
Impacts of Temporary Migration on Development in Origin Countries

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Temporary migration is widespread globally. While the literature has traditionally focused on the impacts of permanent migration on destination countries, evidence on the effects of temporary migration on origin countries has grown over the past decade. This paper highlights that the economic development impacts, especially on low- and middle-income origin countries, are complex, dynamic, context-specific, and multichanneled. The paper identifies five main pathways: (a) labor supply; (b) human capital; (c) financial capital and entrepreneurship; (d) aggregate welfare and poverty; and (e) institutions and social norms. Several factors shape these pathways and their eventual impacts. These include initial economic conditions at home, the scale and double selectivity of emigration and return migration, whether migration was planned to be temporary ex ante, and employment and human capital accumulation opportunities experienced by migrants while they are overseas. Meaningful policy interventions to increase the development impacts of temporary migration require proper analysis, which, in turn, depends on high-quality data on workers' employment trajectories, as well as their decision processes on the timing of their migration and return. These are currently the biggest research challenges to overcome to study the development impacts of temporary migration.

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Keywords: temporary migration, economic development, origin countries.

Introduction

Temporary migration is widespread across the globe, especially for low-skilled migrants from low- and middle-income countries. The empirical and policy literature has traditionally focused on permanent migration and its impact on high-income destination countries, mainly driven by the availability of relevant and suitable data. In the last decade, however, research on temporary migration and its development

impact on origin countries has grown considerably as the issue received more attention from policy makers and new data sources became available (Wahba 2014).¹

Temporary migration, in the academic literature, generally refers to episodes during which individuals live at a destination country, and then return to their origin country or move to a third country during their lifetime. In other words, migrants or migration episodes are labeled as temporary *after* we observe departure from the destination country since it is quite difficult to identify whether temporariness of migration was always intended or when the return decision was made during the migration episode. However, initial intent on the duration of stay matters for economic outcomes as well as legal status.² In some cases, migration will be planned for a duration, generally for educational and employment purposes, and return is always part of the plan. In many of these, return is also legally required by the laws of the destination country. In other cases, migrants will decide to return even if they have the *option* or the initial intention to stay permanently. Unexpected changes in circumstances in their personal lives or in conditions in origin or destination countries generally prompt such departures from their initial intent. A migration episode which was intended to be permanent *ex ante* thus can easily turn out to be temporary, *ex post*. The reverse is also possible, again due to changing circumstances, where temporary migration becomes permanent.³ We return to the importance and the difficulties of making the distinction between *ex ante* intent and *ex post* outcome of return in the data and the empirical analysis as we discuss different data sets, outcomes, and conclusions of the literature.

The focus of the earlier papers on temporary migration was on the effects of remittances on income and poverty in origin countries.⁴ More recent literature shifted the focus to other macroeconomic variables, and especially, those associated with economic development (Clemens, Özden, and Rapoport 2014). The objective of this paper is to summarize and discuss the evidence on the various channels through which temporary migration and economic development in origin countries are linked, identify the data and methodology challenges, and finally suggest new venues of research.

One of the main observations of this literature is that temporary migration is part of a complex dynamic optimization process of individuals who aim to maximize their lifetime utility (Borjas and Bratsberg 1996; Kirdar 2009; Dustmann and Görlach 2016). These individual decisions, when aggregated across the population, impact a range of macroeconomic variables and the overall development paths of origin countries. In terms of individual decisions, temporary migrants have to decide when to leave, where to move, how long to stay, what kind of work to do, what to do after return, and whether to migrate again. They have to overcome legal barriers and pay upfront fixed costs, often financed through borrowing. They face numerous sources of uncertainty due to macroeconomic conditions that affect labor demand at the destination or individual conditions that impact their employers.

These decisions are also interconnected: the outcome of each decision depends on and influences other decisions. In other words, the temporary migration process has dynamic repercussions on the migrants' human capital, savings, labor supply, occupational choices, and, ultimately, their consumption paths and lifetime welfare (Dustmann and Kirchkamp 2002; Bossavie et al. 2021). Such dynamic impacts extend beyond the migrants and affect the outcomes and welfare of their family members who, mostly, stay in the origin country while the migrant is abroad. Decisions of migrants produce broader externalities, in addition to direct macroeconomic effects, such as foreign currency inflows. Among these are the transmission of ideas, technology, and human capital to the overall community.

The paper highlights that the economic development impacts of temporary migration, especially on low- and middle-income origin countries are multichanneled. It identifies five main pathways through which temporary migration experiences of individuals affect overall economic development and growth in their origin countries: (a) labor supply; (b) human capital accumulation; (c) financial capital accumulation and entrepreneurship behavior; (d) welfare and poverty reduction, mainly through remittances received; and (e) changes in institutions and social norms. We emphasize that the impacts of each of these channels are complex, dynamic, and highly context dependent. They depend, among others, on the scale of and selectivity of emigration (the skill level of emigrants relative to the working-age population at origin) and return migration (the skill level of return migrants relative to emigrants who choose to stay), whether migration was intended as temporary *ex ante*, and the economic conditions at origin and destination at the time of departure and return. While doing so, the paper also identifies evidence gaps in the literature, which are partly driven by the limited availability of suitable microdata to study the impacts of temporary migration.

Most of the origin country impacts discussed in this paper are specific to temporary migration. In particular, impact channels that operate after the migrants return home, by definition, are specific to temporary episodes. In addition, part of the empirical evidence we report in the paper is drawn from origin country contexts where emigration is entirely temporary, due to legal regulations in destination countries, such as those in the Persian Gulf. Some of the empirical studies we discuss, however, do not explicitly distinguish between temporary and permanent migration, as some impact channels—especially those operating when the migration is still ongoing—are relevant to both types of migration. Indeed, some migration episodes that were originally planned to be permanent *ex ante* become temporary and vice versa. As intentions determine migrants' behaviors while at destination (Dustmann and Görlach 2016), such as the efforts to acquire location-specific human and social capital, the distinction between temporary and permanent migration becomes more blurry in cases where permanent stays are possible. Throughout the paper, we differentiate between studies that refer specifically to temporary migration as opposed

to papers that do not explicitly isolate temporary migration and its impacts from permanent migration.

The evidence reviewed in this paper is restricted to international migration. It does not cover the literature on internal migration, even though conceptually they are closely related. Most studies in the internal migration literature have focused on rural to urban migration (Sjaastad 1962; Harris and Todaro 1970), and typically treat such movements as permanent changes of location. More recent papers, such as Morten (2019), introduce temporariness and view temporary migration as an insurance mechanism in rural areas.⁵ Empirical evidence on the impacts of internal migration on origin locations is primarily drawn from the Chinese context, where rural to urban migration is widespread. Although the evidence is thinner than for international migration, findings are broadly consistent with the impacts of international migration reported in this paper.⁶

The remainder of the paper is organized as follows. Next section discusses patterns in temporary migration and reviews available data. Then we look at effects on labor supply among the home country population. Next, we discuss the complex and multi-channeled impacts of temporary migration on human capital at origin. Following section focuses on financial capital and entrepreneurship. This is followed by the discussion of the overall effects of temporary migration and remittances on welfare and poverty in origin countries. Following section discusses the thinner but growing literature on impacts on institutions and development-relevant social norms in sending countries. Concluding section identifies remaining gaps in the literature and suggests areas of further research on the topic.

Data

Patterns in Temporary Migration

Temporary migration, throughout this paper, refers to migration episodes in which the migrant ultimately leaves the destination country to return home. This includes migration episodes that were planned as temporary from the outset as well as moves that were intended to be permanent but turned out to be temporary, ex post. This approach is motivated by the fact that the data and the empirical analysis on realized temporary migration episodes (once the migrant has already returned) typically cannot easily distinguish between planned and unplanned returns.

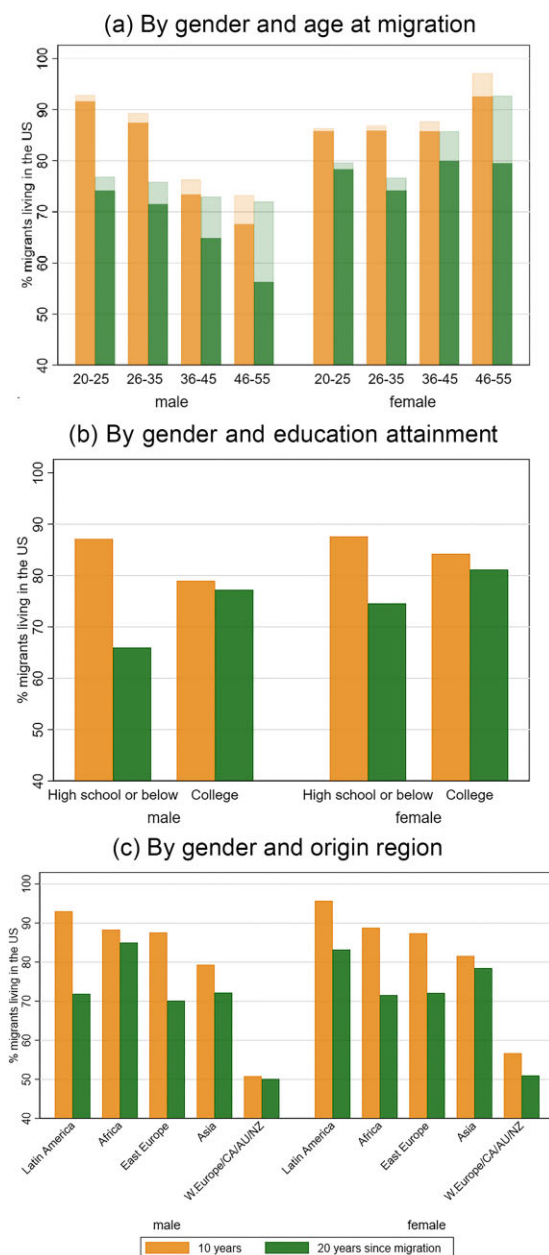
Original intentions affect migrants' behavior while at destination and thus their development impacts, specifically in contexts where migrants have the possibility to permanently stay in the destination country. As noted by Dustmann and Görlach (2016), migrants who originally intended or had the option to migrate permanently, for example, are more likely to learn the local language, establish social connections, or acquire relevant local skills. Regarding migration episodes that are still ongoing

(migrants are still at destination and have not returned yet), we focus on those in which migrants are required to return by law, or because specific data on return intentions were already collected.

International migration may be planned as temporary *ex ante* for two main reasons. First, returning may be optimal and part of the migrants' original plan even if they have the option to stay abroad permanently. Second, migrants may not be legally permitted to stay in the destination country beyond a specified time frame. In destinations where permanent migration is possible, such as high-income countries in North America or Western Europe, people may choose to return because of location-specific preferences for consumption and amenities, such as being near their families or culturally similar communities (Hill 1987; Djajić and Milbourne 1988). Migrants may also choose to return because the income earned abroad and the resulting savings may have higher purchasing power and lead to higher consumption levels (Djajić 1989; Dustmann 1995, 1997; Stark, Helmenstein, and Prskawetz 1997; Dustmann 2003). Finally, migrants may have accumulated significant human capital (Stark 1991; Dustmann and Kirchkamp 2002; Dustmann, Fadlon, and Weiss 2011) or financial capital (or both), which may yield higher returns as entrepreneurs, self-employed professionals, or investors at home (Dustmann and Kirchkamp 2002; Mesnard et al. 2004; Bossavie et al. 2021).

To provide insights on the incidence of temporary migration in high-income OECD countries, we first report evidence on the extent of return migration from the United States, where permanent migration is not only allowed, but tends to be the norm. Thus, a share of the return we observe in the United States is likely to fall into the category of initially unplanned returns, though this is difficult to assess without specialized surveys. As in most destination countries, most of the data come from population censuses or nationally representative cross-sectional labor-force or household surveys. The main issue with these data sources is that returning migrants are not observed since they simply drop out of the sample. These data constraints limit the ability to draw precise conclusions, which happens to be the disclaimer in most of the papers reviewed here.

While we do not directly observe the extent of return migration at the macro level, we proxy for the extent of returns by following a given arrival cohort of immigrants over different waves of the survey or the census. Figure 1 focuses on different immigrant groups who arrived in the United States in 1998 and 1999 as they are observed in the 2009 and 2019 American Community Surveys (ACS). Those are expressed as a percentage of the initial flow of immigrants to the United States in 1998–1999, estimated from the 2000 US Census. The orange and green bars present data from the 2009 and 2019 ACS, respectively. The first two bars on the very left of Panel A look at male migrants who were between the ages of 20 and 25 at the time of their arrival in 1998 and 1999. These bars imply that, in 2009, the number of immigrants in this group dropped to 92 percent of its number recorded in the 2000 census. Their

Figure 1. Share of Immigrants Still Living in the United States after 10 and 20 Years

Source: 2000 US Census 5 percent sample data and American Community Survey (ACS) 2009, 2019.

Note: We first estimate the immigration flows to the United States in 1998 and 1999 from 2000 US Census data, and then estimate the percentage of these immigrants who were still in the United States in 2009 and 2019 from the ACS 2009 and ACS 2019 data, respectively. The shallow bars in subfigure (a) represent estimates adjusted by the gender–age-specific mortality rate.

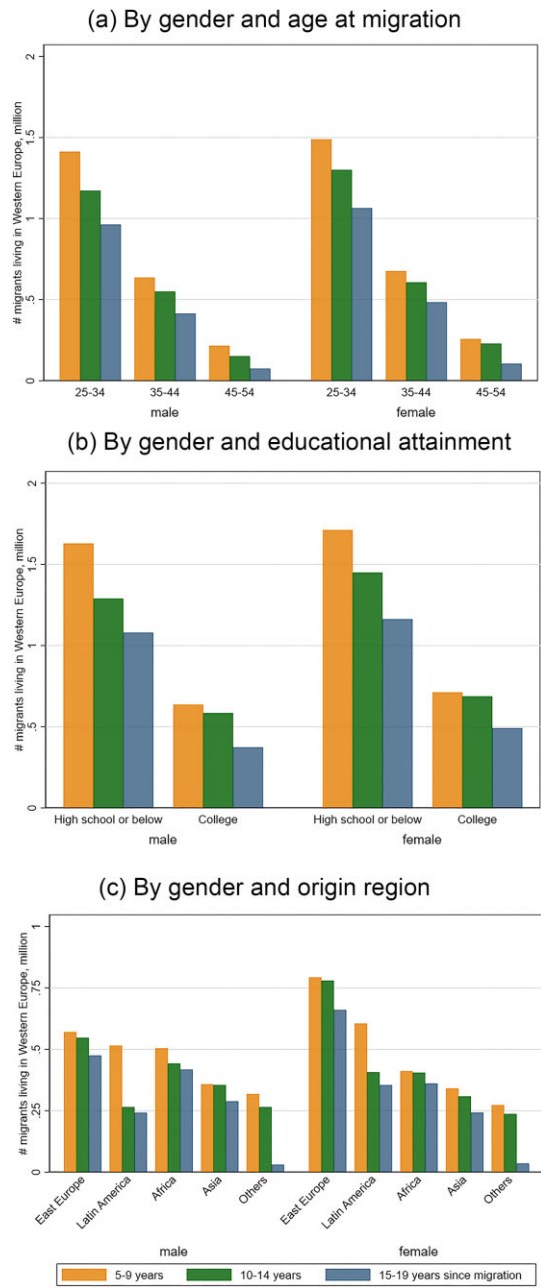
number further declined to 75 percent according to the 2019 ACS. Since the decline in the number of people in the census or the ACS might be due to mortality, we calculate the gender- and age-specific mortality rates and incorporate them into the bars in a lighter color. For younger people, this effect is negligible, but accounts for a large portion of the decline in the number of immigrants from older cohorts in different waves. For male migrants, the largest drop seems to take place around age 45: around a quarter of male migrants drop out of the US sample by that age. The return rate is significantly lower for women, especially if they are older at the time of their arrival.

Panel B presents the same data by education categories. Return rates for college-educated migrants, regardless of gender, is around 20 percent. For high-school-graduate men, the return rate is slightly over 10 percent ten years after arrival and around 35 percent after two decades. Finally, Panel C presents the return rates by region of origin. The highest return rate is observed for those migrants coming from high-income countries—Western Europe, Canada, Australia, and New Zealand. This is expected since these migrants are likely to have more attractive options at home relative to the opportunities available to the migrants coming from middle- and low-income countries. Consistent with this expectation, the lowest return rate is observed for migrants coming from countries in Sub-Saharan Africa.

We next carry out a similar exercise for immigrants in the European Union, the other main destination which allows permanent migration. Similarly, a portion of our returning migrants are likely to have planned to stay permanently at the time of their arrival, but changed their plans over the course of their migration episode. We use several waves of the European Union Labor Force Survey (EU-LFS), which combines and harmonizes data collected by nationally representative labor-force surveys in individual EU countries. The survey collects detailed information on the labor-market outcomes of interviewed individuals, and asks about the region of birth and duration of stay in the current country, which allows one to identify migrants. Following a similar approach as for the United States, we report the number of migrants who moved to the EU countries between 2000 and 2004 and still live there in 2008, 2013, and 2018. We further disaggregate the migrant cohort by age, gender, education, and region of origin.

The results of this descriptive examination are reported in [fig. 2](#). The yellow, green, and blue bars represent the number of migrants from a given cohort who migrated between the years 2000 to 2004 and remain in the country after 5–9 years (in 2008), 10–14 years (in 2013), and 15–19 years (in 2018), respectively.⁷ Migrants to the EU disproportionately move at a young age and the number of female migrants to the region is slightly larger than males (panel a). The number of immigrants from a given cohort decreases noticeably over time and to a greater extent than in the United States. After 15–19 years of stay, the number of immigrants who moved to the EU in 2000–2004 has reduced by 30 percent compared to 10 years prior. This drop is quite large in relative terms for migrants who moved when they were 45 or older (Panel a).

Figure 2. Number of Foreign-Born Who Immigrated in 2000–2004 and Still Live in Western Europe after 5, 10, and 15 Years



Source: European Union Labor Force Survey (EU-LFS) 2009, 2014, and 2019.

Note: We use immigrants residing for 5–9 years in the 2009 survey, immigrants residing for 10–14 years in the 2014 survey, and immigrants residing for 15–19 years in the 2019 survey.

Table 1. Number of Immigrants in GCC Countries, 2020, in Thousands

	Destination country						
	Saudi Arabia	UAE	Kuwait	Oman	Qatar	Bahrain	All
Origin country							
India	2,502	3,471	1,152	1,376	702	365	9,569
Bangladesh	1,278	1,095	380	317	262	115	3,446
Pakistan	1,484	996	339	250	236	105	3,409
Egypt, Arab Rep.	962	900	421	88	184	95	2,649
Indonesia	1,709	319	108	75	44	34	2,288
Philippines	645	565	197	46	170	59	1,682
Yemen, Rep.	770	206	71	–	36	22	1,103
Syria, Arab Rep.	823	53	23	–	25	6	930
Sri Lanka	529	121	40	30	154	13	886
Nepal	503	28	25	–	254	3	813
Other	2,249	963	355	191	161	121	4,040
Total migrants	13,455	8,716	3,110	2,373	2,226	936	30,816
(Percentage of population)	39	88	73	46	77	55	53

Source: United Nations Department of Economic and Social Affairs (UNDESA) International Migration Stock 2020 for immigrant stock; World Bank World Development Indicators for population in 2020.

Note: GCC stands for Gulf Cooperation Council whose members are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

This difference is likely to be driven by preferences for retirement in the origin country, as individuals who were 45–54 years old when they migrated in 2000–2004 are close to or past retirement age by 2018. Return patterns are fairly similar between males and females as well as between low-skilled and high-skilled migrants (Panel b). When disaggregated by region of origin (Panel c), immigrants from Latin America and other destinations—which mostly consist of other Western European countries and high-income OECD countries—return at a much higher rate than migrants from other regions. Returns to Eastern Europe and Africa are fairly rare, even 15–19 years after migration.

Migration is temporary by design and intent for many other migrants. In many cases, it is mandated by regulations in destination countries. This is the case for almost all migrants in the Gulf Country Cooperation (GCC), regardless of their occupation, skill level, or country of origin. The GCC is a major destination for migrant workers, hosting over 10 percent of the total stock of migrants worldwide. As shown in [table 1](#), over half of the population of the GCC countries is foreign born, reaching up to 88 percent in the United Arab Emirates (UAE). Migrant-sending countries globally are mainly lower- and medium-income countries in East and South Asia and the Middle East where “going to the Gulf” is part of the lifetime employment trajectory for a significant number of workers. Their stay is strictly conditional on holding

a valid contract with an employer and they have to leave the country otherwise (Fargues 2011; Fargues and De Bel-Air 2015; Ahmed and Bossavie 2022). While eventual returns are mandatory in this setting, migrants still have some discretion over the length of their stay (Bossavie et al. 2021). Indeed, they have the option to extend their stay as long as they manage to renew their contract or receive a new one from another employer (Ahmed and Bossavie 2022). In contrast with the high-income OECD destinations where permanent migration is more common, there is significant gender bias and women represent a smaller share of contractual, temporary migrants.⁸

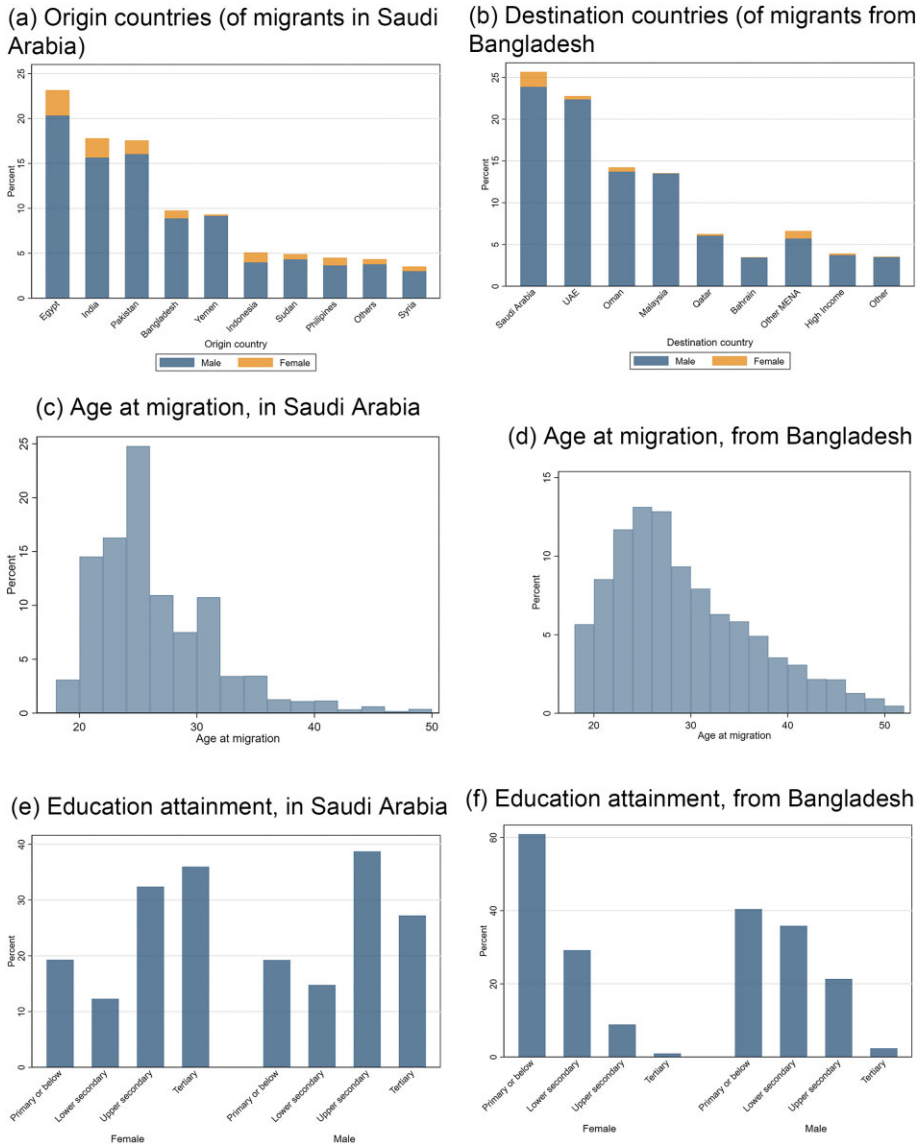
Figure 3 presents data on contractual temporary migrants from two separate and detailed surveys. The first is from Saudi Arabia (Expatriate Workers Survey 2015), the largest destination country in the Persian Gulf. The second is from Bangladesh (Bangladesh Return Migration Survey 2018/2019), one of the largest migrant-sending countries to the region. The panels of the left column are based on the data from Saudi Arabia and the panels of the right column are based on the Bangladesh data. The first panel shows that the largest origin country in Saudi Arabia is the Arab Republic of Egypt, followed by India, Pakistan, and Bangladesh. In the case of the Bangladeshi migrants, the largest destination (Panel B) is Saudi Arabia, followed by the United Arab Emirates and Oman. Migrants under these temporary contractual arrangements typically migrate at a young age, with a median age of 27 (Panels c and d), partly due to the physically demanding nature of the jobs offered in these destinations. Temporary migrant workers from lower-income countries, such as Bangladesh, tend to be very low skilled (Panel f). There are a number of high-skilled migrants in Saudi Arabia (Panel E), but these tend to come from high-income OECD countries or other Arab countries, like Egypt.

There is a great deal of heterogeneity in terms of duration of stay (fig. 4). The majority of migrants to Saudi Arabia stay for only a few years at the time of the data collection and are expected to stay for a couple more years. There is a clear negative relationship between current length of stay and expected additional duration of stay.

Finally, temporary migration may be unplanned and unexpected. Migrants might have decided to move permanently or stay for longer but, eventually, return when conditions change or when they are forced to. Thus, migration might turn out to be temporary ex post, possibly due to unexpected changes in employment or living conditions at the destination (Borjas and Bratsberg 1996; Bijwaard and Wahba 2014; Shrestha 2020), or personal conditions at home (Berninghaus and Seifert-Vogt 1993; Tunali 2000; Dustmann 2003).

When overseas work visas are tied to an employment contract and enforcement is strict, migrants may be forced to return when labor-market conditions change (Fargues 2011; Fargues and De Bel-Air 2015). In other words, the duration of the migration episode can be uncertain. For example, around 47 percent of return migrants to Bangladesh report that they returned earlier than they had originally planned

Figure 3. Profile of Contractual Temporary Migrants

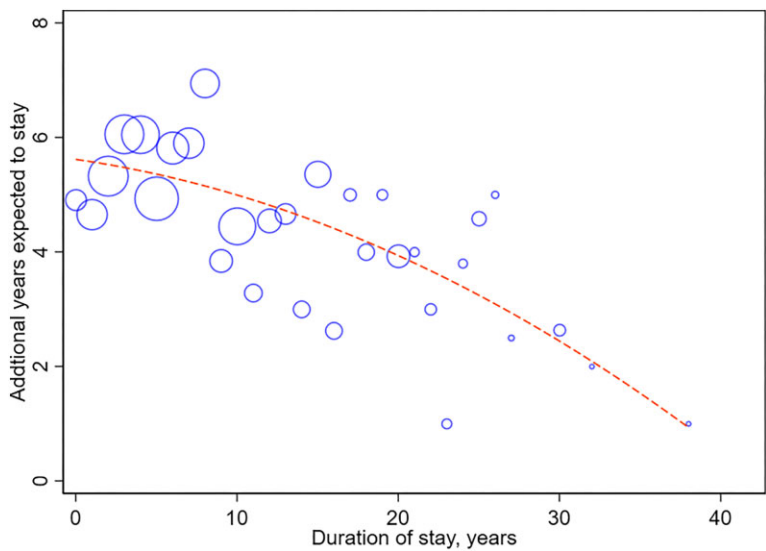


Source: Saudi Arabia Expatriate Workers Survey 2015; Bangladesh Return Migration Survey 2018.

Note: Samples are restricted to individuals who migrated at the age of 18 or older. Sampling weights are applied.

(fig. 5). In around 14 percent of the cases, the job turned out to be more difficult or dangerous than the worker expected or the net wages were lower. The average stay for these migrants was 2.7 years. In one-third of the cases, the reasons were beyond the workers control and they stayed on average 4.3 years. Sometimes employers changed

Figure 4. Additional Years Expected to Stay against Duration of Stay in Saudi Arabia



Source: Saudi Arabia Expatriate Workers Survey 2015.

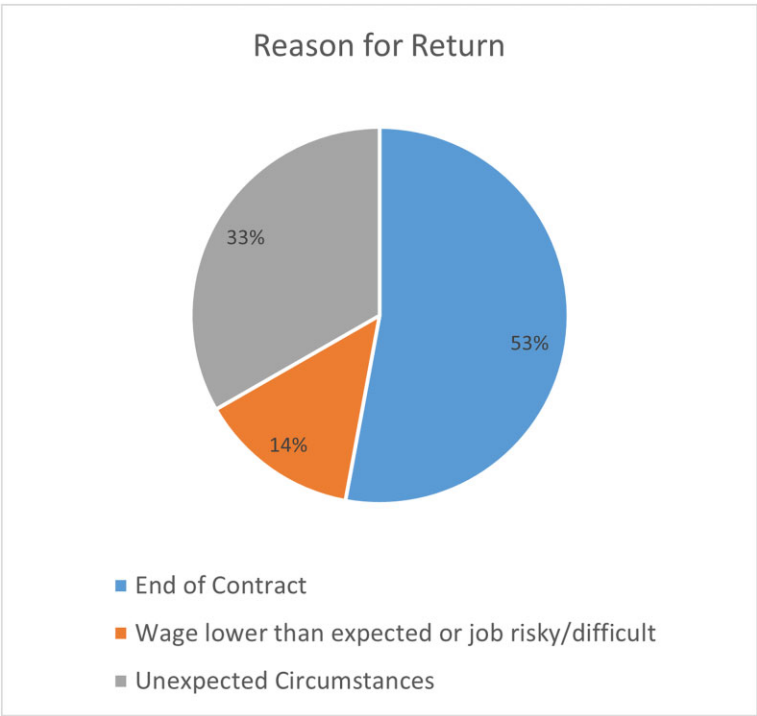
Note: Each circle represents the average of additional years expected to stay for a duration spell (1 year). The range of circles reflects the number of observations. Quadratic fitted value is presented by the dash line.

the terms of their employment contracts or terminated them, there were visa complications, or the worker had an illness or family emergency. In only slightly more than half of the cases, the workers stayed as long as they had initially planned, which averaged around 6.1 years.

Data on Temporary Migration

Temporary migration is the result of an optimization process over workers' life cycles. Therefore, the ideal data sets to study the impacts of temporary migration are longitudinal and follow the same migrants over time and across borders throughout their lives. Such longitudinal data, however, are almost never available, creating challenges for analysis and policy design. To the best of our knowledge, the only available survey following migrants across borders used for prior research is the survey of Turkish temporary migrants to Germany conducted by the German Institute for Employment Research (IAB) (Dustmann and Kirchkamp 2002). The IAB survey interviewed Turkish temporary migrants both at the end of their stay in Germany in 1984, when detailed retrospective questions were also asked about employment history in Germany, and after return to Turkey in both 1986 and 1988. However, the survey follows temporary migrants over only four years. In addition, the data were

Figure 5. Reasons for Return for Bangladeshi Migrants



Source: Bangladesh Return Migration Survey 2018.

Note: Samples are restricted to individuals who migrated at the age of 18 or older. Sampling weights are applied.

collected in the specific context of an assisted return program targeting Turkish migrants in Germany, and only samples return migrants who applied to the program, which affects the external validity of studies using the data. In addition to traditional survey data, novel techniques to track individual’s mobility like cellphone CDR data can help follow individuals across borders. They, however, need to be combined with more traditional periodical data collection via phone to track their labor-market outcomes over time.

In the absence of rich longitudinal panel data following migrants across borders, researchers use mostly cross-sectional micro data sets in either sending or receiving countries, which capture temporary migrants at a given stage of their employment trajectories, to estimate their impacts on origin countries. These cross-sectional micro data sets allow one to identify temporary migrants with varying degrees of accuracy. In this subsection, we categorize the main data sets available to study the impacts of temporary migration, and highlight their respective benefits and limitations.

Data from Origin Countries

Micro data sets in origin countries capture temporary migration through two types of surveys. The first are **broader nationally representative household surveys**, which include modules on current absentees from the household and/or **past migration overseas by current household members**. Modules on current absentees allow one to capture ongoing temporary migration episodes by collecting information on household members who are currently absent from the household for work overseas, but are expected to return to the household in the future. In contexts where temporary migrants move overseas alone without the rest of the household, absentee modules in nationally representative surveys provide an accurate picture of ongoing temporary migration.⁹ Such modules are well suited to assess the impacts of temporary migration on family members left behind, especially spouses and children, as they typically include detailed questions on various labor-market, health, education, and consumption outcomes.

In settings where entire households migrate temporarily, absentee questions underestimate the incidence of temporary migration and are likely to capture a non-representative sample of the population of labor migrants. Another drawback of absentee modules is that since questions are asked to remaining household members and not migrants themselves, the information collected is typically quite parsimonious and may not be reliable. As a result, information collected about migrants as part of absentee modules is typically restricted to demographic characteristics along with basic migration parameters such as year of departure, destination country, and occupation at destination, where data reliability tends to be higher.

The second way nationally representative surveys in origin countries collect information on temporary migration is through questions on past migration experiences of current household members. As these modules are integrated in nationally representative surveys, they can be linked to detailed information on current socioeconomic and labor-market outcomes. Therefore, they are especially well suited to carry out **detailed comparisons between the domestic labor-market outcomes of return migrants and non-migrants**. To rigorously estimate the causal effect of past migration on outcomes back in the origin country, the most-suited data sets are those that collect information on both return migrants and current migrants, as they allow one to account for the double selectivity of return migration, which can bias estimates of temporary migration impacts (Wahba 2015).¹⁰ These data sets, however, differ in the level of detail of the information collected on current and return migrants. The ELMS and LSMS are the most comprehensive in that regard. One drawback of most returnee modules, however, is that they typically collect parsimonious information on past migration experience overseas. This prevents an in-depth analysis of the linkages between past migrant experience and current labor outcomes. In addition, the number of return migrants picked up by nationally representative surveys in

origin countries can be small if the incidence of temporary migration is limited. This is exacerbated by the fact that surveys often restrict the recall period for past emigration, typically to five years, which also prevents capturing the population of return migrants that have been back in the country for a longer time.¹¹

With the exception of the German IAB survey, origin country migration surveys with detailed retrospective questions on past employment and migration overseas are cross-sectional. Those are, however, still quite rare globally. Among them are the Mexican Migration Project (MMP)¹² and the Bangladesh Return Migrant Survey 2018 (BRMS)¹³ carried out by the World Bank. The MMP is the most comprehensive survey on migration to date to be implemented in an origin country. It captures both current and return migrants, along with the full employment history of all household members both in Mexico and abroad since the time they started working. It also records all trips overseas, as well as internal migration episodes of all household members. In a very different context, the BRMS collects the full employment and migration history of return migrants to Bangladesh who worked overseas under formal contractual temporary migration arrangements, primarily in the Gulf countries. The information captured includes detailed socioeconomic and labor-market outcomes before departure, during migration, and after return, full migration history, and a detailed breakdown of migration costs and sources of financing, along with savings and wage expectations prior to departure. Despite their comprehensiveness on migration and employment history, a potential drawback of these retrospective surveys is that they may suffer from imperfect recall by the respondents.

Data from Destination Countries

The second category of surveys that capture temporary migrants are implemented in destination countries. In such surveys, migrants are typically identified through a question on their country of birth. Identifying who among all of these migrants are temporary migrants, however, is not always straightforward, as the migration episode is by definition not yet completed. This is particularly tricky in destination countries where permanent stays are possible, such as in high-income OECD countries. As migrants are captured at a stage at which the migration episode is still ongoing, it is not always clear whether it will ultimately be permanent or temporary. One way to identify temporary migrants with greater accuracy in these surveys is through questions on intentions to stay in the host country and for how long, which are collected by only a subset of destination country surveys (Dustmann and Görlach 2016). Although these intentions may deviate from realized migration episodes, they are relevant when modeling immigrant behavior and its impacts on origin countries, as migrants base their behavior on current return migration plans, rather than realized migration history (Dustmann and Görlach 2016). Destination-country micro data sets with data on return intentions utilized by previous papers include the German

Socio-Economic Panel (GSOEP) and the “Trajectoires et origines” survey in France released by Ined-Insee in 2009. In some destination countries, such as the Gulf States or Southeast Asia, the identification of temporary migrants is more straightforward since, by definition, all migrants cannot stay permanently in the destination country.

Survey data capturing temporary migrants in destination countries are either longitudinal or cross-sectional. Destination country longitudinal surveys focusing on temporary migrants are very scarce. The most comprehensive survey that follows migrants over time is the GSOEP. It has a panel structure from 1984 and dedicates particular effort to tracking movements in and out of Germany, and to retain individuals when they return from temporary absences abroad (Constant and Massey 2002; Kırdar 2009). It also collects information on intended duration of stay in the country, which allows one to identify temporary migrants, or at least migrants who *intend* to stay temporarily. For these reasons, the GSOEP has been extensively used by studies on temporary migration including Dustmann (2003), Bellemare (2007), Van Baalen and Müller (2008), Kırdar (2009), Dustmann and Görlach (2016), and Adda, Dustmann, and Görlach (forthcoming). One important limitation of the GSOEP for the study of temporary migration, however, is that it does not collect information on labor-market outcomes outside Germany, in particular after return to the origin country.

Other available surveys in destination countries capturing temporary migrants are cross-sectional. As for the GSOEP, the survey “Trajectoires et origines” in France released by Ined-Insee in 2009 includes questions on intentions to stay in the host country, and was used to analyze the relationship between remigration intentions and immigrants’ behaviors in the host and origin countries (Chabé-Ferret, Machado, and Wahba 2018). In addition to migration-dedicated surveys, some of the literature has also been using more traditional, nationally representative data in destination countries to analyze temporary migrations. In the United States, the ACS was for example used to reconstruct episodes of transit migration of current migrants (Artuc and Ozden 2018). The data include information on the birth country of migrants as well as the country where they lived prior to moving to the United States, which allows one to identify transit migration. One advantage of destination country data is that they capture temporary migrants who moved overseas with their entire families, as opposed to surveys in origin countries. Survey data in host countries, however, with the exception of the GSOEP, do not typically allow one to observe completed migration spells and the timing of returns, which makes the identification of temporary migration episodes more imprecise. In addition, they may miss part of the temporary migrant population as temporary migrants can be left out of traditional survey sampling frames. A summary of available data sets for research on temporary migration in origin and destination countries is presented in [table 2](#).

Table 2. Micro Data Sets Available to Research on Temporary Migration

Micro data set	Link to online data access
Origin country data	
Egypt Labor Market Survey	http://www.erfdataportal.com/index.php/catalog/157
Mexican Migration Project	https://mmp.opr.princeton.edu/
Albania Living Standards Measurement Surveys	https://microdata.worldbank.org/index.php/catalog/1970
Albania Return Migrant Survey	https://www.ilo.org/surveyLib/index.php/catalog/1511
Nepal Living Standard Survey	https://microdata.worldbank.org/index.php/catalog/1000
Survey of the Migration of Armenia Population	https://microdata.worldbank.org/index.php/catalog/2934
Destination country data	
European Union Labor Force Survey (EU-LFS)	https://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey
American Community Survey (ACS)	https://www.census.gov/programs-surveys/acs
US Census	https://www.census.gov/data/data-tools.html
German Socio-Economic Panel (GSOEP)	https://www.diw.de/en/diw_01.c.678568.en/research_data_center_soep.html

Note: These surveys' webpages are current as of March 2023.

Labor Supply

The first and foremost impact of temporary migration and return is on the labor market, especially on labor supply in the origin country. First, temporary migration can affect the labor supply of migrants themselves in the origin country, after they have returned. Past migration overseas may indeed affect the incentives to participate in the labor force (extensive margin) or the quantity of labor supplied (intensive margin) by past migrants. Second, as temporary migrants often move overseas without the rest of their household, temporary migration and the remittances sent by absentees can impact the labor supply of household members left behind, by increasing household income and reducing domestic labor supply at the household level through an income effect. Third, temporary migration, by acting as a negative labor-supply shock in the domestic economy, may have general equilibrium effects on the labor supply of members of non-migrant households in the origin country. This subsection summarizes the evidence on the impact of temporary migration on the labor supply of return migrants, household members in migrant households, and non-migrant households.

Return Migrants

Temporary migration can impact the labor supply of migrants themselves once they are back in the origin country. The sign of the impact of past migration overseas

on the labor supply of temporary migrants after return is theoretically ambiguous. On the one hand, past migration may decrease the labor supply of return migrants. Higher earnings and savings overseas may raise reservation wages and **reduce incentives to find employment back home among returnees**, especially among older individuals who are close to retirement age. In addition, at least in the short run, return migrants may want to allocate **more time for leisure after spending several years away from their families**, as part of their life cycle optimization plan (Dustmann and Kirchkamp 2002). Third, if the human capital and experience accumulated overseas do not match labor demand in home labor markets, **job search frictions may lead to higher unemployment among return migrants** (Lucas 2005). On the other hand, past migration overseas may raise workers' human and financial capital as discussed in later sections, which can increase workers' productivity and earnings potential back home and thus incentives for labor-force participation.

Somewhat surprisingly, evidence on the impact of past migration on the labor supply of return migrants is scarce and restricted to descriptive analysis. Such descriptive evidence needs to be interpreted with caution due to the **endogeneity of return decisions and the fact those are likely to be taken jointly with labor supply decisions upon return** (Dustmann and Kirchkamp 2002). Return migrants are selected based on characteristics that matter for domestic labor supply, which may not be observed by the researcher (Wahba 2015). This selection issue is particularly acute in contexts where migrants have the option to permanently stay in destination countries.

Descriptively, return migrants have been shown to be less likely to engage in economic activities in the first years that follow the return when compared to non-migrants (Ilahi 1999; Bossavie and Denisova 2018; Bossavie et al. 2021). However, such evidence cannot be interpreted as causal because migrants who recently returned need by definition to find employment, and may not have made their occupational choices yet (Ilahi 1999). In the case of temporary migration from Turkey to Germany, a sizeable share of returning migrants retire at an early age, presumably due to their savings accumulated abroad (Dustmann and Kirchkamp 2002). A lower labor-market participation of return migrants has also been found in Albania (Piracha and Vadean 2010) and in some South Asian countries (Bossavie et al. Wang 2021), but not in Senegal (Kveder and Flahaux 2013).

Among the factors that influence the labor supply of return migrants, a longer duration of stay at destination appears to increase the likelihood of being unemployed (or staying out of the labor force) after return (Piracha 2015). In addition, one may expect the reason for returning and whether the migration episode was planned ex ante to also matter. For example, migrants who returned because of unexpected changes in circumstances may intend to migrate again, which would affect their labor supply back home, as reported by (Piracha and Vadean 2010), also in Albania. Given the current scarcity of research on this question, combined with the descriptive nature of available studies, much more evidence is needed to generalize those

findings and draw a causal link between temporary migration and labor supply after return.

Household Members Left Behind

In contrast with permanent migrants, temporary migrants often move overseas without the rest of their household. In this context, temporary migration by one member can affect the labor supply of the rest of the household members through two main channels. First one is an income effect as the total household income increases through remittances. According to the standard neoclassical model of optimal labor–leisure allocation (Killingsworth 1984), the increase in household disposable income due to remittances can raise the reservation wage of adult family members left behind (Acosta, Lartey, and Mandelman 2009). Second, as the receipt of remittances is contemporaneous to the absence of working-age migrant household members, it may induce changes in the labor supply of remaining members to compensate for the forgone income or to defray migration-related expenses (Amuedo-Dorantes and Pozo 2006). These two channels presumably have opposite effects. As a result, the effect of temporary migration on the labor supply of remaining household members is theoretically ambiguous.

Rigorous evidence on this question remains scarce, although several studies have appeared over the last decade, with mixed findings. Most studies report **negative effects on the labor supply of women but not of men**. Such impacts have been reported in Albania (Mendola and Carletto 2012), El Salvador (Acosta 2006), Mexico (Amuedo-Dorantes and Pozo 2006), Egypt (Binzel and Assaad 2011), and Nepal (Lokshin and Glinskaya 2009).¹⁴ The latter study, however, finds substantial heterogeneous effects depending on the characteristics of members left behind. In addition, effects on the labor-market activities of women have been shown to change over the temporary migration life cycle in Albania (Mendola and Carletto 2012) and rural Egypt (Binzel and Assaad 2011). During the migration episode, women’s paid labor supply has been reported to decrease, while unpaid work typically increases, presumably driven by the household’s need to replace the migrant’s labor. In contrast, once the migration episode ends, women are less likely to be in unpaid work and more likely to be in self-employment. This suggests that the impacts of temporary migration on the labor supply and occupational choice of **household members left behind are dynamic and vary throughout the migration life cycle**. For men, temporary migration has been found to affect the allocation of labor supply across various types of employment in Mexico, but not their overall labor supply (Amuedo-Dorantes and Pozo 2006). In some cases, no effects on the labor supply of both males and females have been found, such as in Mexico (Cox-Edwards and Rodríguez-Oreggia 2009) and Bangladesh (Mobarak, Sharif, and Shrestha 2020).

Non-migrant Households (General Equilibrium Effects)

When emigration is widespread, it can affect the labor supply of individuals in non-migrant households through general equilibrium effects. Theoretically, emigration should act as a negative labor supply shock, reduce the domestic supply of labor, increase wages, and hence induce entry into the labor force by those who are in non-migrant households. The labor-market equilibrium effects of emigration are not restricted to temporary migration and are also relevant to permanent migration. However, some of the available evidence is drawn from origin country contexts where emigration is almost entirely temporary, which allows one to assess the existence and magnitude of these effects in the specific context of temporary migration. Studies in settings where the scale of temporary emigration is sufficiently large to detect general equilibrium effects, however, remain quite sparse. In Nepal, where about one-fifth of the male working-age population works overseas under temporary contracts, largely in the Gulf countries, a 1-percentage-point increase in village-level migration rates was found to increase labor-force participation by 0.4 percentage points for individuals from non-migrant households ([Shrestha 2017b](#)). This effect appears to be primarily driven by an increase in female labor-force participation in both wage and self-employment activities in the non-agricultural sector. Other origin-country contexts where the incidence of emigration is sufficiently large to produce aggregate labor-supply responses include other relatively small economies in Central Asia (the Kyrgyz Republic, Tajikistan, Uzbekistan), the Balkans (Bosnia, Montenegro, Kosovo, Albania), the Caucasus (Armenia, Georgia), Central America (Nicaragua, Guatemala, Honduras, El Salvador), Africa (Somalia, Senegal, Lesotho, the Gambia), the Middle East (Jordan, Lebanon, Yemen), Eastern Europe (Moldova), the Caribbean (Haiti, Jamaica), and the Pacific Islands (Tonga, Samoa). To the best of our knowledge, however, shifts in domestic labor supply in response to emigration have not been investigated in those settings.

Following the EU enlargement, large-scale emigration from Eastern Europe, which may either be temporary or permanent, has also been used as a natural experiment to study the domestic labor-market effects of large-scale emigration. It has been shown to raise wages and thus labor supply in Poland ([Dustmann, Frattini, and Rosso 2015](#)) and Lithuania ([Elsner 2013](#)). Similar effects have been reported for large-scale emigration from Mexico to the United States ([Mishra 2007](#)). These findings in the context of migration to Western Europe and the United States, however, are not specific to temporary migration as migrants have the option to permanently stay in the destination countries. As a result, we can use these migration corridors to identify the aggregate effects of temporary migration, only with using long-term data when the migrants had completed their employment trajectories.

Human Capital

Most of the evidence on the effects of temporary migration on origin countries has focused on the human capital accumulation process. Temporary migration impacts human capital formation in origin countries through multiple channels and we review four main ones in this section: (a) short-term impacts due to emigration; (b) human capital accumulation by temporary migrants while overseas; (c) endogenous pre-emigration human capital investment in response to migration opportunities; and (d) alleviation of liquidity constraints on human capital investment.

Short-Term Human Capital Effects Due to Emigration

Whether it is temporary or permanent, emigration mechanically affects the quantity and quality of labor and human capital available in the origin country's labor market in the short run. Therefore, the short-term impacts on human capital described in this subsection apply to both temporary and permanent migration. Short-term impacts on the origin country depend on both the *costs* of emigration and the *selectivity* of emigration. Skill selectivity means whether temporary migrants are more or less skilled compared to the population that does not migrate and is mainly determined by the relative wage structure and skill premium at origin and at destination (Docquier, Lohest, and Marfouk 2007; Docquier and Rapoport 2012; World Bank 2018). The short-term human capital impacts of emigration are more severe if migrants are positively selected, especially if the origin country is already experiencing a limited supply of high-skilled labor. An example of this pattern is observed in aging Eastern European economies (Bossavie et al. 2022) and small developing countries in the Caribbean, Sub-Saharan Africa, and the Pacific regions. Empirically, the “brain drain” has been shown to be more pronounced in small developing countries that share colonial links with OECD countries, and send most of their migrants to countries with skill-selective immigration programs (Docquier, Lohest, and Marfouk 2007).

In the short-run, emigration can also impact the human capital of non-migrants, in the presence of skill complementarities between high-skilled workers, and between high-skilled workers and low-skilled workers (Docquier, Lohest, and Marfouk 2007). Existing evidence on this question, however, tends to focus on contexts where temporary and permanent migration are both present. In those cases, it has been suggested that the emigration of high-skilled workers can have negative impacts on the rest of the economy by weakening local knowledge networks (Agrawal et al. 2011). Due to the imperfect substitutability between low-skilled and high-skilled labor, skill selective emigration can lead to slower capital growth and a technological downgrading (Bhagwati and Rodriguez 1975; Miyagiwa 1991; Haque and Kim 1995; Docquier and Rapoport 2012). Some negative effects of youth emigration have also been reported on entrepreneurship and innovation in Italy (Anelli et al. 2019) and on firm

productivity in Eastern Europe (Giesing and Laurentsyeveva 2018). It remains unclear, however, whether temporary migration produces similar effects.

Short-term losses of labor and human capital are less of a concern in situations where emigrants are low skilled and where the domestic supply of low-skilled labor is high. This is the case for many low- and middle-income migrant-sending economies which are experiencing demographic bulges and where domestic job creation has not kept pace with the expansion of the mostly low-skilled labor supply. Those are also country contexts where emigration is mostly temporary, due to regulations restricting the permanent stay of low-skilled migrants in destination countries. Emigration helps to alleviate labor-market pressures by providing additional employment opportunities for workers from these countries, like many migrant-sending countries in East, South, and Central Asia (Farole et al. 2017; Ahmed and Bossavie 2022), as well as other low- and middle-income countries.

Human Capital Accumulation by Temporary Migrants While Abroad

The specific impacts of temporary migration on human capital in origin countries, compared to permanent migration, come from the fact that **migrants ultimately bring back human capital home**. The two-dimensional skill model theoretically shows that the “brain drain” resulting from high-skilled emigration may be mitigated and even reversed by the skills brought back home by return migrants (Dustmann and Glitz 2011). Temporary migrants indeed can acquire additional skills overseas, which are rewarded in the origin country (Borjas and Bratsberg 1996; Dustmann and Weiss 2007; Dustmann, Fadlon, and Weiss 2011), creating a potentially positive overall effect even in the presence of initial emigration (Dos Santos and Postel-Vinay 2003). It has also been argued that the migration experience may act as a signaling device for workers’ productivity to employers in home labor markets, further increasing their labor-market gains (Reinhold and Thom 2013).

The empirical literature tests for the accumulation of human capital by estimating the wage premium earned by return migrants. A critical element of such reduced-form estimations is to properly account for the double selectivity of emigration and return migration, so that estimates only capture the effects of the past migration experience, and not differences in unobservable characteristics between migrants and non-migrants (Wahba 2015). The vast majority of the papers, with varying degrees of rigor in accounting for the double selectivity of return migration, find a positive wage premium earned by returning migrants. This has been reported for Hungary (Gang and Yun 2000), Albania (De Coulon and Piracha 2005), Romania (Ambrosini et al. 2015), Ireland (Barrett and Goggin 2010), Mexico (Reinhold and Thom 2013), several West African countries (De Vreyer, Gubert, and Robilliard 2010) and the Arab Republic of Egypt (Wahba 2007, 2015).¹⁵ Wahba (2015) is the most rigorous study to date that estimates the wage premium for return migrants as it controls for four

types of selection: emigration decision, return migration decision, labor-force participation upon return, and selection into wage work. After accounting for these multiple sources of selection, she finds that return migrants employed as wage workers earn a significant wage premium, although estimates diminish substantially once selection is accounted for.

A related, albeit thinner, literature examines whether migrants who return to the country of origin improve their labor-market outcomes in addition to experiencing wage gains. Return migrants have been found to experience upward occupational mobility compared to non-migrants in the Arab Republic of Egypt ([El-Mallakh and Wahba 2021](#)) and Albania ([Carletto and Kilic 2011](#)).¹⁶ These effects are, however, mostly driven by higher-skilled migrants, while migrants returning from low-skilled occupations overseas do not experience significant occupational mobility, as reported in Albania ([Carletto and Kilic 2011](#)) and Estonia ([Masso, Eamets, and Mötsmees 2014](#)).

There is heterogeneity in the human capital benefits of the migration episodes for migrants and the origin country. The extent of the benefits depends on multiple factors, including migrants' educational level, whether the work experience and human capital gained at destination is in demand in the home labor markets, and whether the duration of stay overseas was long enough for human capital accumulation. One emerging consensus from the empirical literature is that higher-skilled temporary migrants experience greater human capital, productivity, and wage gains from the migration experience ([McCormick and Wahba 2001](#); [Gibson, McKenzie, and Stillman 2011](#); [Ambrosini et al. 2015](#); [Wahba 2015](#)).¹⁷

The human capital gains also depend on whether there is a match in the home labor market for the experiences and human capital gained abroad by the returning temporary migrants ([Mayr and Peri 2009](#); [Dustmann, Fadlon, and Weiss 2011](#)). In contrast, if the human capital accumulated overseas is not in demand, skill waste can take place along with inactivity, as found for return migrants to Poland ([Coniglio and Brzozowski 2018](#)). [Dustmann, Fadlon, and Weiss \(2011\)](#) argue that temporary migrants' countries of destination also matter in the benefits of return migration for migrants and their home economy, as [Carletto and Kilic \(2011\)](#) show in the case of Albania. Duration of stay overseas has been shown to also matter as temporary migrants who stay longer overseas have more time to accumulate human capital, but also to see skills valued by home labor markets depreciate if they are not used. The lack of increased occupational mobility of return migrants to Estonia, for instance, was attributed to their short duration of stay overseas, combined with their low skill level ([Masso, Eamets, and Mötsmees 2014](#)).

Finally, the legal status of temporary migrants overseas may also matter for bringing human capital back home, although evidence on the topic is extremely scarce. The recent findings of [Elmallakh and Wahba \(2022\)](#) for Egypt indicate that returnees who were documented migrants overseas earn a positive wage premium back home

compared to non-migrants, while return migrants who were undocumented experience a large wage penalty, arguably due to a waste of human capital overseas.¹⁸ The estimation takes into account various layers of selection, including the endogeneity of legal migration status overseas. Their results also suggest that undocumented migrants have significantly lower savings overseas, shorter migration duration, and lower incidence of remitting. Evidence from other contexts is, however, needed to generalize these findings.

Whether migration was planned as temporary *ex ante* is also likely to affect human capital accumulation overseas and its impacts on the origin country. To the best of our knowledge, this hypothesis has not been tested empirically. It has been shown, however, that migrants make destination- or origin-specific human capital investments while overseas that depend on their intentions to stay in the host country (Dustmann, Adda, and Gorlach 2022). Therefore, if migrants did not intend to return to their origin country *ex ante*, they may return home with human capital that is valuable in the destination country, but may not be in demand in the origin country. In contrast, migrants who moved with the intention to only stay temporarily in the destination country, especially for a short period of time, are likely to invest in human capital overseas which is valued in the origin country to maximize the lifetime returns of temporary migration.

The human capital benefits of return migration for the origin country also depend on the selectivity of returns (i.e. whether return migrants are more or less skilled than migrants who decide to stay overseas permanently). In settings where migrants have the option to stay abroad permanently, returnees will form a selected pool. Borjas and Bratsberg (1996) propose a theoretical framework to account for the selection of returnees among a host country's immigrant population. They argue that selection depends on the relative returns to skills in the two locations, with the skill level of return migrants lying between that of non-migrants and migrants who stay abroad permanently. Thus, when emigrants are positively selected from the origin country's population, returnees will be negatively selected among all migrants. When emigrants are negatively selected, return migrants will be positively selected. In settings where migrants cannot stay permanently at destination, the impact on the origin country depends on who returns earlier than an average migrant as opposed to who returns at all (Bossavie et al. 2021). Empirically, the selection of return migrants among the pool of all emigrants has been measured both in terms of earnings overseas (Borjas 1989; Borjas and Bratsberg 1996; Dustmann 2003; Constant and Massey 2003; Bijwaard and Wahba 2014; Abramitzky, Boustan, and Eriksson 2014, 2019) and educational or skill level (Dustmann and Weiss 2007; Ambrosini et al. 2015; Wahba 2015). Evidence on the sign of selection of return migrants along these two dimensions is, however, very mixed and highly origin–host-country specific, which is consistent with the early theoretical insights of Roy (1951).¹⁹

In addition to increasing the productivity of migrants upon their return in the home labor markets, temporary migration may also increase the human capital and productivity of non-migrants, through knowledge transfers. Theoretically, return migration can have an expansionary effect through knowledge diffusion that in turn narrows the technological gap between the host and source country (Dos Santos and Postel-Vinay 2003). Empirically, evidence on these knowledge spillovers is scarce, partly due to difficulties in identifying these impacts empirically. Evidence from India, however, shows that a larger number of returning migrants increases knowledge diffusion and human capital in the sending country (Choudhury 2016).

Human Capital Investment in Response to Emigration Opportunities

The availability of employment opportunities overseas can also affect the returns to education in the origin country, thus triggering an endogenous response in human capital investment. This is generally referred to as the “brain gain” effect in the literature. This endogenous human capital investment response is likely to be more pronounced in contexts where workers intend to move permanently to destination countries or stay for a long period of time, as migrants have more time to reap the benefits of their destination-specific educational investments. The sign of the effect on human capital investment at home depends on the employment opportunities available overseas, and on the skill-specific wage premium that migrants receive overseas. Although some of the evidence discussed in this section is drawn from contexts where migration is largely temporary, one should note that most of the papers in this literature do not differentiate between permanent and temporary migration as the mechanism would work very similarly. There is, however, a clear need for more nuanced empirical analysis to see whether the mechanisms or the magnitudes of the effects differ across different migration types or corridors.

In the case of high-skilled emigration, migration opportunities can ultimately lead to human capital gains for the origin country. A large theoretical literature shows that if emigration is uncertain but increasing in likelihood with education or skill levels, then aspiring migrants will invest in human capital accumulation. An endogenous increase in human capital levels, assuming a large enough share of these will be unable to move, can offset the mechanical reduction in the level of human capital due to emigration (Mountford 1997; Stark, Helmenstein, and Prskawetz 1997, 1998; Vidal 1998; Beine, Docquier, and Rapoport 2001; Dos Santos and Postel-Vinay 2004; Beine, Docquier, and Rapoport 2008; Dustmann and Glitz 2011; Docquier and Rapoport 2012; Djajić, Docquier, and Michael 2019).

The key mechanism through which this so-called “brain gain” effect occurs is the increase in the returns to education in origin countries because of the demand for skilled migrants by destination countries. Several conditions, however, need to be satisfied for a “brain gain” effect to occur. First, there needs to be a large enough number

of the newly educated individuals who do not migrate overseas or who ultimately return to the origin country. Second, migrants' origin countries should be able to increase the capacity of the educational institutions, meeting the increased demand. This comes at an additional fiscal cost for sending countries. Indeed, even if migration increases incentives for human capital accumulation, it still does not solve the problem of sending countries bearing the costs of educating part of the population that leaves the country and thus does not give back to the local economy. Empirically, the macro literature has measured a conditional positive relationship between skilled emigration and skill formation across developing countries, although it faces challenges of strict causal identification inherent to cross-country data ([Docquier, Lohest, and Marfouk 2007](#); [Beine, Docquier, and Rapoport 2008](#); [Beine, Docquier, and Oden-Defoort 2011](#)).

A related literature has tested whether a high expected return to human capital abroad affects potential migrants' educational investment at the country level. Positive impacts on human capital formation in origin countries have been reported in a variety of contexts. A 10-percentage-point rise in the probability of future migration has been shown to cause a 4-percentage-point rise in the probability of intermediate school completion before migration in Cape Verde ([Batista, Lacuesta, and Vicente 2012](#)). In Malawi, 20 years after migration shocks to South Africa took place, human capital was 4.8–6.9 percent higher among cohorts who were eligible for schooling in communities with the easiest access to migrant jobs ([Dinkelman and Mariotti 2016](#)). In Nepal, an increase in education requirements for Nepalese army recruits into overseas British Army service caused an increase in the average education of men in Nepal ([Shrestha 2017a](#)). [Abarcar and Theoharides \(2021\)](#) show that an increase in the emigration of nurses from the Philippines led to a rise in the number of nurses in the country, enabled by an increase in both the local demand for nursing programs and the domestic supply of nursing programs. In Fiji, an increase in exit opportunities led to a net increase in educational attainment of workers in the country, as only a fraction of prospective migrants ultimately migrated ([Chand and Clemens 2019](#)). In 10 migrant-sending countries in Eastern Europe, the education incentive channel, combined with return migration, has been shown to turn the drain on human capital into a brain gain ([Mayr and Peri 2009](#)). In Romania specifically, temporary emigration was found to have positive long-run effects on skill levels at home ([Ambrosini et al. 2015](#)). [Khanna et al. \(2022\)](#) report similar findings for the Philippines.

The literature on endogenous human capital investment in response to migration opportunities has largely focused on high-skilled migration. The effect of temporary migration opportunities on human capital investment at home, however, depends on the skill-specific wage premium earned overseas. In contexts where low-skilled emigration predominates, one could argue that emigration opportunities may undermine investment in education, due to a large wage premium earned by low-skilled migrants as opposed to high-skilled workers. Evidence on this question from contexts

were emigration is mostly low skilled, however, is quite sparse. One of the very few studies looking at this question is [McKenzie and Rapoport \(2011\)](#) in the context of migration from Mexico to the United States. They report a significant negative effect of migration on schooling attendance and attainment in Mexico: living in a migrant household lowers the chances of boys completing junior high school and of boys and girls completing high school. In the same context, the findings of [Amuedo-Dorantes and Pozo \(2010\)](#) point into the same direction: migration negatively impacts the school attendance of children and eliminates the positive effect of remittances once children in households with members residing abroad are included in the sample. More evidence from contexts where low-skilled migration predominates, however, is highly needed to be able to generalize those findings.

Liquidity Constraints and Human Capital Investment

Temporary migration may also positively affect investment in education through increased remittance flows (income effect). The magnitude of this effect depends on whether liquidity constraints to educational investment are binding, especially in the absence of temporary migration. In addition, if temporary migration disrupts family life in a manner than hinders children's academic progress, estimated effects on children's schooling attainment will also include this disruption effect ([Amuedo-Dorantes, Georges, and Pozo 2010](#)). As a result, the effect of temporary migration on children's schooling attainment is a priori ambiguous.

Empirical evidence on the effect of temporary migration and increased remittance income on educational investment is mixed. Studies such as [Gibson, McKenzie, and Stillman \(2011\)](#) in Tonga and [Acosta \(2011\)](#) in El Salvador find no effect of temporary migration on the likelihood of whether children are currently studying and on years of schooling attained. In the former study, the authors argue that findings are driven by a lack of liquidity constraints to child schooling in the context studied. In contrast, increased remittances were found to lead to more schooling in the Philippines ([Yang 2008](#); [Theoharides 2018](#)).²⁰ Positive effects on child school enrollment and school retention have also been found for several Latin American countries including Guatemala ([Adams and Cuecuecha 2010a](#)), Ecuador ([Calero, Bedi, and Sparrow 2009](#)), El Salvador ([Edwards and Ureta 2003](#)), and Mexico ([Hanson and Woodruff 2003](#)). In Haiti, conflicting effects of temporary migration and remittances on children's school enrollment have been reported: while the receipt of remittances by the household lifts budget constraints and raises children's likelihood of being schooled, the disruptive effect of household out-migration imposes an economic burden on remaining household members and reduces their likelihood of being in school ([Amuedo-Dorantes, Georges, and Pozo 2010](#)). Gender-differentiated results have been reported for Mexico ([Antman 2012](#)) and the Dominican Republic ([Amuedo-Dorantes and Pozo 2010](#)), where the positive effect of temporary

migration on child schooling mostly holds for girls. In contrast, positive effects on child schooling have been reported only for boys in Tajikistan ([Jaupart 2019](#)). The effect of temporary migration on investments in schooling for children left behind is thus highly context dependent. One channel through which remittance income may affect school enrollment is by reducing child labor, as reported in Guatemala ([Acosta 2011](#)) and Ecuador ([Calero, Bedi, and Sparrow 2009](#)).

Financial Capital and Entrepreneurship

Temporary migration has also been linked to increased investment and entrepreneurship in the origin country, mainly through the return of entrepreneurial migrants. While a few studies examine increases in investment in assets, such as land in Pakistan ([Adams 1998](#)) and El Salvador ([Damon 2010](#)), most papers focus on the link between temporary migration and entrepreneurship. Seeking self-employment and entrepreneurship opportunities after return to the origin country has been argued to be among the main drivers of temporary migration: in the presence of credit constraints at home, temporary migration allows individuals to accumulate savings faster and to engage in self-employment activities when they return ([Dustmann and Kirchkamp 2002](#); [Rapoport 2002](#); [Djajić 2010](#); [Bossavie et al. 2021](#)). This motive is especially relevant in developing economies where credit constraints to entrepreneurship can be quite restrictive. Temporary migration can thus allow one to overcome the institutional void of missing capital markets in origin countries to accelerate business creation ([Bossavie et al. 2022](#)).

Empirical evidence from various contexts, especially from lower-income countries, indicates a strong link between temporary migration and entrepreneurship after return. A first set of studies examine the relationship between temporary migration and self-employment after return descriptively. Savings levels have been found to be a significant factor in the choice of self-employment over waged employment among return migrants in Pakistan ([Ilahi 1999](#)) and Egypt ([McCormick and Wahba 2001](#)). In Tunisia, the majority of entrepreneurial projects started by returnees were totally financed through overseas savings ([Mesnard et al. 2004](#)). In Turkey, more than half of returnees from Germany are economically active and engaged in entrepreneurial activities ([Dustmann and Kirchkamp 2002](#)).²¹ Using historical data on return migrants to Norway from the United States, [Abramitzky, Boustan, and Eriksson \(2019\)](#) also show that return migrants to rural Norway back in the late 1800s and early 1900s were more likely to become owner–occupier farmers, although they came from poorer backgrounds than non-migrants. Similarly, return migrants have been found to be more likely to become entrepreneurs than non-migrants, after accounting for selection in emigration and return migration in Albania ([Piracha and Vadean 2010](#)) and Egypt ([Wahba and Zenou 2012](#); [Wahba 2015](#); [Mahé 2022](#)). A causal relationship between temporary migration and financial investment back home has been

estimated using natural experiments in the Philippines (Yang 2006, 2008; Khanna et al. 2022), Mexico (Woodruff and Zenteno 2007), and Mozambique (Batista, McIndoe-Calder, and Vicente 2017). Finally, the complex linkages between credit access, temporary migration decisions, asset accumulation overseas, and entrepreneurship after return have been modeled using a structural approach in the context of Bangladesh, which allows one to simulate the effect of migration and credit-market policy changes on entrepreneurship in the origin country (Bossavie et al. 2021).²² While temporary migration increases entrepreneurship after return, household entrepreneurial activities have, however, been shown to decline during the migration episode in Bangladesh, due to the emigration of the most entrepreneurial household member (Mobarak, Sharif, and Shrestha 2020). Whereas most papers look at the impact of temporary migration on entrepreneurship for migrants themselves and their families, micro firms in areas connected to migration networks have been shown to experience higher levels of investment, sales, and profit in Mexico. This suggests that migration networks can also help alleviate capital constraints among firms (Woodruff and Zenteno 2007).

One policy-relevant question is whether entrepreneurial activities started by temporary migrants back home are undertaken by choice, or instead, are a last resort option as return migrants are unable to find wage employment (the so-called “parking lot” hypothesis of entrepreneurship of Harris and Todaro (1970)). Available evidence so far lends more support to the former hypothesis. Return migrants to Bangladesh who become self-employed earn more than wage employees and are typically able to sustain these earnings in older age compared to wage employees (Bossavie et al. 2021). Self-employment activities started by return migrants have also been shown to be more successful and to generate more jobs for the local economy in Albania (Piracha and Vadean 2010), Tunisia (Mahé 2022), and Bangladesh (Bossavie et al. 2022). Entrepreneurial activities started by return migrants were also found to be more likely to survive in Egypt, even after controlling for selection into migration on non-observable characteristics (Marchetta 2012). The “parking lot” hypothesis of entrepreneurship, however, may be valid in some contexts: self-employment after return has been shown to be a temporary choice before finding wage employment in the Kyrgyz Republic (Brück, Mahé, and Naudé 2018) and Senegal (Kveder and Flahaux 2013).

The ability of temporary migrants to start businesses and engage in entrepreneurship at home (after they return) depends on their migration experience. When migration is temporary, it is a component of the overall decision process of the worker where all stages are interlinked (Dustmann and Görlach 2016; Bossavie et al. 2021). In this context, employment outcomes after return are linked to the parameters and outcomes of the migration episode, such as migration costs, wages overseas, and duration of stay. Savings and duration of stay have indeed been shown to be positively associated with self-employment after return in Pakistan (Ilahi 1999),

Egypt ([McCormick and Wahba 2001](#)), Tunisia ([Mesnard 2004](#)), Albania ([Kilic et al. 2009](#); [Piracha and Vadean 2010](#)), and Bangladesh ([Bossavie et al. 2021](#)). The latter study also reports that higher migration costs reduce the likelihood of starting self-employment after returning to Bangladesh.

Occupational choices after return have also been linked to the reasons for returning. In particular, the fact that migration was planned as temporary *ex ante* as opposed to resulting from an unexpected return has been shown to increase the likelihood of becoming an entrepreneur after return ([Piracha and Vadean 2010](#); [Gubert and Nordman 2011](#)). Similarly, the intention to re-migrate is negatively associated with the likelihood of becoming an entrepreneur after return in Albania ([Piracha and Vadean 2010](#)) and Bangladesh ([Ahmed and Bossavie 2022](#)). Finally, other factors such as pre-migration employment also matter in the occupational choices of return migrants: temporary migrants who were self-employed before migrating are more likely to be self-employed after return in Pakistan, although migration experience appears to play a more prominent role on occupational choice than pre-migration employment ([Ilahi 1999](#)). In contrast, temporary migrants who were in self-employment before migration are less likely to become self-employed after return to the Kyrgyz Republic ([Brück, Mahé, and Naudé 2018](#)).

Welfare and Poverty

The most direct effect of temporary migration on development in origin countries is an increase in the consumption and welfare of households. These welfare improvements are enabled by the large wage gains of labor migrants overseas who often send part of this income back home in the form of remittances.²³ Remittances are by far the most important international financial flow into developing countries: international migrants remitted USD 529 billion back to their origin countries in 2018 prior to the COVID-19 pandemic ([Ratha et al. 2019](#)), which is about triple the size of Official Development Assistance. Remittances are a very large share of the economy of many low-income migrant-sending countries, reaching 33 percent of the GDP in the Kyrgyz Republic, 29 percent in Tajikistan, and 28 percent in Nepal in 2018.

Improving the welfare and consumption of family members left behind is a key motive for migrants sending remittances back home ([Lucas and Stark 1985](#); [Faini 1994](#); [Funkhouser 1995](#); [Rapoport and Docquier 2006](#)). While migrants who intend to stay permanently overseas also send remittances back home, the propensity to remit and the amount of remittances sent back is particularly large in the context of temporary migration. This is because temporary migrants often migrate without the rest of their households and thus send money back to support family members left behind. Temporary migrants, in particular the low skilled, have indeed been shown to send more remittances home compared to higher-skilled migrants ([Adams 2009](#); [Niimi, Ozden, and Schiff 2010](#); [Dustmann and Mestres 2010](#)).

Remittances have a direct impact on the welfare of households by increasing the consumption levels of those who receive them.²⁴ Those are typically migrants' families, close relatives, or community members. Micro-level estimates indicate that the impact of remittances on the consumption of households left behind can be quite large. In the specific context of temporary migration from Bangladesh to Malaysia, experimental evidence shows that a doubling of migrants' income translates into a doubling of migrant households' consumption (Mobarak, Sharif, and Shrestha 2020). In the same context, it has been shown that households with an international temporary migrant increase their consumption of food and non-food items, but not of temptation goods (Mobarak, Sharif, and Shrestha 2020). The welfare benefits of remittances may also extend beyond their direct recipients. If the flow of remittances exceeds a certain critical amount, the remaining residents benefit from migration even if they do not receive any of the remittances themselves (Djajić 1986). Empirically, positive spillover effects on non-remittance recipients have been reported in the Philippines, where both temporary and permanent emigration is observed (Yang and Martinez 2006).

The impact of remittances on welfare in origin countries was also reported at the macro level. In contrast with micro-evidence, causality is harder to establish in cross-country studies due to inherent identification issues. Finding a valid instrument for the aggregate flow of remittances received at the country level is especially problematic and cross-country findings should therefore be interpreted with some degree of caution. Cross-country estimates in a sample of 71 developing countries indicate that a 10 percent increase in the share of international migrants in a country's population leads to a 2.1 percent decline in poverty (Adams and Page 2005). At the country level, the welfare-improving effects of remittances have been documented in several countries in Latin America (Acosta et al. 2006, 2008; Acosta, Lartey, and Mandelman 2009; Bertoli and Marchetta 2014), Indonesia (Adams and Cuecuecha 2010b), Nepal (Lokshin, Bontch-Osmolovski, and Glinskaya 2010; Shrestha 2017b), and the Philippines (Yang and Martinez 2006).²⁵ In countries where emigration is widespread, the impact of remittances on poverty reduction can be quite large. In Nepal, where emigration is almost entirely temporary, one-fifth of the poverty reduction between 1995 and 2004 was attributed to increased levels of work-related migration and remittances sent home (Lokshin, Bontch-Osmolovski, and Glinskaya 2010). Similarly, 40 percent of the decline in poverty between 2001 and 2011 was attributed to increases in migration to the Persian Gulf countries and Malaysia (Shrestha 2017b).

In addition to increasing household income levels, remittances can improve household welfare through an income stabilizing effect (Ratha 2003). Unlike capital flows, which tend to be highly cyclical, remittances are relatively stable and often consumption smoothing, acting as insurance during economic crises or after natural disasters (Yang and Choi 2007; Bettin and Zazzaro 2018; De et al. 2019). At the micro level,

several studies suggest that they can play an insurance role against negative shocks among households (Cox, Eser, and Jimenez 1998; Yang and Choi 2007; Gubert 2002; Yang and Martinez 2006; Mohapatra, Joseph, and Ratha 2012). At the macro level, remittances have been shown to historically rise in times of economic downturns, financial crises, and natural disasters as migrants living abroad send more money to help their families back home (Chami, Fullenkamp, and Jahjah 2005; Yang and Martinez 2006; Yang and Choi 2007; Ratha, Mohapatra, and Silwal 2010).

The potential welfare benefits of temporary migration through remittances received can, however, be reduced by several factors. The first is the costs paid by temporary migrants to go overseas, which can be very large for some migration corridors and especially large in many low-skilled temporary migration corridors (Ratha and Seshan 2018). As a result, many migrants end up repaying the migration costs and possible additional loan interest while they are abroad, reducing the welfare benefits for migrants and their households.²⁶ In origin countries like Pakistan, where temporary migration costs to the Gulf countries are notoriously high, a 1 percent increase in migration costs is associated with a 0.11–0.16 percent decrease in remittances (Ahmed and Bossavie 2022). A second welfare-reducing factor is the cost of sending remittances back home. Despite some progress, the transaction costs of sending remittances through formal channels remain high in relative terms. Remittance service providers in the formal sector may charge fees of 10–15 percent of the principal amount to handle the small transfers typically sent by migrants in many corridors (Ratha 2006).²⁷ The cost of remittance services can vary substantially, by region and transfer methods. For instance, costs are lowest in Central America and Mexico, followed by South Asia, while sending remittances to Sub-Saharan African countries continues to have the highest average costs (World Bank 2019). Banks, where available, are the most expensive routes for sending remittances, with an average cost of 11 percent in 2019. As a result, many migrants opt for informal channels to send remittances (Gibson, McKenzie, and Rohorua 2006; Yang 2011).

Although remittance flows are strong contributors to increased consumption and reduced poverty in origin countries, their magnitude has also raised questions about undesirable effects on the recipient economies. These issues are similar to those that emerge during periods of massive capital inflows. In particular, there is a concern that remittances could cause Dutch disease effects. In other words, the massive inflow of foreign currency could be associated with a real exchange rate appreciation and loss of international competitiveness, which, in turn, could lead to a decline in the production of manufactured and other tradable goods. Empirical studies looking at this question include Acosta, Lartey, and Mandelman (2009); Lartey, Mandelman, and Acosta (2012); Amuedo-Dorantes and Pozo (2004); Rajan and Subramanian (2005), all of which use cross-country data to document that real exchange appreciation follows remittance flows.

Institutions and Social Norms

Finally, a thinner but rapidly evolving literature shows that temporary migration can impact origin countries' institutions and social norms, primarily through the return of temporary migrants. Foreign-educated individuals, for example, may bring democratic change if they acquired education in democratic countries (Spilimbergo 2009; Mercier 2016). Using experimental data, Batista and Vicente (2011) show that temporary emigration from Cape Verde contributed to better governance at home, which is mainly driven by return migrants who lived in destination countries with good governance and democratic institutions. In Morocco, having a returnee from a Western European country in the household increases the demand for political and social change, after controlling for the double selection into emigration and return migration (Tuccio, Wahba, and Hamdouch 2019). Because better institutions usually translate into higher total factor productivity, such channels are partly captured by productivity responses. A positive impact of return migration on political participation rates and on electoral competitiveness has been found in Mali, which mainly stems from returnees from non-African countries (Chauvet and Mercier 2014). The impact of returnees on turnout was found to go beyond their own participation, and to affect electoral outcomes more strongly in areas where non-migrants are poorly educated, suggesting a diffusion of political norms from returnees to non-migrants.²⁸

In contrast with studies finding positive effects of temporary migration on institutions, an increase in remittance inflows associated with temporary migration may also lead to deterioration of institutional quality. In a cross section of 111 countries, a higher ratio of remittances to GDP leads to lower indices of control of corruption, government effectiveness, and rule of law, even after controlling for potential reverse causality (Abdih et al. 2012). However, such cross-country studies may be interpreted with some degree of caution due to difficulties in identifying causal relationships.

A related literature explores whether temporary migration, primarily through return migration, contributes to the transfer of cultural and social norms to the origin country. Migrants can be a vector of cultural transmission, and empirical findings using the World Values Survey data indicate that this transmission occurs from host to origin countries rather than the other way around (Rapoport, Sulin, and Silve 2020). The few country-specific empirical studies are consistent with this finding. Return migrants in Egypt have been found to adjust their fertility choices to the norms that prevail in their previous country of destination (Bertoli and Marchetta 2015). Return migration can also contribute to transfer of gender norms back home. In Jordan, controlling for both emigration and return migration selections, women with a family member who returned from more conservative Arab countries are more likely to bear traditional gender norms than women in households with no migration experience (Tuccio and Wahba 2018). In Mali, girls who live in villages with a higher

share of returnees from other African countries, where female circumcision is uncommon, are significantly less likely to suffer from genital mutilation (Diabate and Mesplé-Somps 2019).

Conclusions and Areas for Further Research

This paper offers a summary and discussion of the multiple and complex linkages between temporary migration and economic development in origin countries. Despite a rapidly expanding literature, significant knowledge gaps remain. First, much of the existing literature focuses on high-skilled temporary migration. Evidence on the impacts of low-skilled migration is much sparser, despite the fact that temporary emigration from many developing countries is largely low skilled. For instance, while high-skilled migration increases educational investment in origin countries in various settings, it remains unclear whether low-skilled emigration reduces incentives to invest in education. Similarly, while high-skilled migrants have been shown to accumulate human capital while they are overseas, which ultimately benefits home labor markets, there is still limited evidence on whether low-skilled migrants experience human capital gains. Second, the vast majority of the literature has been treating temporary migration as a one-time event. Yet, the impacts of repeated/circular migration for the origin country are much less understood. This is partly driven by data availability, as one would need detailed historical data on all the migration episodes undertaken by workers and their outcomes to analyze repeat migration. Third, while the theoretical literature has made the distinction between planned and unplanned temporary migration Dustmann and Görlach (2016), very few studies empirically distinguish between the impacts of these two types of temporary migration for origin countries. Fourth, the gender dimension of temporary migration and its gender-differentiated effects, for example on adult household members and children left behind, is an area that remains significantly understudied via rigorous causal analysis. Finally, even though policy makers in migrant-sending countries are often concerned about the possible discouragement effect of past migration on economic participation in home labor markets, this question has received little empirical attention.

Another important limitation of available evidence on the impacts of temporary migration on origin countries is that it is largely based on static models and analysis. While providing very useful insights, cross-section data and analysis do not shed adequate light on the dynamic effects of temporary migration. These dynamic effects are expected to impact workers and their families' entire life cycle, and to differ prior to, during and after the migration episode. Recent papers attempt to identify some of these time-varying effects, but rigorous answers to these questions require a dynamic modeling approach with granular data on employment and migration history. For example, when looking at the impacts of temporary migration on the outcomes of household members left behind, the analysis would greatly benefit from having

information on the full employment and migration history of temporary migrants, but also of other household members.

For policy purposes, the main drawback of the non-experimental reduced-form approach to temporary migration is its inability to examine the impacts of policy changes on the welfare of migrants themselves and of the origin country more broadly. In contrast, a more structural and dynamic approach allows one to model the complex linkages between the decisions and outcomes of migrants at different stages of the migration life cycle. This allows the researcher to simulate the impacts of a change in policy parameters on the migration decisions and outcomes of workers and to estimate impacts on specific aggregate variables of interest in the origin or destination country. For example, [Bossavie et al. \(2021\)](#) simulate the impacts of changes in migration recruitment costs, domestic loan interest rates, and information provision on emigration rates, migration duration, repatriated savings, and the extent of business creation in Bangladesh.

Existing microdata typically capture temporary migrants at one point in time in one location (abroad or at home after return), while a dynamic analysis of temporary migration phenomena requires information on the entire migration and employment history of the migrants and household members. Ideally, surveys collecting this data would also include questions on expectations of the workers on their wages, employment, savings, and return decisions. While comprehensive panel-data information remains very sparse and takes time to collect, dedicated migrant surveys capturing retrospective information on workers' full employment and migration history and that of their household members is a promising alternative. Policy-relevant research on temporary migration would also greatly benefit from the inclusion of more comprehensive modules on past migration episodes overseas in standard national household surveys in origin countries, in the spirit of those included in the Egyptian Labor Market Panel Survey.

Notes

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1. Identifying the impacts of temporary migration on origin countries requires following the employment trajectories of workers across borders over time and collecting detailed household, consumption, savings, and investment data, which are hard to achieve with standard cross-sectional (household or labor-force) surveys or administrative registration data.

2. The legal definition of temporary migration in many jurisdictions is based on the *intent* of the migrants at the time of their arrival to return home or to move to a third country after a fixed period of time (Abella 2006). This intent is reflected in their visa status.

3. Furthermore, in cases where permanent stays at destination are possible and the migration episode is still ongoing, the distinction between permanent and temporary migration becomes more blurry, and has to be based on migrants' intentions at the time of data collection Dustmann and Görlach (2016).

4. While several papers look at the aggregate association between remittances and economic growth in origin countries, results are mixed or inconclusive, and suffer from a number of methodological limitations (Clemens and McKenzie 2018). Also see Cazachevici, Havranek, and Horvath (2020) for a recent meta-analysis and review of the literature on the topic.

5. Papers such as Bryan, Chowdhury, and Mobarak (2014) analyze the impact of temporary internal migration on origin communities within Bangladesh.

6. De Brauw and Giles (2017) look at the impact of internal migration opportunities on youth educational attainment in origin locations in China. In the same context, De Brauw and Giles (2018) examine the effect of internal migration on investment in non-farm productive assets while Mu and Van de Walle (2011) estimate the impacts of internal male migration on the labor supply and occupational choices of females left behind.

7. In contrast with the ACS data for the United States, the exact duration of stay of foreign-born individuals is not reported in the EU-LFS. Instead, the survey reports brackets of 5 years instead of a more precise duration of stay.

8. This gender pattern is driven by several factors, including the prohibition of family migration for low-skilled migrants under this type of migration arrangement, combined with the allocation of family responsibilities largely to women in the main migrant-sending countries (Panel a of fig. 3), which also results in very low levels of economic activity of females in these same sending countries.

9. This is typically the case for origin countries where temporary migration is low skilled and primarily to the Gulf States or to Southeast Asia.

10. Available surveys of this kind include, but are not restricted to, the Nepal Labor Force Survey (LFS) 2017/2018; the Albania Living Standard and Measurement Surveys (LSMS) 2005, 2008, and 2012 used by Piracha and Vadean (2010) and Carletto and Kilic (2011); the 2009 Nepal Migration Survey; the 2017 Comprehensive Survey of the Migration of Armenia Population; the Egypt Labor Market Survey (ELMS) used by McCormick and Wahba (2001), McCormick and Wahba (2003), Wahba and Zenou (2012), and Wahba (2015); the Bangladesh Household Income and Expenditure Survey (HIES) 2016; and the Listening to the Citizens of the Kyrgyz Republic 2021, among others.

11. In contrast, surveys asking whether the member has ever lived abroad allow one to capture a representative sample of the entire pool of return migrants but those are the exception rather than the rule.

12. The MMP data set was used by Deléchat (2001), Rendon and Cuecuecha (2010), Angelucci (2012), Reinhold and Thom (2013), Görlach (2020), Massey, Durand, and Malone (2002), and Massey and Gentsch (2014), among others.

13. For studies using the BRMS data set, see Ahmed and Bossavie (2022) and Bossavie et al. (2021, 2022).

14. Vadean, Randazzo, and Piracha (2019) only look at impacts on men's labor supply and also find no effect of remittances on their labor supply in Tajikistan.

15. The study by Gang and Yun (2000) for Hungary, however, only finds positive effects for female return migrants.

16. Using historical data on return migration to Norway from the United States at the end of the nineteenth century and beginning of the twentieth century, Abramitzky, Boustan, and Eriksson (2019) also show that return migrants to Norway found employment in higher-paying occupations than non-migrants, although they came from poorer backgrounds.

17. Wahba (2015) reports that the wage premium earned by high-skilled return migrants in the Arab Republic of Egypt is 24 percent compared to 10 percent for low-skilled return migrants.

18. This is consistent with a larger literature, mostly for the United States, which shows that undocumented migrants experience a significant wage penalty overseas compared to documented migrants (Rivera-Batiz 1999; Phillips and Massey 1999; Kossoudji and Cobb-Clark 2002).

19. For an earlier literature review on the selectivity of return migration, see Wahba (2014).

20. Theoharides (2018) provides suggestive evidence that these effects are likely driven by increased income, rather than an increased expected wage premium for education.

21. Consistent with this evidence, an analysis of a sample of workers from seven developing economies by Giambra and McKenzie (2021) finds that self-employed individuals are also less likely to emigrate.

22. Also see Wahba (2014), Rapoport and Docquier (2006), and Naudé, Siegel, and Marchand (2017) for related surveys of literature on the topic of migration and entrepreneurship.

23. There is a large non-experimental and experimental body of evidence on the earnings gains experienced by migrants overseas. Immigrants from developing countries to the United States are estimated to earn four to six times the income of a worker of the same age and education in the origin country (Clemens, Montenegro, and Pritchett 2016). Experimental estimates show that low-skilled temporary migrants from Bangladesh to Malaysia earn about three times what they would have earned domestically (Mobarak, Sharif, and Shrestha 2020). Tongans who won a lottery to work in New Zealand under the Pacific Access Category earned 3.7 times more after a year, with gains persisting even after a decade (Gibson et al. 2019).

24. Also see Yang (2011) for a previous survey on the impact of migrants' remittances on households left behind.

25. For an earlier literature review on the impact of remittances on poverty in origin countries, see Adams (2011).

26. For example, recruitment costs amount to close to a year of earnings overseas for temporary migrants from South Asia to the Gulf countries (Ahmed and Bossavie 2022).

27. On average, the charge for sending USD 200—the benchmark used by authorities to evaluate cost—is USD 14 or 7 percent. This amount includes fees for both the sender and recipient intermediaries as well as the exchange rate margin.

28. In contrast, Barsbai et al. (2017) find that pro-democracy attitudes in Moldova were primarily transmitted due to spillovers from current migrants as opposed to return migrants.

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