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Global Migration Revisited

Short-Term Pains, Long-Term Gains, and the Potential of South-South Migration

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Abstract

This paper re-examines the development implications of international migration focusing on two issues: how the costs and benefits of migration change over time, and the significance of South-South migration for development. First, the analysis finds that although greater migration could push down the wages of native workers of advanced countries in the short run, these wages eventually recover. This pattern would be mostly caused by the beneficial effect of additional labor on the real returns on capital and fostering faster capital formation. Additional South-North migration could favor capital income recipients and reduces labor income in host regions in the short run. In contrast, in sending countries, capital owners could experience lower incomes while wages rise. Globally, the welfare gains of new migrants could be expected to exceed the losses of old migrants by a wide margin. The remaining natives in sending countries could enjoy a net increase in remittances as well as an increase in labor income, although income from capital might decline. Second, in a hypothetical scenario with lower South-South migration, the implied losses of remittance income could lead to substantially lower welfare in developing countries. Although the wage differentials among developing countries tend to be smaller relative to their wage differentials with high-income countries, South-South migrants make substantial contributions to remittances.

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Global Migration Revisited: Short-Term Pains, Long-Term Gains, and the Potential of South-South Migration

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1. Introduction

The migration literature has made a case for greater cross-border labor mobility largely based on three factors – the demand for labor in high-income countries, the growing working-age population shares in developing countries, and the wage gap between the two groups of economies. The first two factors are driven by global demographic patterns, which are becoming increasingly diverse across countries (World Bank, 2015a). Many developing countries, especially in Sub-Saharan Africa and South Asia, are expected to see continued growth in the proportion of working-age people for several decades, even as the working-age population shares decline in developed countries and many middle-income countries.[2] Countries with growing proportions of working-age people have the potential to experience a boost to growth since their labor supplies are expected to grow faster than their populations even if employment ratios remain constant, while aging countries with shrinking working-age populations could experience slowdowns to growth.[3]

Relaxation of barriers to international labor mobility can lead to higher numbers of migrants, and this greater international migration presents itself as a possible global solution to the challenges presented by aging in many high- and middle-income countries. Aging in these economies could have substantial implications for the global economy, since these economies account for three-fourths of the global GDP growth since 2000 (World Bank 2015a). However, since the working-age populations of many developing countries are expected to continue to remain high for many decades, the potential excess labor supply from these economies could be used to meet the rising excess labor demand in economies with shrinking working-age populations. In a detailed meta-analysis of the literature, Clemens (2011) argues that the potential net benefits of reducing barriers to migration are huge and a multiple of the gains from further trade liberalization.

Beyond the global impact, both migrant-sending and receiving-countries can benefit – the former through the impact of potential remittance flows while the latter through the boost to labor supply. Despite the potential benefits, concerns about the impact of more migrants on fiscal balances, demand for public services, domestic wages, security related externalities, and other socio-economic considerations have challenged more openness to greater international migration.[4] Many of these considerations, however, focus on short-run costs rather than long-run benefits.

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[2] Throughout this paper, references to high-income, middle-income, and low-income countries refer to the income-based categorization followed by the World Bank Group for fiscal year 2016. "North" will be used to refer to countries or regions traditionally classified for statistical purposes as "developed," while the term "South" will refer to those classified as "developing", following the convention in policy-focused work as in United Nations (2013a). This paper will follow a similar convention, where "North" refers to high-income countries, while "South" refers to low- and middle-income countries, as classified by the World Bank Group.

[3] IMF (2015) also estimates that aging could contribute to a slowdown in potential output in the coming years for many economies with rising shares of people over the age of 65. In contrast Ahmed et al (2016) argues that demographic change can substantially boost economic growth and poverty reduction in Sub-Saharan Africa where working-age population shares are expected to continue growing for several decades.

[4] See, for examples, Razin, Sadka, and Swagel (2002), Boeri and van Ours (2013), the situation in the USA in Smith and Edmonston (1997), and for Europe in Boeri (2010), Collier (2013) and Zimmermann (2005).

Also, in considerations of the development implications of international migration, the substantial movements within the global South are often either understated or ignored. About half of the global stock of migrants from developing countries are living in other developing countries (United Nations 2013a, 2013b; Ratha and Shaw 2007; Bakewell 2009; and World Bank 2015a). Wage differentials across regions within the global South suggest non-trivial potential gains from further South-South migration. Given the considerable variety of demographic dynamics and labor productivity levels across developing regions, there is considerable scope for mutual gains from further South-South migration. Indeed, Artuc et al. (2015) find that non-OECD destinations account for a third of skilled-migration while OECD destinations are becoming relatively less popular as destinations, based on bilateral migrant stock data from 1990 and 2000.

This paper thus re-examines two issues related to the development implications of higher future migration flows that have not been raised in current policy discussions and literature.[5] First is the issue of how the economic costs and benefits of greater migration change over time. Much of the scenario analysis literature has ignored how the impact on a migrant receiving or sending country is dynamic, and this paper will provide a more nuanced perspective on this. In particular, it will examine the evolution of relative factor prices (wages and the return to capital) in response to migration in both regions, and how this dynamic change affects economic consequences of migration over time. Second is the issue of the significance of South-South migration for development, which has yet to be addressed in scenario analyses of global migration.[6] Using a consistent methodology that is ideal for both issues, this paper will provide a sense of the magnitude of the impact of current South-South migration trends on future growth through the a simple negative experiment or stress test – what are the economic consequences if there was some substantially lower South-South migration relative to the baseline scenario.

The following section describes the global dynamic economic simulation framework used to examine these two issues. Sections 3 considers the implications of greater South-North migration while Section 4 identifies the contribution of current South-South migration trends in a baseline scenario. Section 5 provides concluding comments and discusses some limitations of the approach.

2. Analytical Framework

Estimates from several studies suggest that the global welfare gains from higher migration flows from South to North migration are potentially substantial in the long run (e.g. Borgy et al. 2010; Tyers and Shi 2007; Docquier, Machado and Sekkat 2015, *inter alia*). Many of the studies leverage the same economic intuition pioneered in the back-of-the-envelope estimates of Rodrik (2004) and Winters (2001), where the gains arise from workers moving from lower-productivity excess labor-surplus countries to higher-productivity excess labor demand countries. For example, Winters

[5] Clemens, Ozden, and Rapoport (2015) provides a detailed discussion of how migration and development have evolved more generally in response to improvements in data.

[6] There are few exceptions, such as Walmsley, Aguiar, and Ahmed (2015) which focuses on liberalization among middle-income countries in East Asia and the Pacific. These studies, however, are not global in scope.

(2001) assumes that if developed countries increased their labor force by 5 percent, with the additional workers coming from developing countries, and the migrants made up just a quarter of the wage gap between the two nations, then the global welfare gain would be $300bn at 1997 prices.

The magnitudes of the impacts vary due to the specific assumptions related to a given analysis. Walmsley, Winters, and Ahmed (2011) applies a comparative static simulation model to account for specific migration corridors and bilateral wage differentials and consider a similar exercise where a 3 percent increase in Northern labor supply was met with migrants coming from the South, increasing global GDP by US$ 288 billion. Moving to a dynamic framework that accounted for mechanisms like capital accumulation, World Bank (2006) suggests that if the labor forces of developed countries grew by 3 percent due to a gradual increase in migration over a 10-year period, then the global real income gain could be around US$ 674 billion.

Following the literature, a global dynamic economic simulation approach underpins the analyses in this paper. A simulation approach is taken in this and the other studies for a few reasons. A major reason is that the global labor markets are all affected simultaneously due to international migration and thus must all be solved in global general equilibrium for a comprehensive understanding of all the channels of impact. Labor of different skill levels and national origin have varying marginal productivities. So, understanding the impact of a change in the composition of a labor force due to changes in migrant stock is not easily possible through a purely theoretical approach since there are effectively multiple labor markets that must reach equilibrium and general equilibrium effects in the economy that must be accounted for. Also, wage-differentials between bilateral migration corridors vary, and income gain from greater migration flows needs to account for wage changes in both the sending and receiving countries, as well as the characteristics of natives, old migrants from different countries, and new migrants from different countries. For these reasons, a computational approach is a practical way to determine impacts.

The approach compares two what-if counterfactual simulations with distinct migration shocks to a common baseline scenario. Since both the baseline and the alternative simulations contain the same underlying economic projections and assumptions, their differences isolate the global and dynamic effects of the critical factor – the migration interventions – in terms of deviations from the baseline scenario and its underlying numbers. In addition to the global interactions of labor and commodity markets, the resulting evolution of relative factor prices (among other factors) will have repercussions on future resource allocation and capital accumulation, with significant consequences for the dynamic pattern of labor incomes in both migrant-receiving and -sending countries.

2.1.Model

The simulation approach of this paper uses a modified and updated version of the LINKAGE recursive dynamic computable general equilibrium (CGE) model of van der Mensbrugghe (2011,

2013).[7] The modified model accounts for labor supply that is not only differentiated by skill level, but also by country of origin, and that also considers remittance flows. This modified model has been earlier used for analyses of global migration (World Bank 2006; van der Mensbrugghe and Roland-Holst 2009).

Household demand behavior is modeled using the Constant Difference of Elasticities (CDE) demand system. Bilateral trade flows among the model regions are governed by a two-level Armington specification, differentiating between domestically produced goods and services and imports, and then between imports from different sources. Output is produced by different production streams differentiated by capital vintage. The model takes a vintage approach to capital in production so that production can occur with either 'old capital' or 'new capital.' The key difference being that 'new capital' is slightly more substitutable (or slightly less complementary) with skilled labor than 'old capital'. Each production stream has an identical production structure based on a multi-nested Constant Elasticity of Substitution functional form, but with different technological parameters and substitution elasticities. At the top of the nest, a value-added bundle is combined with an intermediate inputs bundle under the Leontief technology assumption. Each component of the intermediate bundle is differentiated by place of production. That is, for a given type of intermediate input, there is imperfect substitutability between domestic and imported inputs, and then again between imported inputs from different source countries. The value added bundle is made up of unskilled labor being slightly substitutable with a capital and skilled labor bundle. Skilled labor and capital are complements.

Labor demand is by region of origin and adopts a three-level nesting structure following World Bank (2006) and van der Mensbrugghe and Roland-Holst (2009). At the top level, region *r*'s demand for composite labor of skill type *l* in sector *i* ($L_{r,l,i}$) is derived from cost-minimizing behavior subject to the technology constraints and is thus a function of output level and the relation of the top-level wage indices ($W_{r,l,i}$ dual to $L_{r,l,i}$) to other relevant factor prices.

The $L_{r,l,i}$ aggregates are CES composites of two second-level labor aggregates $LO_{r,l,i,s}$, $s \in \{ntc, fbn\}$. The *ntc* composites comprise native workers and international migrant workers classified as relatively close substitutes for native workers, while the *fbn* composite comprises international migrant workers classified as less close substitutes for domestic labor. Specifically, for high-income host regions, migrants from other high-income regions are grouped together with native labor in the *ntc* (native and close substitutes) nest, while the *fbn* (other foreign-born) nest comprises migrants from other regions of origin – and vice versa for low- and middle-income host regions. For composite model regions, native workers are the native workers of the corresponding sub-regions while intra-region migrants are treated as a separate category in the same *ntc* nest.

[7] The standard model was most recently seen in Devarajan et al. (2015) and Ahmed et al. (2016).

Formally, region *r*'s optimal demand for the *ntc* and *fbn* aggregates by sector and labor type takes the form:

$$LO_{r,l,i,s} = asld s_{r,l,i,s} \left(\frac{W_{r,l,i}}{WO_{r,l,s}}\right)^{\sigma l_{r,l,i}} L_{r,l,i}, \qquad s \in \{ntc, fbn\}, l \in \{SkL,UnSkL\}, \quad (1)$$

where the WO are the wage indices dual to the LO and the σl are the elasticities of substitution between labor of *ntc* and *fbn* origin.

Region *r*'s economy-wide demand for these labor bundles is then given by:

$$LOT_{r,l,s} = \sum_i LO_{r,l,i,s} \quad . \qquad (2)$$

The LOT bundles are in turn CES composites over labor from the origin regions classified as *ntc* or *fbn* via a set mapping from origin regions *rt* to *s* for each host region *r* denoted by maps(*r,s,rt*).

The optimal bottom-level demand in region *r* for *l*-type labor of origin *rt* thus takes the form

$$LRT_{r,l,rt} = \frac{atldr_{r,l,rt}}{lameff_{r,l,rt}} \left(\frac{lameff_{r,l,rt} WO_{r,l,s}}{WRT_{r,l,rt}}\right)^{\sigma lz_{r,l,s}} LOT_{r,l,s} \quad , \quad s \in maps(r,s,rt), \qquad (3)$$

where $WRT_{r,l,rt}$ is the corresponding wage rate, $\sigma lz_{r,l,s}$ denotes the elasticity of substitution between type-*l* labor from different regions of origin within nest *s*, and the *lameff* are labor efficiency parameters that serve to explain the 'observed' initial wage differentials across workers of different origin in the benchmark data set.

The model adjusts the total populations in host and origin regions arising from exogenous changes in migrant flows by assuming that the ratio of migrating people including accompanying dependents to migrating workers is the same as the baseline ratio of total migrants to migrant workers of the same origin in the host region. The model also considers remittances from households in the host region to the region of origin. Household remittances from the host region to the region of origin are fixed fractions of migrant workers' labor income.

2.2 Data

The model is updated and calibrated for use with the GTAP 8.1 and GMig2 databases of Narayanan et al. (2012) and Walmsley et al. (2013). The GTAP database provides a globally consistent database of input-output tables, allowing for the modeling of production, consumption, and trade for 134 countries, 57 sectors, and five factors of production. The GMig2 database contains the latest available model-consistent estimates of bilateral migration stocks, labor earnings, and remittance flows at GTAP 8.1 regional aggregation level as described in Walmsley et al. (2013). The GMig2 database contains economy-wide headcount estimates of skilled and unskilled workers by origin and host region in 2007 for each of the 134 GTAP 8.1 regions as well as estimates of the

associated 134-by-134 matrices of wage bills and remittance flows for the benchmark year. Also, the GMig2 database provides total population headcounts by region of origin and residence.

In this analysis, the model is implemented with the databases aggregated to consider 24 regions and countries and seven sectors.[8] The selection of the regional aggregation aims to balance tractability with the desire to separately capture major migration corridors, to separate high-income regions from other regions, and to separate as far as possible low-income regions from middle-income regions.

2.3 Scenarios

The first of three scenarios considered in this analysis is a baseline of the global economy out to 2030. The baseline population and labor force paths are drawn from the medium variant projections of the United Nations' World Population Prospects 2015 Revision (United Nations 2015). The labor productivity parameters are calibrated residually so that the baseline scenario replicates real GDP growth projections from World Bank (2015b) till 2017 and from the OECD projections documented in IIASA (2013) till 2030. The exogenous baseline migrant worker stocks by host region and origin are assumed to evolve in proportion to host regions' given total labor force path, i.e. the 2007 benchmark shares of workers by origin and skill class in each host region's total labor force are preserved. In the subsequent scenarios below, all changes are always relative to the baseline. For example, an increase reported in one variable means an increase over the corresponding value of the same variable in the baseline.

The second scenario considers a gradual increase in labor migration from low- and middle-income (LMI) regions to high-income countries (HIC), in the spirit of the exercise of Rodrik (2001), Walmsley and Winters (2005), World Bank (2006), and Walmsley, Winters, and Ahmed (2011). It is assumed that existing binding restrictions on LMI-HIC migration to each of the six HIC regions are relaxed such that the total labor force in each of the host regions rises eventually by three percent relative to the baseline. The migration increase is gradually phased in over the period 2010 to 2020, and beyond 2020 the LMI migrant stocks remain three percent above baseline levels. The net inflows required to reach the migrant stock deviations from the 2030 baseline levels have by assumption largely taken place gradually over the period up to 2020. The distribution of the additional LMI migrants by region of origin in each host region is assumed to be *pro rata* of the corresponding baseline distribution. Globally, the migrant share of high-income countries' labor forces rises from 8.1 percent in 2007 to 11.4 percent in 2030. Within the migrant labor forces of high-income countries, the share of migrants from low- and middle-income countries rises from 64.6 percent in 2007 to 74.3 percent in 2030.

[8] The 24 countries and regions are listed in Table A1. The seven sectors are Agriculture, Oil and Gas Extraction, Other Natural Resource Extraction, Food Processing, Other Manufacturing, Electricity and Gas Distribution, and Other Services.

The third scenario considered is focused on the importance of South-South migration. It is a hypothetical extreme scenario of South-South migration where South-South migrant stocks are only 10 percent of the baseline LMI-LMI migrant stocks by 2030. This will imply not just a stagnation of new South-South migrant flows, but also a reversal of some South-South migration that has already taken place.

The total stock of LMI-to-LMI migrant workers reported in the GMig2 database amounts to 15.7 million workers in 2007 and this figure is projected to rise to 23.5 million workers by 2030 under baseline assumptions (Figure 1A). Regarding absolute size, the main origin regions in the benchmark year are low-income Sub-Saharan Africa (LI_SSA), India, Bangladesh, and other Latin America (OLAC). The main LMI destination regions for LI_SSA migrant labor are other LI_SSA and other middle-income Sub-Saharan Africa (OMI_SSA) countries (93 percent); the main LMI destination for Indian migrant labor is Pakistan (53 percent); the main LMI destination for Bangladeshi migrant workers is India (95 percent); and most intra-LMI migrant workers of OLAC origin go to other OLAC countries (90 percent). For some migrant sources like Bangladesh and low-income Sub-Saharan Africa, other developing countries are not just important destinations in terms of aggregate volumes of people, but also for large shares of their migrants (Figure 1B). For migrant-sending countries like Bangladesh and Indonesia that have large migrant populations in other LMI countries, remittances from other LMI countries are also substantial (Figure 2).

While part of the observed South-South labor migration may arguably not be motivated primarily by earning differentials between home and host country, the average wage earnings of a South-South migrant still tend to be significantly higher than the average wage earnings of a native non-migrant in the origin region.[9] Unskilled migrants from the poorest countries and regions like Bangladesh and Sub-Saharan Africa can gain substantially from migrating within the South. Unskilled migrants from Bangladesh, in particular, gain almost as much from going to other Southern countries as they do from migrating to Northern countries. These patterns are also a reflection of the migrant labor demand of host countries, with many developed countries preferring skilled migrants over unskilled.

3. Higher South-North Migration Flows

The movement of labor towards locations with higher labor productivity raises global real GDP considerably over the simulation period and by 2030 annual aggregate real world income is nearly

[9] For example, the average annual gross wage of an unskilled intra-LI_SSA migrant is 33.5 percent higher than that of the corresponding average LI_SSA non-migrant. The corresponding wage differentials for unskilled LI_SSA migrants to OMI_SSA are +146.7 percent, +120.0 percent for Bangladeshi migrants in India, and +18.5 for intra-OLAC migrants. The average annual gross wage of a skilled intra-LI_SSA migrant is 58.7 percent higher than that of the corresponding average LI_SSA non-migrant. The corresponding wage differentials for skilled LI_SSA migrants to OMI_SSA are 87.9 percent, 6.9 percent for Bangladeshi migrants in India, and 11.3 for intra-OLAC migrants.

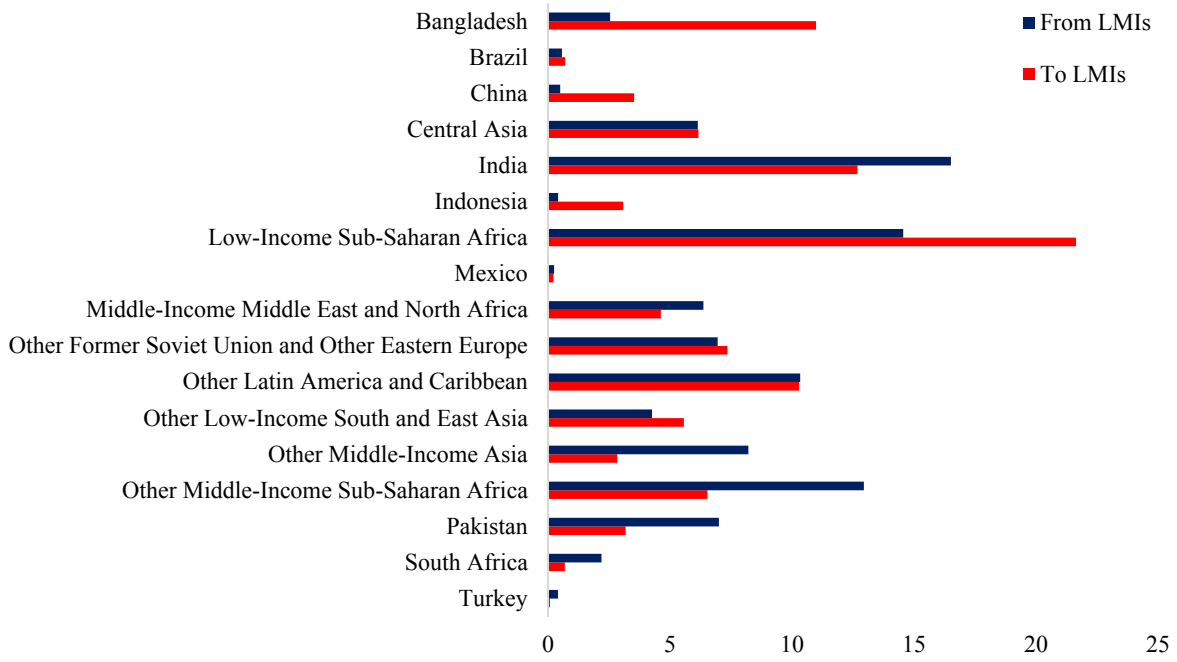
US$ 1.0 trillion higher than in the baseline scenario (Table 1). GDP is higher than in the baseline in the host regions and lower in the regions of origin, whereby the strength of the effect on origin region GDP depends primarily on the share of the additional emigrants in the source region's baseline labor force. Changes in GDP per capita of the total population show the reverse pattern, as GDP per worker initially drops in destination regions and rises in origin regions. The relaxation of the labor supply constraint to the production of tradable goods and services in the host regions and the corresponding tightening of this constraint in sending regions entails terms of trade reduction for most of the HIC host regions and corresponding terms of trade improvement in all sending LMI regions.

From a neo-classical growth perspective, the pattern of the aggregate growth impacts can be intuitively understood as arising from the changes in the sending- and receiving-countries labor supply due to migration. As such, the impacts on growth in the labor-sending regions are largest for the regions in which the additional migrant workers account for a significant fraction of the baseline labor. These labor-sending regions are namely other former Soviet Union and other Eastern Europe (OFSU_OEE), Turkey, Mexico, other Latin America and Central Asia, which lose respectively 8.1, 3.5, 3.1, 1.6 and 2.6 percent of their labor force in headcount terms by 2030. In contrast, the growth impacts are smaller for LMIs in which the size of the labor force is only marginally affected, such as Brazil, India, Indonesia, Bangladesh, OMI_SSA and LI_SSA, which are regions in which the labor force headcount only shrinks by 0. 2 percent relative to the 2030 baseline.

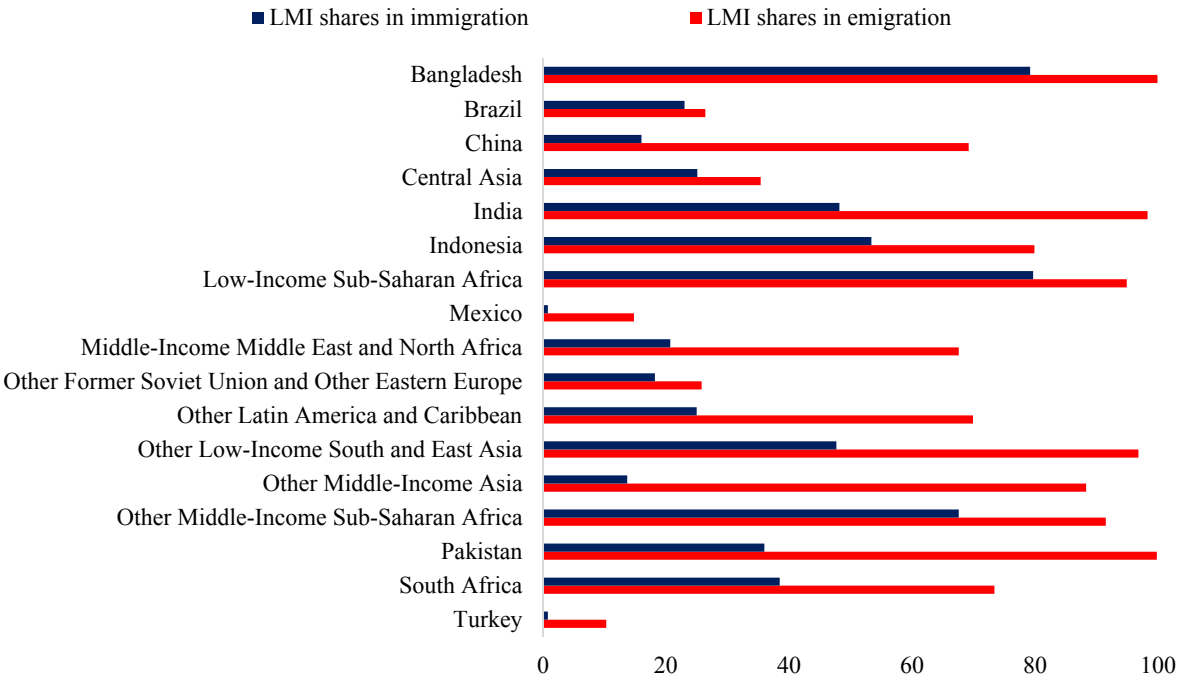
Greater South-North migration has a more complex impact on wages and welfare, with the impacts differing across natives, old, and new migrants. The influx of additional unskilled LMI migrants initially lowers native host region wages relative to the baseline. However, after the completion of the gradual net increase in the workforce by 2025 native wages begin to recover baseline (Figure 3 and Figure 4). In the case of unskilled wages, the wages are slightly higher than by 2030 than in the baseline. This is the case for most high-income economies. For examples, wages are lower than in the baseline by 0.5 to 1.1 percent for the USA and the European Economic Area (EEA) in 2020. However, by 2030, wages in these economies in the South-North migration scenario are higher than in the baseline by 0.05 to 0.25 percent.

Figure 1: Bangladesh, India, and low-income Sub-Saharan Africa are the source of 45 percent of South-South migrants

A. Share of South-South migrants by LMI country source and destination in 2007 (percent of total South-South migrant stock)



B. Share of migrants to/from LMI in total emigration and immigration (percent)

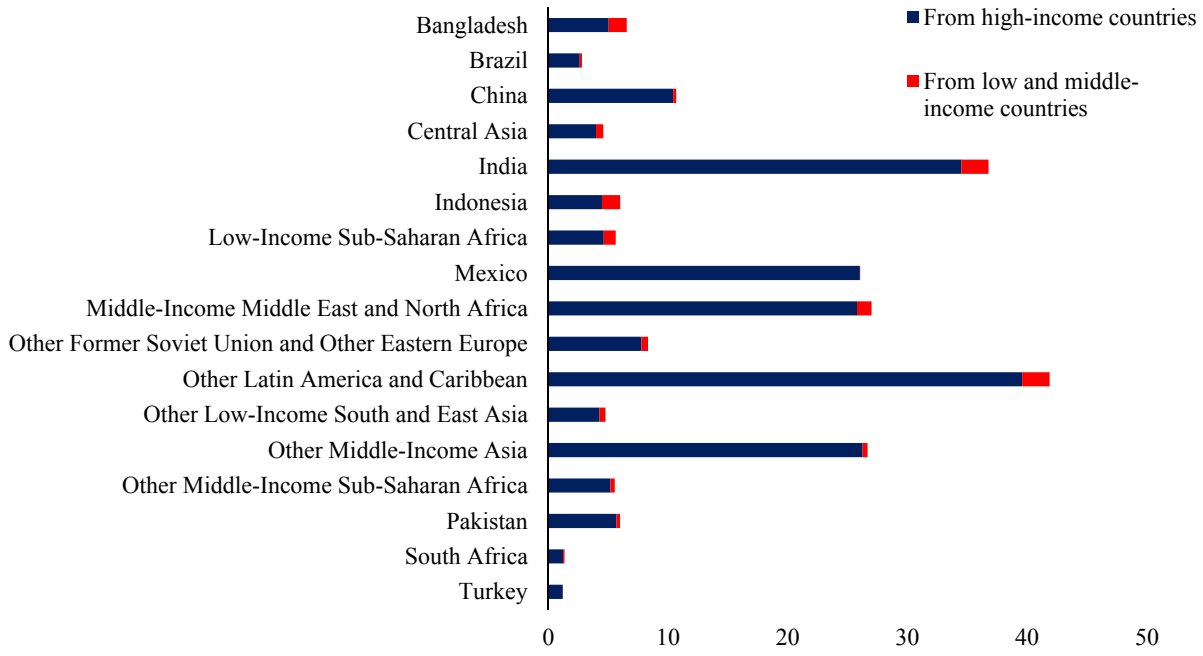


Note: There were 15.7 million migrants from low and middle-income countries residing in other low and middle-income countries in 2007. The values presented are shares of this total.

Source: Data from Walmsley et al. (2013)

Figure 2: For some developing countries, remittances from other low and middle-income countries are a substantial share of total remittances received

Remittances by receiving low and middle-income region, 2007 (US$ billion)



Source: Data from Walmsley et al. (2013)

Table 1: Higher South-North migration flows can lead to income per capita in 2030 being higher than in the baseline

Percent difference from baseline; difference from baseline in world GDP (last row) in US$ billion (2007 prices); difference in global GDP per capita (last row) in US$ 1000 (2007 prices)

	Real GDP			Real GDP per capita		
	2020	**2025**	**2030**	**2020**	**2025**	**2030**
Developed, migrant-receiving						
Australia, New Zealand and Other Oceania	1	2	2.1	-0.6	-1.2	-1
Canada	0.8	1.7	1.9	-0.9	-1.6	-1.3
European Economic Area	0.9	1.7	1.9	-0.8	-1.5	-1.2
High-Income Asia	0.7	1.4	1.5	-0.8	-1.5	-1.3
High-Income Middle East	0.5	1.1	1.4	-1.2	-2.2	-1.9
Russian Federation	0.6	1.2	1.5	-1	-1.9	-1.6
USA	0.9	1.9	2	-0.7	-1.3	-1.1
Developing, migrant-sending						
Bangladesh	-0.1	-0.2	-0.2	0	0.1	0.1
Brazil	-0.6	-1.2	-1.3	1	1.7	1.3
Central Asia	-0.1	-0.2	-0.3	0	0.1	0.1
China	0	-0.1	-0.1	0	0.1	0.1
India	0	0	-0.1	0.1	0.1	0.1
Indonesia	0	0	0.1	0.1	0.2	0.2
Low-Income Sub-Saharan Africa	-0.5	-1	-1.1	1.1	2	1.8
Mexico	-0.1	-0.2	-0.2	0.4	0.8	0.8
Middle-Income Middle East and North Africa	-2	-4	-4.4	1.9	4.2	3.9
Other Former Soviet Union and Other Eastern Europe	-0.5	-1	-1.1	0.4	0.7	0.6
Other Latin America and Caribbean	-0.1	-0.3	-0.3	0.3	0.5	0.4
Other Low-Income South and East Asia	-0.1	-0.2	-0.2	0.5	0.9	0.8
Other Middle-Income Asia	0	0	0.1	0.1	0.3	0.2
Other Middle-Income Sub-Saharan Africa	-0.1	-0.2	-0.1	0.2	0.3	0.3
Pakistan	-0.3	-0.5	-0.5	0.1	0.2	0.1
South Africa	-0.7	-1.5	-1.7	1.2	2.2	1.7
Turkey	0.5	0.9	0.9	0.5	0.9	0.9
World	0.5	0.9	0.9	0.5	0.9	0.9
ΔWorld GDP	386.3	843.7	974.7	0.05	0.104	0.115

Source: Authors' simulations

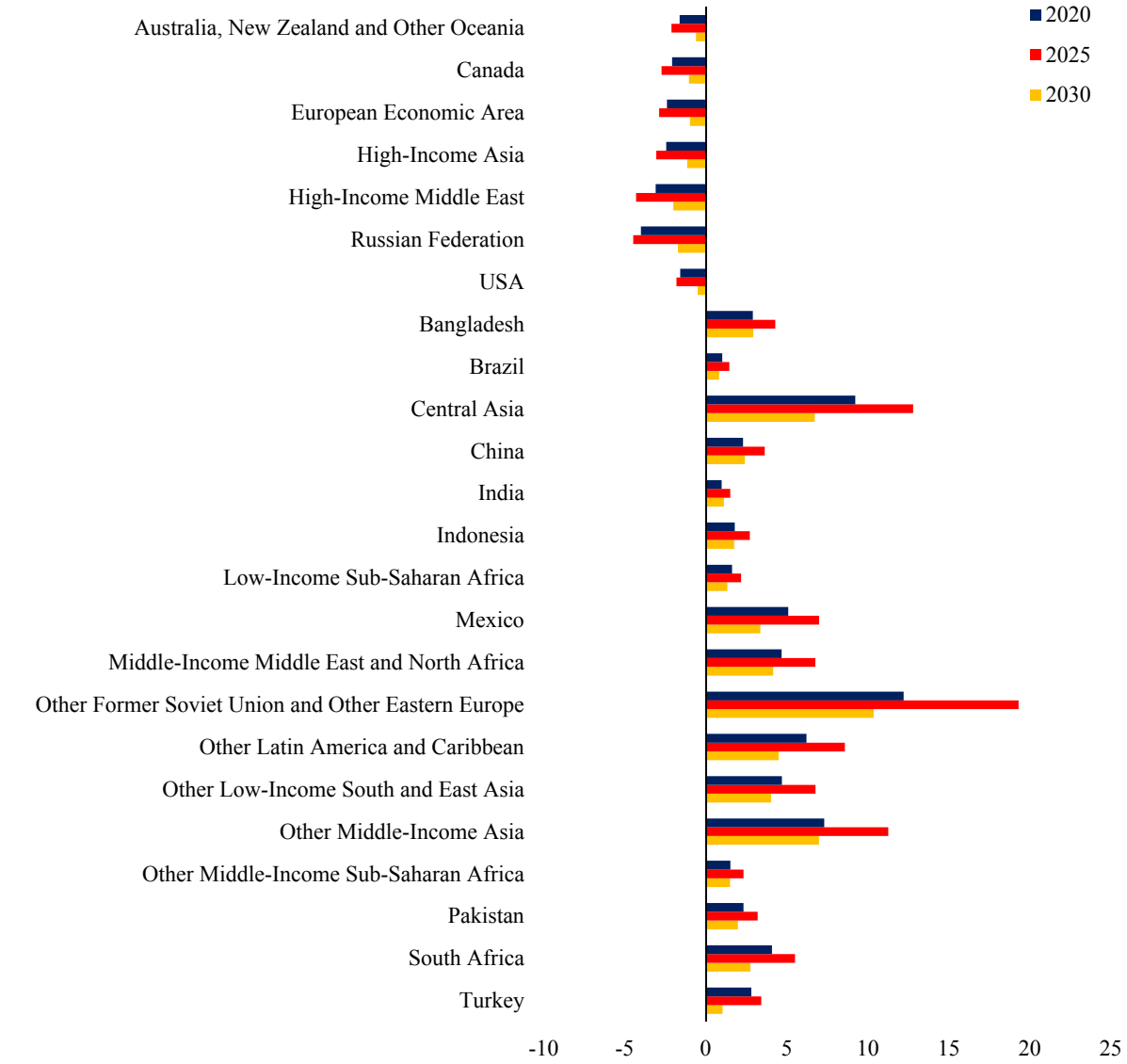
Figure 3: Real wages of unskilled natives might initially be lower if South-North migration flows increase, but they eventually recover

Impact on real wages of unskilled native workers, percent difference relative to baseline

Source: Authors' simulations

Figure 4: Real wages of skilled natives might initially be lower if South-North migration flows increase, but they eventually recover

Impact on real wages of unskilled native workers, percent difference relative to baseline



Source: Authors' simulations

The reason for this recovery in the wages of unskilled workers in the high-income economies can be found in the evolution of the aggregate capital stocks and real returns to capital in the receiving regions. Since GDP in HICs rises relative to the baseline and the real return to capital increases as capital becomes relatively scarcer with the influx of labor, the aggregate household savings volume in all HICs rises and induces a process of additional capital accumulation (Figure 5 and Figure 6). By 2030, the aggregate HIC capital stocks under the greater South-North migration scenario are noticeably higher than in the baseline scenario. This capital accumulation effect pushes the marginal productivity of unskilled labor upwards and drives the recovery of native wages in host

countries.[10] Since demand for skilled labor is assumed to be less elastic than demand for unskilled labor, the initial downward pressure on skilled wage rates in the host countries is more pronounced than that on unskilled labor. Skilled workers are also complements to capital, and as capital-intensive sectors expand, the demand for skilled workers also rise and push up their wages. However, the greatest detrimental wage effects are experienced by the incumbent LMI migrants in the receiving countries (Figure 7).

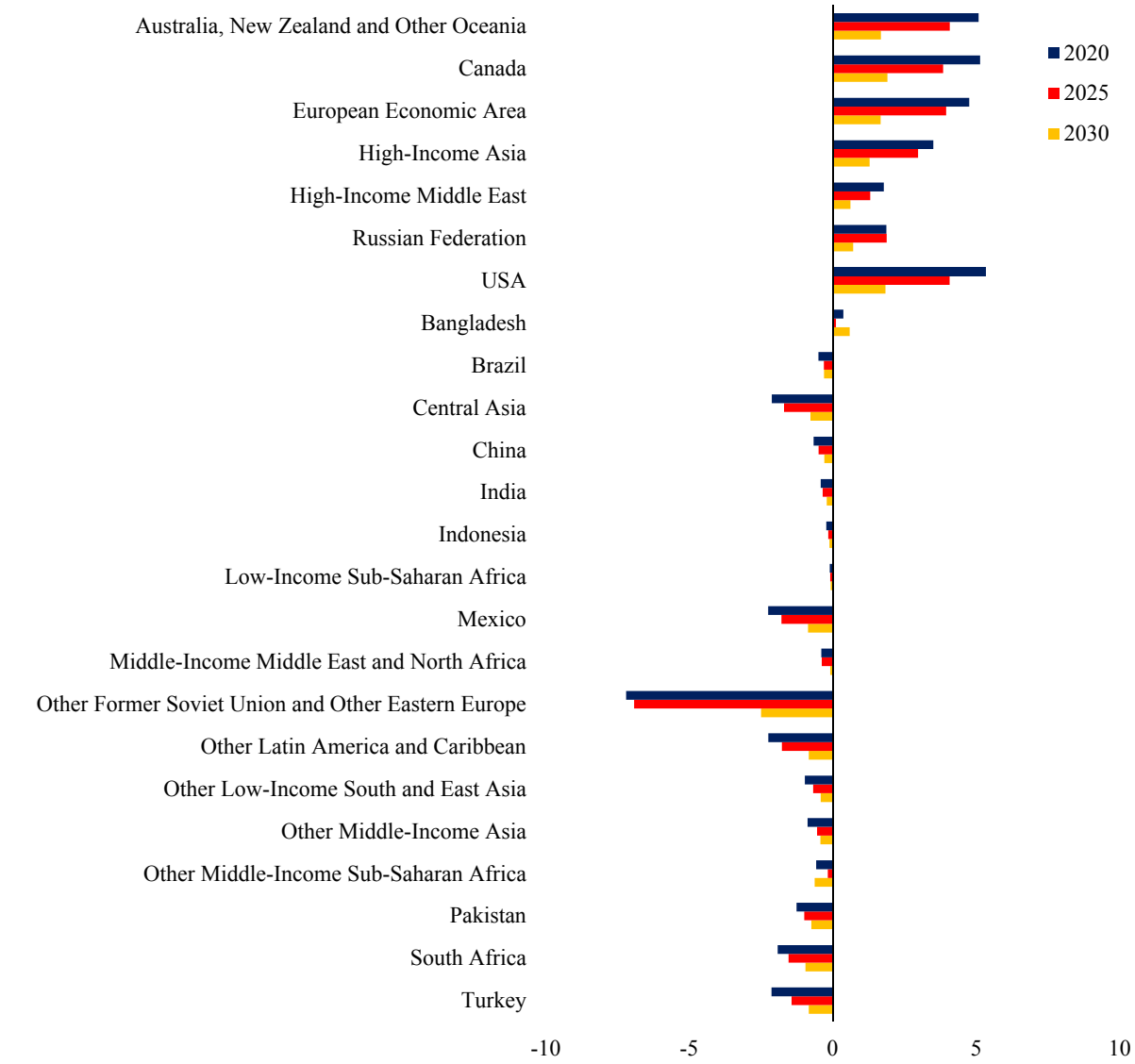
New LMI migrants are assumed to be perfect substitutes for incumbent LMI migrants, whereas they are imperfect substitutes for natives of and migrants from high-income countries.[11] This assumption is consistent with Ottaviano and Peri (2012) who examine the substitutability between natives and immigrants of similar education and experience levels in the USA. That paper found a small but significant degree of imperfect substitutability between natives and immigrants which, when combined with the other estimated elasticities, implies that in the period from 1990 to 2006 immigration had a small effect on the wages of native workers with no high school degree (between 0.6% and +1.7%). It also had a small positive effect on average native wages (+0.6%) and a substantial negative effect (−6.7%) on wages of previous immigrants in the long run. Manacorda, Manning, and Wadsworth (2012) find similar evidence on imperfect substitutability between native and migrant workers for the UK.

Remaining workers in LMI sending regions where the labor supply drops significantly enjoy pronounced real wage increases as the marginal productivity of remaining labor rises with the increase in capital-labor ratios (Figure 3 and Figure 4). An exception is the real wage effect for unskilled labor in South Africa. This exception arises from the fact that the skill composition of South African migrant workers is atypical among the LMI regions. Only 35 percent of South Africa's total out-migrant workers were unskilled in the 2007 benchmark year, while for most other LMI sending regions unskilled workers dominate in headcount terms. Thus, in the South-North migration scenario, South Africa sends out more skilled than unskilled workers, leading to unskilled workers becoming relatively more abundant in the total labor force.

[10] Comparative-static CGE analyses – such as Walmsley, Winters, and Ahmed (2010) – would miss this induced accumulation effect, and are thus bound to seriously underestimate the gains from migration for host nations.
[11] The size orders for the real wage effects are obviously sensitive to the values for the substitution elasticities σl and σlz between workers by origin in equations (1) and (3) above. The simulation results presented here assume $\sigma l = 4$ and $\sigma lz = 5$.

Figure 5: Higher South-North migration flows could lead to greater real returns to capital in migrant-receiving countries

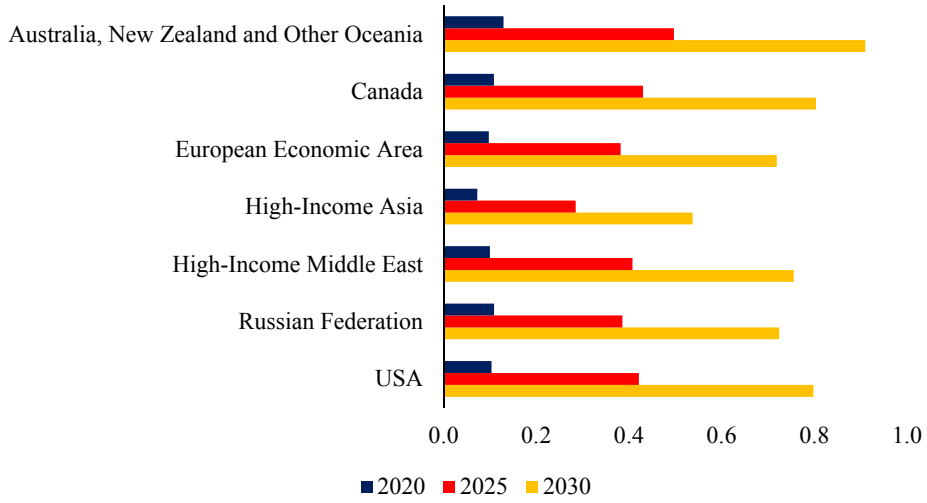
Impact on real returns to capital, percent difference relative to baseline



Source: Authors' simulations

Figure 6: High South-North migration flows can lead to faster capital formation in migrant-receiving high-income countries

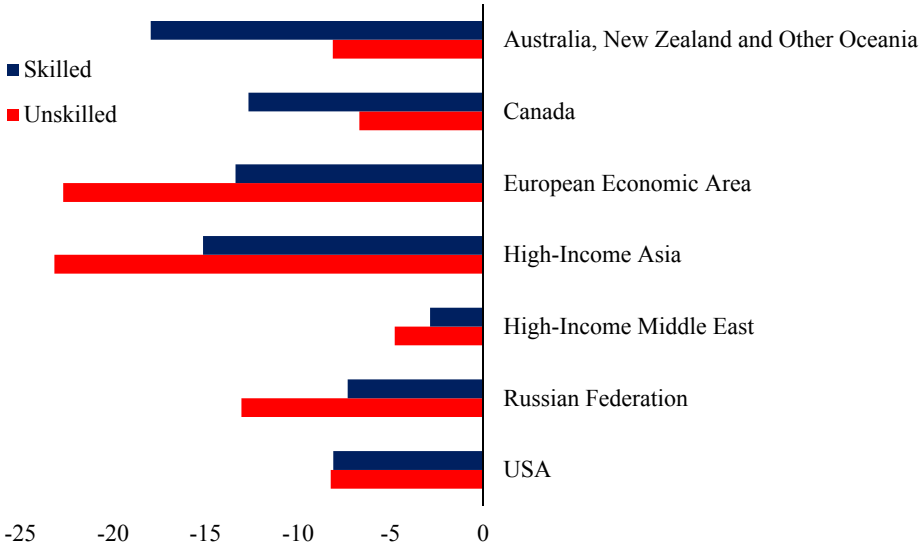
Impact on aggregate real capital stocks, percent difference relative to baseline



Source: Authors' simulations

Figure 7: Higher inflows of migrants from developing countries tend to depress the wages of developing-country migrant workers already present

Impact on wages incumbent developing country migrants by host region in 2030, percent difference relative to baseline



Source: Authors' simulations

For most LMI countries, real returns to capital drop relative to the baseline (Figure 7). Together with the decline in aggregate GDP against the baseline, this effect entails a decline in aggregate saving and net investment volumes, and aggregate capital stocks fall slightly below baseline levels in these regions. For example, in Mexico and OLAC the capital stock is 0.4 to 0.5 percent below the baseline and 0.6 to 0.8 percent below baseline in Central Asia and Turkey by 2030. However,

in regions where the effect of emigration on the aggregate labor supply is small, opposite effects on savings volumes including the increase in remittance income and the positive impact of the rise in per-capita income on the average propensity to save dominate, and the capital stock rises slightly relative to baseline levels. For example, capital stocks are by 2030 0.1 to 0.2 percent higher than in the baseline in Pakistan, OMI_SSA and LI_SSA.

An exception is Bangladesh, which has the highest share of baseline remittance receipts in total household income (about 7.3 percent in 2030). At the same time, the percentage reduction in its total domestic labor supply due to the additional migration is small. Correspondingly, the negative effect of the drop in the domestic labor supply on the marginal productivity of capital (which per se pulls the real return to capital downwards) is small, while the positive effect of the additional remittance income (+38.1% in 2030 the South-North migration scenario) on household demand is stronger than in all other regions. So in the case of Bangladesh the positive demand pull effect of increased household transfer income from abroad.

In absolute terms, natives of the HIC host regions gain most (Table 2). [12] This gain is primarily due to the rise in returns to capital, while in terms of relative changes the new migrants enjoy the largest welfare increases (Table 3). Incumbent migrants in the HIC regions experience significant losses as they suffer large wage rate reductions and own only small shares of the host region's total capital stock and thus benefit little from the increase in capital returns. However, on a global scale and in most individual regions the gains of new migrants exceed the losses of old migrant by a large margin. Remaining natives in the region of origin enjoy a net increase in remittances as well as an increase in labor income as shown earlier while capital income drops. At a global scale, their net annual real income increases by 0.4 percent in this scenario. By 2030, annual global aggregate welfare is US$ 706 billion (+0.8 percent) higher than in the baseline. Relative to the baseline, LMI natives' aggregate annual welfare is higher by US$ 236 billion (+0.6) percent while that of HIC natives' real income is higher by US $471 billion.

[12] The values are PPP adjusted. Without this adjustment the total annual gain for new migrants in 2030 would be on the order of US$ 450 billion, but this figure would grossly overstate their real consumption increase compared to their baseline consumption levels. Conceptually, the PPP adjustment basically follows the logic of the standard equivalent variation measure of welfare changes, i.e. the PPP-adjusted real income changes for new migrants reported in Table 9 are a measure of the additional income new migrants would have required in the baseline situation in their region of origin to afford a real consumption level comparable to that enjoyed in the new equilibrium. See Mensbrugghe and Roland-Holst (2009) and Timmer and van der Mensbrugghe (2006) for further discussion. Alternatively, a PPP-adjusted measure of welfare change that would follow the logic of the compensation variation would be the hypothetical amount that could be deducted from new migrants' income in the new equilibrium without making them worse off than they were in the baseline. The former method (used here) deflates new migrants' net income after remissions in the post-migration equilibrium by the purchasing power differential between host and origin region and compare that figure with their baseline income, while the latter method would inflate the new migrants baseline income by the reciprocal of the PPP differential and compare that figure with net income after remittance payments in the new equilibrium.

Table 2: New migrants to and natives of developed countries tend experience the greatest gains to real income from higher South-North migration flows

Difference from baseline of real income in 2030 (US$ Billions)

		Incumbent Migrants		Natives	
	New Migrants	**from LMIs**	**from HICs**	**Host Region**	**Origin Region**
Australia, New Zealand, and Other Oceania	4.61	-2.85	2.36	15.07	
Canada	5.35	-3.15	1.60	18.72	
European Economic Area	53.64	-32.51	9.55	189.29	
High-Income Asia	19.29	-10.45	0.30	51.91	
High-Income Middle East	2.56	2.20	1.60	16.25	
Russian Federation	4.45	-2.09	0.13	16.91	
USA	103.95	-44.12	3.76	146.09	
Bangladesh		0.01	0.00		23.66
Brazil		0.00	-0.01		2.72
Central Asia		-0.18	-0.46		0.41
China		0.00	0.00		0.61
India		0.02	0.02		29.54
Indonesia		0.00	0.00		5.20
Low-Income Sub-Saharan Africa		0.03	0.05		8.24
Mexico		-0.01	-0.22		11.19
Middle-Income Middle East and North Africa		0.01	0.11		21.49
Other Former Soviet Union and Other Eastern Europe		-0.27	-1.79		1.75
Other Latin America and the Caribbean		-0.24	-0.27		16.07
Other Low-Income South and East Asia		0.01	0.01		4.37
Other Middle-Income Asia		-0.02	0.09		5.39
Other Middle-Income Sub-Saharan Africa		0.05	0.14		1.06
Pakistan		0.00	0.00		4.54
South Africa		-0.03	-0.03		5.08
Turkey		-0.03	-0.58		-5.55
Total	**193.840**	**-93.607**	**16.353**	**454.249**	**135.748**

Note: The decomposition assumes that new migrants earned only labor income and received no remittances in the baseline and that the incumbent migrants receive a share of the host region's non-labor income that equals their respective shares in labor income. New migrants' real income change is the after-tax CPI-deflated labor income net of remittance transfers adjusted for purchasing power differentials between the host and the origin region minus CPI-deflated baseline net labor income. For the other groups, the figures are the sum of changes in their CPI-deflated net factor income and remittances sent or received

Thus, a moderate relaxation of barriers to South-North labor migration as considered here generates substantial net gains for natives of low- and middle-income countries. However, the simulation results suggest that the additional migration flows from LMI to HIC do not contribute to a convergence of real incomes between natives of LMI and HIC regions, as the latter gain more than the former in both absolute and relative terms (Table 3).

Table 3: Higher South-North migration flows benefit new migrants from developing countries and the natives of all countries the most

Real income gains 2020-30, deviations from baseline in US$ Billion

Year	Incumbent Migrants			Natives		Total Change		
	New Migrants	from LMIs	from HICs	Host Region	Origin Region	LMI Natives	HIC Natives	Global
2020	89.919	-42.935	7.227	151.350	59.617	106.600	158.577	**265.177**
2025	177.388	-81.539	14.849	361.094	125.342	221.192	375.943	**597.135**
2030	193.840	-93.607	16.353	454.249	135.748	235.981	470.603	**706.584**
Deviations from Baseline in Percent								
2030	+125.1	-4.2	+0.7	+1.0	+0.4	0.55	1.03	**+0.82**

Source: Authors' simulations

4. South-South Migration Reversal

To obtain a broad indication of the order of magnitude of aggregate welfare impacts associated with current levels of South-South migration, a deliberately extreme hypothetical reverse migration scenario is considered. In this scenario, all bilateral LMI-LMI migrant labor stocks drop gradually over the period 2016 to 2025 so that by 2025 these stocks are 90 percent lower than in the baseline and then remain 90 percent below baseline beyond 2025. Leaving migrants return to the region of origin and take dependent household member with them. In line with the purpose of this scenario, it is assumed that the productivity of return migrants is the same as that of existing native non-migrant workers in the new equilibrium.

Table 4 highlights the largest 2030 baseline South-South migration stocks and thus serves to identify the migration corridors along which the largest absolute international movements of labor are assumed to occur. In this scenario, South-South migrant stocks have dropped by 2030 by 21.5 million workers vis-à-vis the baseline scenario. In particular, cross-national intra-SSA migrant worker stocks are 8 million below the baseline in 2030, 2.1 million Bangladeshi workers have returned from India, in turn 1.5 million Indian workers have returned from Pakistan, and 1.9 million international intra-Latin-American migrant workers have moved back home by 2030 compared to the baseline in the same year.

Table 4: Only one or two migration corridors tend to be important for developing country migrants going to other developing countries

South-South migrant labor stocks in 2030 under baseline, millions of workers

	LMI Host Region													
Origin Region	**Brazil**	**OLAC**	**India**	**Pakistan**	**OMI_Asia**	**Bangladesh**	**OLI_Asia**	**CtrlAsia**	**MI_MENA**	**OFSU_OEE**	**OMI_SSA**	**LI_SSA**	**SthAfrica**	**Total to LMI**
Native	*118.2*	*156.8*	*654.1*	*87.4*	*166.1*	*96.2*	*105.7*	*37.3*	*145.7*	*31.3*	*220.4*	*367.4*	*22.3*	*3231.4*
Brazil		0.12									0.01			0.14
OLAC	0.08	1.91			0.01					0.01	0.07	0.01	0.01	2.14
China	0.01	0.03			0.32		0.24	0.01	0.01		0.04	0.01		0.74
India				1.70	0.25	0.56	0.38		0.04		0.04	0.04	0.01	3.02
Pakistan			0.63		0.01	0.01	0.02		0.02			0.01		0.70
Indonesia					0.56		0.01		0.02					0.60
OMI_Asia			0.12	0.01	0.16		0.24		0.03					0.60
Bangladesh			2.29	0.03	0.05		0.03		0.02					2.41
OLI_Asia		0.01	0.55	0.04	0.20		0.03		0.32					1.20
CtrlAsia					0.01			0.59	0.07	0.38				1.07
MI_MENA	0.01	0.02	0.01		0.01			0.01	0.91	0.01	0.06	0.04		1.09
OFSU_OEE		0.01						0.68	0.02	0.49				1.25
OMI_SSA			0.01								0.50	1.33	0.13	1.98
LI_SSA			0.02						0.03		3.26	3.06	0.27	6.64
SthAfrica											0.04	0.16		0.21
Total from LMI	0.11	2.14	3.63	1.78	1.59	0.57	0.95	1.29	1.50	0.91	4.02	4.67	0.43	23.86

Note: Red entries: Stocks > 1 million workers; Orange: 0.5 to 1 million workers; Yellow: 0.1 to 0.5 million workers. Host regions with less than 100,000 migrant workers and individual stocks less than 10,000 migrant stocks are excluded. Totals include small stocks not displayed here. Displayed entries account for 98.4 percent of total LMI-to-LMI migrant worker stocks.

Global real GDP in 2030 is US$57.9 billion lower than in the baseline under this scenario, and LMI GDP drops by a moderate 0.14 percent (Table 5). In some countries with a net increase in the total labor force (Bangladesh, Indonesia, China) GDP rises, but GDP per capita drops due to the net increase in the resident population. In other regions – notably in LI_SSA, OLI_Asia and OFSU_OEE - aggregate GDP drops despite a net increase of the labor force, as on balance foreign migrants with relatively high productivity are replaced by native return migrants with lower productivity. In contrast, in India, MI_MENA, Turkey and South Africa, the total labor force and the total population decline while the change in the composition of the labor force raises average productivity so that GDP per capita rises slightly compared to the baseline.

Table 5: A reversal of South-South migration could reduce the size of LMI economies by 0.14 percent by 2030

Percent difference from baseline; difference in global GDP (last row) in US$ billion (2007 prices); percent difference in low and middle-income country GDP per capita (last row) (US$ 2007 prices)

	Real GDP			Real GDP per capita			Population		
	2020	**2025**	**2030**	**2020**	**2025**	**2030**	**2020**	**2025**	**2030**
Bangladesh	0.2	0.5	0.5	-0.8	-1.5	-1.5	1	2	2
Brazil	0	0	0	0	0	0	0	0	0
Central Asia	-0.6	-1.5	-1.9	-0.5	-1.3	-1.6	-0.1	-0.2	-0.3
China	0	0	0	0	0	0	0	0.1	0.1
India	0	-0.1	-0.1	0	0	0	-0.1	-0.1	-0.1
Indonesia	0.1	0.1	0.1	-0.1	-0.2	-0.2	0.2	0.3	0.3
Low-Income Sub-Saharan Africa	-0.1	-0.4	-0.5	-0.4	-0.9	-1	0.2	0.5	0.5
Mexico	0	0	0	0	0	0	0	0	0
Middle-Income Middle East and North Africa	0	-0.1	-0.1	0.1	0.1	0.1	-0.1	-0.2	-0.2
Other Former Soviet Union and Other Eastern Europe	0	0	0	-0.2	-0.5	-0.6	0.2	0.5	0.6
Other Latin America and Caribbean	-0.1	-0.2	-0.3	-0.1	-0.3	-0.3	0	0	0
Other Low-Income South and East Asia	-0.3	-0.8	-0.9	-0.5	-1.2	-1.4	0.2	0.5	0.5
Other Middle-Income Asia	-0.3	-0.7	-0.8	0	-0.2	-0.3	-0.3	-0.5	-0.5
Other Middle-Income Sub-Saharan Africa	-0.3	-0.7	-0.8	0.1	0	-0.1	-0.3	-0.7	-0.7
Pakistan	-0.3	-0.7	-0.8	0.1	0	0	-0.3	-0.7	-0.7
South Africa	-0.2	-0.5	-0.5	0.2	0.3	0.2	-0.4	-0.7	-0.7
Turkey	0	-0.1	-0.1	0	0.1	0.1	-0.1	-0.1	-0.1
World	-0.01	-0.04	-0.06	-0.01	-0.04	-0.06	0.0	0.0	0.0
Δ World GDP	-10.3	-39.7	-57.9	-0.001	-0.005	-0.006			
LMI	-0.04	-0.12	-0.14						

Source: Authors' simulations

Table 6 shows the PPP-adjusted difference from the baseline in 2030 in real income for return migrants, native non-migrant workers in the home region and remaining LMI-LMI migrants by region of origin. Native non-migrants in the home region are generally worse off, and this is primarily due to the loss of remittance income. The equilibrium impact on real wages for this group is a priori ambiguous, as the inflow of return migrants exerts downward pressure on the real wage while in regions with a net outflow of migrants the decrease in the total labor supply entails an

upward pressure. Thus, in the case of LI_SSA where the total labor supply rises significantly, the unskilled native real wage in 2030 drops by 1.2 percent relative to the baseline. In the case of other low-income Asia (OLI_Asia), the net reduction in the total labor supply entails a rise in the unskilled native real wage on the order of 0.8. The impact on non-labor factor income for this group is likewise ambiguous. In the case of China only, the net increase in real capital income for this group is strong enough to dominate the loss of remittance income. The real income impact on the small group of remaining LMI-LMI migrant workers is unambiguously positive as this group enjoys significant real wage increases in this scenario.

There is a wide variation in the impact on return migrants by sending country. The cases of LI_SSA on the one hand and India or China on the other are opposite extremes and may serve to illustrate the point. As noted earlier, LI_SSA migrant workers in their main LMI destinations enjoy large positive net wage differentials in relation to non-migrants of the same origin in the baseline, so that even after the deduction of remittances sent home and adjustments for purchasing power differentials between host and origin region, they are significantly better off in the baseline scenario than in the return scenario. In contrast, workers of Chinese origin in their main LMI destinations (other low- and middle-income Asian countries) earn significantly lower baseline wages than Chinese non-migrant workers, and thus would be better off by working in China. Similarly, low-skilled Indian migrant workers in their prime LMI destinations Pakistan, Bangladesh and other low-income Asia earn less than native low-skilled workers in India, and this explains the large gain for Indian return migrants reported in Table 6.

Overall, total LMI welfare drops by 0.4 percent relative to the 2030 baseline, and this figure suggests indirectly that on balance current levels of international LMI-LMI labor migration make a positive and non-negligible contribution to economic performance in developing countries.

Table 6: Reversals of South-South migration could lead to massively lower welfare for natives in developing countries that never migrated

Welfare impacts on natives, new Migrants and incumbent migrants, difference from baseline in 2030 (US$ Billion)

	PPP-Adjusted Real Income Change			
	Return Migrants	**Non-Migrants in Origin**	**Remaining Migrants**	**Total**
Bangladesh	0.05	-9.60	0.12	-9.43
Brazil	0.04	-0.80	0.07	-0.69
Central Asia	-0.70	-12.12	0.34	-12.48
China	2.31	-1.50	0.19	0.99
India	5.82	-8.52	0.02	-2.68
Indonesia	1.64	-11.62	0.04	-9.94
Low-Income Sub-Saharan Africa	0.39	-9.03	0.25	-8.39
Mexico	-0.04	-0.65	0.02	-0.67
Middle-Income Middle East and North Africa	1.92	-7.34	0.10	-5.32
Other Former Soviet Union and Other Eastern Europe	-2.14	-11.27	0.50	-12.92
Other Latin America and Caribbean	2.44	-26.36	0.96	-22.96
Other Low-Income South and East Asia	-0.66	-5.24	0.09	-5.81
Other Middle-Income Asia	-0.25	-11.15	0.11	-11.29
Other Middle-Income Sub-Saharan Africa	0.22	-3.13	0.09	-2.82
Pakistan	0.28	-2.96	0.05	-2.63
South Africa	-3.36	-23.80	0.65	-26.51
Turkey	-0.02	-0.60	0.01	-0.61
Total LMI	7.93	-145.68	3.59	-134.16

Source: Authors' simulations

5. Conclusions

The literature on the gains of international migration tends to revisit three conclusions. The first conclusion is that a relaxation in the barriers to international labor mobility leads to more workers from developing countries moving to developed countries – South-North migration – and can be expected to increase global welfare. The second conclusion is that this greater migration will accelerate the real GDP growth of the host countries although the wages of native workers will be depressed and may even fall. The third conclusion is that increased South-North migration is often to the benefit of the developing countries, brain drain arguments aside, due to factors like upward pressures on wages of those remaining and due to higher remittance flows that increase investment and consumption.

This paper uses a global dynamic economic simulation approach to nuance the discussion of international migration and development beyond these robust conclusions. Scenario analyses are conducted with the model to present two sets of findings. The first set is from a scenario where existing binding restrictions on South-North migration are relaxed such that the total labor force in each of the developed host regions rises eventually by 3 percent relative to a business-as-usual

baseline scenario. The analysis finds that even though more migration can push down the wages of native workers in the short run, wages of native workers recover. In the case of unskilled workers, the wages are higher by 2030 in the scenario with more migration than in the baseline scenario. This result is mostly due to the effect of greater increases in real returns on capital and faster capital formation.

From an intra-region distributional perspective as well as from a political economy perspective, it can be seen that additional South-North migration favors capital income recipients and hits labor income recipients in the host regions at least in the short run. In contrast, capital owners are hurt while workers gain in the sending nations. Overall, natives of the high-income host regions are found to gain most due to the rise in returns to capital, followed by new migrants enjoying the largest welfare increases. Incumbent migrants in the developed country host regions experience significant losses as they suffer large wage reductions and own only small shares of the host region's total capital stock and thus benefit little from the increase in capital returns. However, on a global scale and in most individual regions, the gains of new migrants exceed the losses of old migrants by a large margin. Remaining natives in the region of origin enjoy a net increase in remittances as well as an increase in labor income, while capital income drops.

The second set of findings is from a hypothetical extreme reverse South-South migration scenario, in which eventually 90 percent of all developing country migrants hosted in other developing countries return to their origin country. Even though the wage differentials between a developing country native and a developing country worker hosted in another developing country tend to be smaller than if they migrate to a high-income country, these South-South migrants make substantial contributions to remittances. So much so that under the extreme migration reversal scenario, the loss of the remittance income leads to substantially lower welfare in developing countries.

While these findings do present a new perspective on the potential gains from greater migration, a few limitations of the methodology should be kept in mind. First is that the simulation analysis approach is unable to incorporate some of the origin country impact channels identified in the migration literature. These channels include in particular potential productivity impacts associated with return migration and potential brain gain effects arising from incentives to invest in human capital formation in the presence of expected future migration opportunities. As Kerr and Kerr (2011) emphasize, proper accounting for return migration is essential for determining the economic impacts for both origin and host countries, given the available evidence on the extent of return migration from the main host regions and existing empirical estimates of possible associated benefits for the home country.[13] On brain gain effects, recent evidence suggests that skilled migration prospects may positively influence human capital formation in developing countries

[13] See for example, Mayr and Peri (2009), Dustmann and Weiss (2007) and De Vreyer, Gubert and Robilliard (2010).

(Beine, Docquier, and Rapoport, 2010; Docquier and Rapoport, 2012). Correspondingly, there is scope for future extensions of the work presented here.

Second, the magnitudes of the effects discussed in this paper are sensitive to the parameterization of the model and its macroeconomic closure. As such, the results should be viewed more in terms of enhancing the qualitative understanding of the effects, rather than quantifying the impacts of the stylized and hypothetical migration liberalization scenario. For example, the assumption of an inelastic labor supply in the origin countries is evidently critical for the size orders of the origin country effects and the results would differ if one assumes the presence of underemployment in the status quo ex ante.

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Annex

Table A1: Regional Aggregation

No.	Short Code	Description
1	USA	United States of America
2	Canada	Canada
3	Mexico	Mexico
4	Brazil	Brazil
5	OLAC	Other Latin America and Caribbean
6	China	China
7	India	India
8	Pakistan	Pakistan
9	Bangladesh	Bangladesh
10	Indonesia	Indonesia
11	HI_Asia	High-Income Asia
12	OMI_Asia	Other Middle-Income Asia
13	OLI_Asia	Other Low-Income South and East Asia
14	CtrlAsia	Central Asia
15	HI_MENA	High-Income Middle East
16	MI_MENA	Middle-Income Middle East and North Africa
17	Turkey	Turkey
18	Russia	Russian Federation
19	OFSU_OEE	Other Former Soviet Union and Other Eastern Europe
20	EEA	European Economic Area
21	SthAfrica	South Africa
22	OMI_SSA	Other Middle-Income Sub-Saharan Africa
23	LI_SSA	Low-Income Sub-Saharan Africa
24	Oceania	Australia, New Zealand and Other Oceania