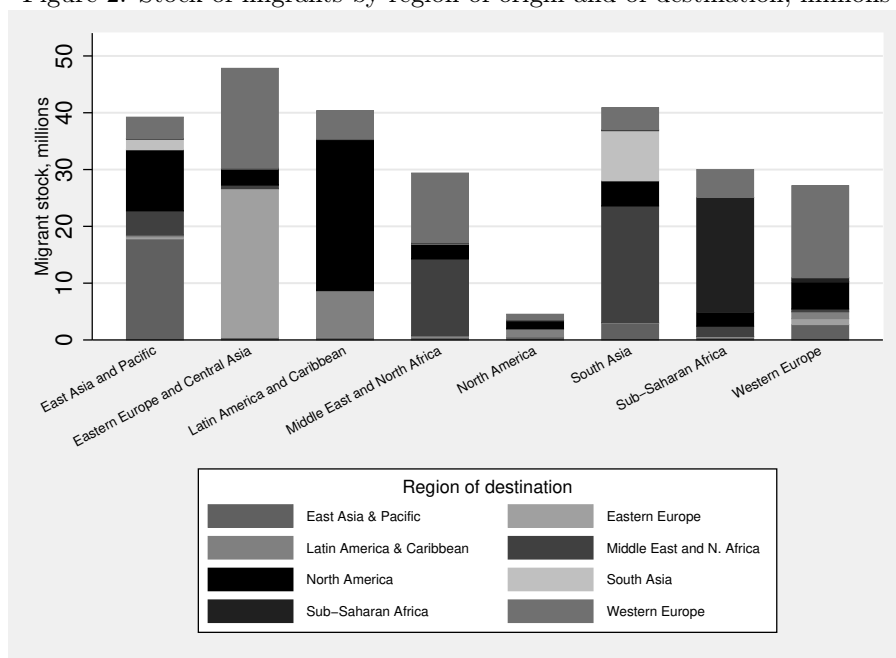
If anything, these graphs confirm the fact that, indeed, most of the diasporas belong to developing countries, and thus it is particularly relevant to understand how this “diaspora capital” can be a factor favoring economic growth and development.

3 How can diasporas foster economic development of their countries of origin?

I focus on three main ways through which diasporas can support the development of their home countries: remittances, business networks and the diffusion of knowledge. I summarize evidence behind each one of these.³

³For studies reviewing overall gains from migration, also in receiving countries, see Docquier and Rapoport (2012); Clemens (2016); Kerr et al. (2016); and Kerr (2018).

Figure 2: Stock of migrants by region of origin and of destination, millions



The figure shows the total stock of migrants (in millions of people) from and to each region in the world. The regional classification is based on that by the World Bank, except for Western European countries which are grouped in a separate category. Source: UN Nations Population Division (2019 revision) and authors' calculations.

Remittances

An important way sending countries benefit from out-migration is through remittance flows. Remittances—money that migrants send back home to friends and family—can act as a powerful poverty-reduction device, allowing those left behind to share in the economic benefits of increased labor productivity and significantly increase their consumption. Naturally, the role of remittances can be especially important for countries with large diasporas, as they can significantly increase income, consumption and investment, thus increasing welfare among lower income households. In turn, through taxation the remittances-driven consumption and investment contribute to the fiscal accounts, which could be used for investing in public goods such as education, health and infrastructure, among others.⁴

Overall, remittances have become an increasingly important flow: according to the World Bank’s World Development Indicators, annual remittances flows more than tripled since year 2000. By the end of 2017 global remittances reached nearly \$425 billions per year worldwide (in current dollars). This number corresponds to about 2.5 times the size of net official development assistance and official aid received globally.

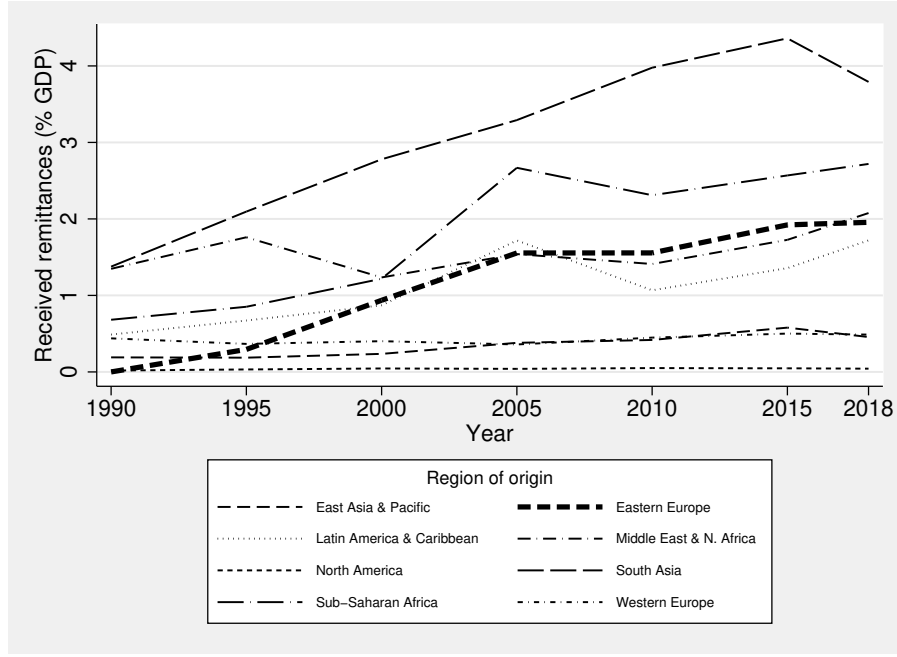
For particular countries, such as Mexico, remittances are a very important source of income. Only in 2018, remittances to Mexico reached USD \$35 billion, which is nearly 3 percent of its GDP, mostly coming from Mexicans living and working in the United States. Countries like India and the Philippines, together with Mexico, are the largest recipients of remittances. For smaller countries, such as Armenia, Moldova and El Salvador, remittances make at least one sixth of national income.

Remittances are no longer a trivial part of global financing flows; remittances to low-and-middle- income countries reached US\$529 billion in 2018, and are projected to surpass foreign direct investment in 2019 (Ratha et al., 2019). This is likely to be an increasingly powerful force for growth in the future.

Figure 3 visualizes the sizes of remittances received in different regions of the World as a share of total production. One can see they amount to significant sizes and the upward trend across time. Countries in South Asia, for instance, stand out by being the largest recipient of remittances relative to local production, with nearly 4 percent of their combined GDP by 2018. Countries

⁴The debate on whether taxation of remittances is a good or bad policy is out of the scope of this paper.

Figure 3: Remittances received by region of destination, % GDP



The figure plots total remittances inflows as a share of GDP for each region in the world. The regional classification is based on that by the World Bank, except for Western European countries which are grouped in a separate category. Source: World Development Indicators and authors' calculations.

in Sub-Saharan Africa are also significant recipients of remittances, with the share standing at above 2.5 percent of GDP. Countries in the Middle East and North Africa, as well as Eastern European nations also receive a large portion of their GDP in remittances, with about 2 percent by 2018. Latin America and Caribbean countries follow with incoming remittances accounting for over 1.5 percent of GDP. Other regions receive below remittances at a share that is below 1 percent of their combined GDP.

Remittances, without a doubt, are a key component of how countries benefit from their diaspora, and often a very important source of foreign currency for developing countries. As such, countries with large diasporas would want to encourage such flow.

Remittances from private individuals abroad to their home countries tend to be used by the receiving households for consumption purposes and perhaps as investment in small businesses, which adds to local economic development. In some circumstances remittances has been used to finance public goods by

creating a public-private partnership between the diaspora and institutions back home. The provision of public goods at the local level, such as infrastructure for example, could be fueled by remittances in the presence of a public policy vehicle such as a matching scheme of donations sent by emigrants of those cities, towns or villages.

One example of this is the *Tres Por Uno* (“three for one”) program in Zacatecas, Mexico (Kuznetsov, 2006). In it, for every \$1 contributed by diaspora associations, the federal, state and local governments would match another \$1 each. This money is gathered in a fund that is then used to invest in local development, through a vehicle where decisions are made by local residents and contributing emigrants. From the government perspective, this allows them to provide public goods with partial funding from privates residing abroad, and the local communities play an active role in the investment decisions. In 2017 this program was able to invest over USD \$2.5 million, combining all sources (Gobierno de Zacatecas, 2017). While this is not a particularly large program (for reference, the population of Zacatecas was 1.5 million people in 2019), it has the potential to generate important returns to investment, particularly when it comes to education (the program covered nearly 8,000 scholarships to students at all levels in 2017). It is unclear, however, how replicable and scalable these type of programs are in other contexts, and is a matter for further research.

Beyond investment in public goods, remittances could also be channeled as private investment from investors in the diaspora to fuel productivity in their hometowns or, more broadly, the country. Seed capital for the purpose of the creation of new businesses is often lacking in developing countries given the coordination failures associated with it (no capital without projects to invest in, and no projects without the existence of capital). Migrants residing abroad could play an important role in bridging this gap. Thus, investors in the diaspora could play an important role in partnering with local entrepreneurs by contributing with capital, and more importantly, mentoring. Governments could support this effort, as they often do when it comes to risk capital, by using their own innovation and entrepreneurship agencies to match investment in new ventures, thus reducing the risk for the investor from abroad.

Business and information networks

Migrants have shown to be particularly effective in reducing bilateral transaction costs resulting in higher trade and investment flows across borders by creating

cross-border networks that facilitate the flow of information.

When it comes to trade, several studies have shown that migrants play an important role in reducing non-tariff barriers between nations (e.g., Gould, 1994; Rauch, 1999; Rauch and Trindade, 2002; Cohen et al., 2017; Parsons and Vézina, 2018). A great example can be found in the bilateral trade patterns between Vietnam and the United States. In 1975, the US military evacuated over 100 thousand refugees from South Vietnam and brought them to the United States. Once in the US, it was the government—not the refugees themselves—who decided their resettlement destination. Throughout this period, and until the mid 1990s, the US placed an embargo on Vietnam eliminating the possibility of trade between the two countries. Parsons and Vézina (2018) use this episode to show how the Vietnamese diaspora in the United States, spread around different states in different proportions, played a role in restarting bilateral trade with Vietnam following the lifting of the trade embargo: US States that received more Vietnamese refugees traded more with Viet Nam.

A similar argument is made for cross-border investment, which is often hindered by risks associated with the uncertainty on formal and informal rules in the “other” country. Migration has been proved to help mitigate those risks by liaising between potential investors and partners, both private and public, as it has been shown empirically by several studies (e.g., Kugler and Rapoport, 2007; Javorcik et al., 2011; Foley and Kerr, 2013; Burchardi et al., 2018; Kugler et al., 2018; Mayda et al., 2020).

One may ask: what is it about migrants can do to boost trade and investments that non-migrants can't? Migrants are able to overcome communication and language barriers typical of two natives from two different countries, and are also more likely to have knowledge on the regulatory environment in both countries, which is crucial for firms operating across borders. More generally, the existence of strong business networks in between countries is an important stepping stone to overcome non-tariff trade barriers or other market failures hindering cross-border trade and investment.

Overall, the ability of diasporas to lower bilateral transaction costs for trade and investment benefits their home countries to be more globally integrated. This is consistent with the data, as shown in Figure 4, which plots countries' diaspora size (relative to its population) against their level of integration in the global economy as measured by total exports (left panel) and (net) foreign investment inflows (right panel), both relative to gross domestic product. plots on the left panel total exports relative to GDP against the size of the diaspora

creation.

In fact, in many countries there are also official counterparts to engage with diasporas, often at the ministerial level. Countries such as Albania, Brazil, Chile, Mexico, Peru, Philippines, and Romania have ministries of diaspora affairs, each with different goals but with the general common purpose of engaging with the country's emigrants. These institutional arrangements could play an important role in assisting in the policymaking aimed at improving the flow of goods and of capital into the country (such as free trade agreements, for example). One model through which this can be accomplished is by providing political representation of some sort. Ellis et al. (2007) mention 11 countries that in 2007 had parliaments with political representation for members of the diaspora. Either through direct political representation or joint governmental commissions that include diaspora members of the private sector, migrants could assist bilateral negotiations on trade and foreign investment (as well as on migration) with their knowledge of informal institutions and existing bottlenecks in economic activity across countries.

The diffusion of skills, technologies and knowledge

One of the most crucial aspects through which diasporas boost determinants of economic growth are by transferring skills, technologies and knowledge across nations. In that sense, diasporas are an important source of diffusion back to their home countries.

Why is that? One fact that economists have reached consensus is that the diffusion of knowledge is a very localized phenomenon.⁵ For instance, Jaffe et al. (1993) –among the first ones to make this claim– show that patent citations are more frequent within the same geographic area. Along the same lines, Keller (2002) showed that knowledge spillovers decrease with distance by looking at productivity changes as explained by foreign R&D investment, documenting that the half-life of such spillovers is 1200Km. It has also been shown that multinational corporations active in economic activities intensive in complex tasks require more time and effort for coordination and monitoring, and this becomes much more difficult at longer distances (e.g., Keller and Yeaple, 2013; Ramondo and Rodriguez-Clare, 2013; Gumpert, 2018; Bahar, 2018). Bahar et al. (2014) show that a country is 65% more likely to add a new product to its export basket whenever a geographic neighbor is a successful exporter of

⁵See Keller (2004) for a complete review of this literature.

the same good, a finding that is attributed to the local character of knowledge diffusion.

Why is the geographical component so important in the diffusion of knowledge? A widely accepted answer is that not all knowledge can be fully embedded in intermediate goods, implying that some of the knowledge required as inputs to economic processes is *tacit* (e.g., Polanyi, 1962, 1966), and its diffusion requires human interaction (Arrow, 1969). Since people are typically not as mobile in comparison to other flows such as goods and capital, knowledge is not as mobile either. After all, even in the era of internet, students learn from their teachers by congregating in the same space and businesspeople still travel to meet face-to-face in order to conduct their businesses.

If this is the case, then, one could say that the diffusion of knowledge should follow the patterns of international migration. In other words, one would expect that migration flows –the most extreme form of labor mobility– would result in compositional changes in economic outcomes in receiving and sending countries that respond to knowledge diffusion. While the literature is still small (though rapidly growing) when it comes to the role of diasporas –the focus of this survey– in transferring knowledge back home, there are certainly some studies that make important contributions towards our understanding of this phenomenon.

Yet, before reviewing the evidence, it is worth asking: how can we measure knowledge flows? This is no trivial question as, almost by definition, knowledge is an intangible asset. One particular way through which economists measure knowledge flows is using patent data. Patenting involves innovation, and innovation is the creation of new knowledge. In addition, patent citations presumably involves the transmission of knowledge of some sort between one inventor to another. In this context, there are

Using patents, there are some key studies worth mentioning that document evidence of knowledge diffusion through diasporas back to home countries. Agrawal et al. (2006), following inventors as they move, find that knowledge flows (i.e., citations) to an inventor’s prior location are approximately 50% greater than if they had never lived there. Agrawal et al. (2011) focuses on the Indian diaspora and find a two-sided effect: while a emigration of domestic inventors weakens the quantity of innovation, it strengthen its quality as measured by forward citations. Breschi et al. (2017) find consistent results when focusing on US-based foreign inventors from ten different countries in Asia and Europe: patents filed by foreign inventors are disproportionately cited by inventors residing in their country of origin. Furthermore, in a multi-country

setting, there is robust evidence showing that diasporas of migrant inventors result in large knowledge flows to countries of origin of these migrants through patent collaborations (Miguélez, 2018) and citations (Migueluez and Noumedem Temgoua, 2019).

Focusing on returnees, Choudhury (2016) uses patenting data of an Indian R&D center of a Fortune 500 technology company and finds that return migrants facilitate knowledge production. In particular, employees working for returnee managers (following a random assignment of employees to managers) file disproportionately more patents than those working for local managers. The findings further suggest that returning migrants facilitate knowledge transfer between the company’s headquarters and local teams, as patents filed by local employees tend to cite more often other patents produced by inventors at the headquarters location.

The seminal work of Kerr (2008) links innovation outcomes of ethnic communities in the US to economic performance in corresponding countries of origin.⁶ The paper finds that growth in the size of U.S. ethnic scientific communities increases production output of relevant industries in origin country of such diaspora, which is attributed to knowledge flows.

Bahar and Rapoport (2018) use a different but related metric for knowledge flows: dynamics of comparative advantage. Their assumption is that controlling for global demand, exports to the rest of the world are a proxy for industry-level productivity changes, which in turn responds to knowledge accumulation. In this context, Bahar and Rapoport (2018) find that a country is more likely to become a competitive exporter of a given product (previously not exported) the larger its diaspora residing in other countries that export that same product competitively.⁷ Their results are driven by highly-skilled migrants.

Bahar et al. (2019) go one step further and exploit a natural experiment to investigate the role of returning migrants to the former Yugoslavia, also using exports to the rest of the world as outcome. The context of their study is during the early 1990s, when Germany offered temporary protection to over 700,000 Yugoslavian refugees fleeing war. By 2000, many had been repatriated. They use confidential social security data to capture the employment of these refugee workers to about 700 tradable industries in Germany. Their main finding is that industries in former Yugoslavian nations performed better, as measured by

⁶Note that in this study a diaspora is defined through ethnicity and not citizenship.

⁷Their result also works for hosting immigrants from those nations, as they explore both channels.

exports, the more refugees who had worked in those same industries while in Germany had returned.

There is also firm-level evidence, provided by Giorcelli (2019) who studies firm performance for Italian firms in the context of technical assistance provided by the US as part of the Marshall Plan in the 1950s. The findings are that Italian firms that sent managers to the US to receive training as part of the Technical Assistance and Productivity Program outperformed those that did not for at least fifteen years after the program.⁸ This result, in essence, reflects a pure knowledge transfer process as the training involved learning about best practices, often from managers in comparable US firms.

Overall, while this is part of an active and ongoing research agenda, there is plenty of robust evidence suggesting that diasporas play a role in facilitating the diffusion of knowledge and of technologies back home, contributing in turn to the economy in multiple ways that are determinants of economic growth. This effects can either happen just through networks or through members of such diaspora returning to their home countries.⁹

Since the diffusion of knowledge requires human interaction, involving the diaspora in programs to improve competitiveness and productivity can be crucial. For instance, a firm could benefit from having their workers temporarily train abroad to learn new technologies or gain specific knowledge that could result in higher productivity upon their return. Multinational firms often offer these programs for their employees, allowing them to relocate to a foreign branch for a period. Yet, generally, for many firms this is problematic. This is because of an important externality they face, which might be more prevalent for smaller firms: If would pay for their worker's training abroad, they risk losing them to other firms upon their return. Therefore, there is an underinvestment in workers training, in particular when the cost is high, such as training abroad.

In fact, there is an important anecdote that is crucial to understand how important exposure to knowledge, technologies and best practices in other countries could be, as documented by Rhee and Belot (1990) and Easterly (2001). It refers to the story of the garment sector in Bangladesh, which grew from being 0.5 to 28.3 percent of the country's export basket between 1980 and 1986.

⁸Note that the context of this study is about short-stays abroad and less so about returning after a prolonged period of time abroad.

⁹Note that there is also evidence showing that permanent forced displacement can bring about *negative* effects on the home countries. Examples include the expulsion of Jews from European countries during Nazism, population exchanges between India and Pakistan, and others. See Becker and Ferrara (2019) for a review of this literature.

This unprecedented take-off of the garment export sector is attributed to 130 Bangladeshi workers –only four of them in management positions– who spent eight months in 1979 working and receiving training in Korea as part of an agreement between their company Desh and a Korean firm. The knowhow acquired by these workers seems to have played a huge role in making Desh a highly successful exporter firm, generating spillovers to the sector as a whole. Consistent with this anecdote, some of the evidence reviewed above also points to a handful of workers (often a couple of managers per firm as in the case of Giorcelli (2019) or per industry as documented by Bahar et al. (2019)) who could play an important role in significantly boosting economic performance through the transmission of knowledge back home.

All this evidence points out to the important role that governments could play –often working together with diaspora organizations– in formalizing and strengthening ways to enhance the diffusion of knowledge back home. In particular, governments can play a role in the presence of market failures that hinder exposure of managers, workers, inventors, etc. to outside knowhow either through their presence in other countries or through interactions with diasporas.

For beginners, it is important to move towards designing bilateral agreements that include the creation or facilitation of short or long-term work visas or job permits, in order to reduce costs of moving. This will facilitate the flow of knowledge through the flow of migration, as evidenced above.

An additional step would be to address underinvestment in training of workers abroad due to the negative externalities of these activities, which likely are even more relevant for small firms. In other words, it is safe to assume that the social returns of workers being trained abroad are higher than the private return for firms, as the worker might choose to move firms upon return. In that sense, it would be justifiable for the government to partially or fully subsidize those experiences. By doing this the government would be overtaking part or all of the risk linked to the worker not returning to his or her original workplace. The “right” amount of the subsidy, thus, is to be defined within each circumstance, but it would have to be such that is enough to diminish or eliminate the private risk, but at the same time not to use public funds to crowd out private investment. In practice, this might require some initial conditions and adjustments over time. Another option to promote temporary migration of this form is to provide the funds directly to the worker in the form of a conditional loan. This loan would only need to be repaid if the worker does not return to the country after the training period (similarly to the format used in many scholarships to

study abroad).

In addition, for countries with large diasporas, one could think of policies to encourage citizens residing abroad to return home. In this case, it would also be safe to assume that government intervention is justified because the social returns of citizens moving back –bringing alongside their skills and knowhow to the local economy– might be larger than the private returns to the citizens themselves. This might be particularly important when it comes to migrants from developing countries in developed nations and for skilled migrants, for whom their stay abroad typically involves acquisition of human capital, skills and knowledge that could translate into productivity growth upon their return, as the aforementioned literature suggests. In this sense, an important policy instrument could be for the country to incentivize return migration of their citizens abroad by providing fiscal or other incentives. For example, through the reduction of marginal income tax rate for a number of years upon return, or by waiving (some or all) customs taxes upon repatriation, both of which *could* be conditioned on employment and/or investment. Ideally, this structure of incentives should be constructed in a way that is horizontal, and not industry- or occupation-specific.

4 Conclusions

For the most part, the economic debate on immigration has focused on its short-term labor market and fiscal effects. Perhaps because of this, less attention has been given to the long-run economic opportunities linked to migration, for both receiving and sending countries. This paper has outlined some of these gains based on research evidencing the role migration and diasporas have in fostering economic development in countries of origin.

However, despite the potential, policies that aim to boost the benefits from nationals residing abroad seem not to be always prioritized in the national agendas of developing countries with large diasporas.¹⁰ The rationale for and design of potential policies depend on country-specific context and the particular market failure they are meant to address. Yet, I hope this paper provides the reader a deeper understanding on the available evidence as well as the importance of linking the presence of diasporas to economic development policymaking.

¹⁰Kuznetsov (2006) provides a thorough discussion on policies related to diasporas around the globe.

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