INTERNATIONAL MONETARY FUND

STAFF BACKGROUND PAPER FOR G20 SURVEILLANCE NOTE

INTERNATIONAL MIGRATION: RECENT TRENDS, ECONOMIC IMPACTS, AND POLICY IMPLICATIONS

November 12, 2015

EXECUTIVE SUMMARY

International migration is a global phenomenon and has become a pressing economic issue, particularly in light of the ongoing refugee crisis in the Middle East and North Africa. Cross-border migration has risen steadily in recent years, with migrants now accounting for over 3 percent of the global population. More recently, intensifying conflicts in the Middle East and North Africa have resulted in a surge of refugees to levels not seen in decades. Migration pressures across borders will likely continue to increase both in the short-term given the large number of internally displaced people and over the coming decades, reflecting demographic forces, globalization, and environmental degradation. Hence, understanding evolving trends, underlying drivers, and the economic impact of migration is crucial for designing policies for both recipient and source countries.

While migration presents several challenges, it can also confer benefits to both recipient and source countries under the right circumstances. The economic impact of migration varies across countries. International experiences suggest that the average impact on labor market outcomes in recipient countries tend to be small. The net fiscal impact of immigration is likely negative initially, reflecting the cost of humanitarian support (in the case of refugees) and integration policies, but decreases as immigrants enter the labor force. Long-term upsides from migration, however, could be significant, particularly as a means to address declining working age populations. For source countries, emigration can lead to the loss of working-age labor and human capital, but also creates opportunities in terms of remittances, trade, and investment flows. While migration stemming from conflict persecution or natural disasters (i.e., humanitarian migration) represents a small part of overall migration, its human costs are large, and sudden surges present significant economic and social challenges for source, transit and recipient countries.

Domestic policies should be designed to leverage benefits of international migration and address humanitarian emergencies. For many recipient countries, minimizing short-term costs requires facilitating smooth integration of migrants—both economic migrants and refugees—into labor markets while taking advantage of long-run opportunities to address population aging. Reducing the cost of sending remittances could provide an important income boost for source countries. Implementing policies to retain and re-attract migrants, particular high-skilled labor, can help mitigate costs associated with brain drain. An immediate priority for policies addressing humanitarian migration is to achieve better living conditions for those in need.

Global policy cooperation can help establish effective response mechanisms to address surges in humanitarian migration and reduce costs of international labor mobility. Policies addressing humanitarian migration require holistic humanitarian, financial, and development responses. These include policies towards enhanced global development diplomacy—aiming to prevent, contain, and respond to humanitarian crises—and providing financial assistance to alleviate capacity constraints in transit countries. More broadly, global policy efforts should focus on encouraging cooperation and dialogue between source and destination countries to reduce negative international spillovers from immigration policies, facilitate remittance flows, protect labor rights, and promote a safe and secure working environment for migrants.

BOXES

ANNEXES

INTRODUCTION[1]

1. **International migration has become a pressing issue for source and recipient countries, particularly in light of the ongoing refugee crisis in the Middle East, North Africa, and Afghanistan.** The number of international migrants has increased threefold since the 1960s, accounting for over 3 percent of the global population. More recently, intensifying conflicts in the Middle East and North Africa have resulted in a surge of refugees to levels not seen in decades. Looking ahead, demographic forces, globalization, and climate change will likely increase migration pressures across borders.

2. **Designing policies that maximize benefits from migration for both source and recipient countries is key.** The economic impact of migration, both economic and humanitarian migration, continues to be a widely discussed topic in policy and academic circles. For recipient countries, much of the focus has been on short-term costs of immigration (e.g., labor market outcomes for native workers, fiscal costs, and economic growth) and how best to integrate immigrants into the labor force. But as demographic tailwinds become more pronounced for some countries, issues of long-term benefits from immigration related to aging populations are also coming to the fore. For source countries, much of the debate has centered on how to mitigate the loss of high-skilled labor while maximizing gains from remittances flows. Remittances carry significant potential for financing economic and human development in emerging market and developing countries. At the global level, enhanced policy coordination is essential to effectively address humanitarian migration crises while leveraging benefits from enhanced international labor mobility.

3. **This paper provides an overview of trends, economic impact and policy implications of cross-border migration, covering both economic migrants and refugees.** Section I describes the size, pattern, and composition of recent migration trends while section II summarizes the key push and pull factors driving migration flows. Section III provides an overview of economic implications for both recipient and source countries, focusing on labor market, fiscal, and growth outcomes. Finally, section IV discusses domestic and global policies needed to leverage the benefits of international migration and address humanitarian emergencies.

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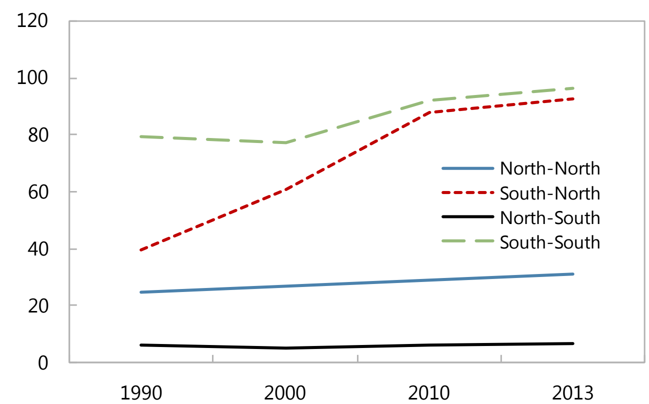
SIZE, PATTERN AND COMPOSITION OF MIGRATION FLOWS

A. Overall Migration Trends

4. **International migration has risen steadily over the last three decades, with migrants now accounting for over 3 percent of the global population.** Notwithstanding a slowdown in the wake of the global financial crisis, the number of international migrants, comprising both economic and humanitarian migrants, has increased threefold since 1960, reaching 232 million in 2013, of which about one quarter migrated over the past two decades.[2].

5. **Recent migration patterns have been predominantly characterized by South-North flows.** While migration between emerging market and developing countries (South-South) accounts for a large part of the international migrant stock, recent trends have been driven mainly by migrants moving from emerging and low-income developing countries to advanced economies (South-North) (Figure 1). As a result, more than half of global migrants reside in advanced countries, with Europe and North America being the main recipient regions. In some countries (e.g., Australia, Switzerland, and the United States), migrants represent more than 10 percent of the population (Figure 2). Emerging market economies, primarily from Asia, are the main source of world migration, and also play an important role as recipient countries. This mostly reflects large migration from Caucasus and Central Asia to Russia and from South Asia to the Gulf Cooperation Council (GCC) countries. In some countries (e.g., Qatar, the United Arab Emirates), migrants constitute more than 70 percent of the population. Low-income developing countries in Sub-Saharan Africa (SSA) have made a modest, albeit increasing, contribution to international economic migration—a trend likely to continue in the future.

Figure 1. International Migration Patterns
(In millions)

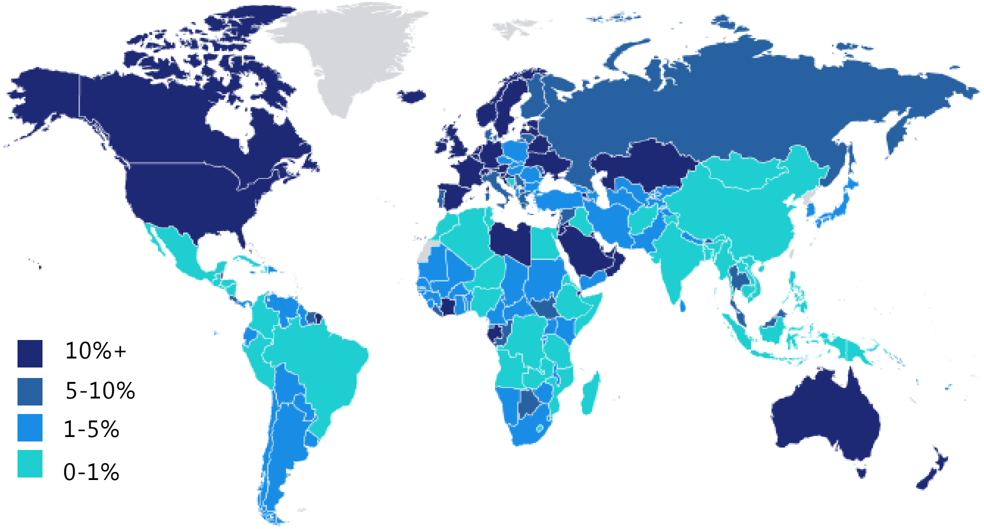


Source: UN (2015), IMF staff calculations
Note: North includes advanced economies, while South comprises emerging market and low-income developing countries.

[2] Migrants broadly refer to people living in a country other than the one in which they were born, or in the absence of such data, the number of people of foreign citizenship. While data coverage varies from country to country, it generally includes both economic migrants and refugees. There is an important distinction between economic migrants who voluntarily choose to leave their countries in search of economic opportunities abroad and refugees who are forcibly displaced across international borders.

Figure 2. International Migrants, end-2013

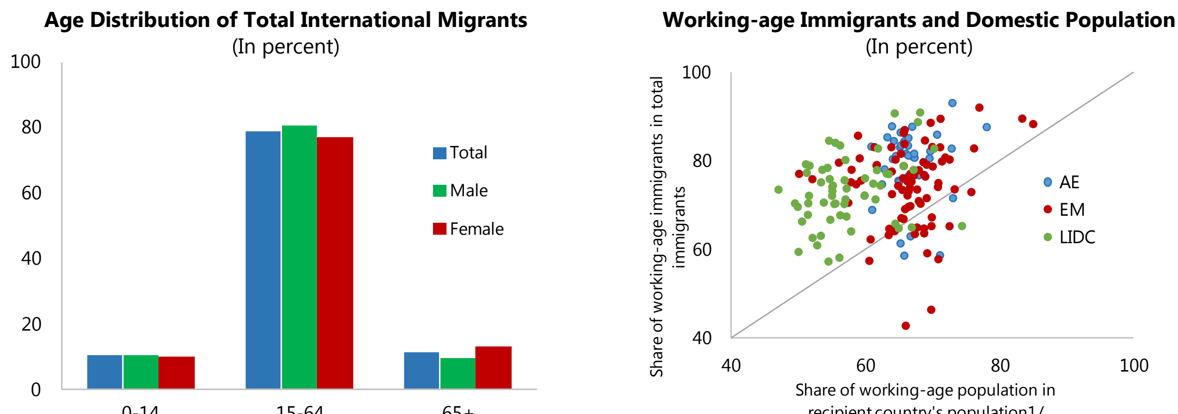
(In percent of recipient country's population)



Source: UN (2015), IMF staff calculations.

6. **The international migrant stock is dominated by working-age individuals.** Around 80 percent of total international migrants were in the 15–64 age group in 2013 (Figure 3). In other words, 4 percent of the world's working-age population resided in a foreign country. The share of working-age migrants in total migrants exceeds the share of working-age population in total population in almost every country, albeit with considerable cross-country variation (Figure 3). Indeed, the propensity to migrate tends to decrease with age as the expected net present value of benefits is higher for younger people who can reap the benefits over a longer time period (Becker, 1964). As a result, to the extent that labor flows from countries with young populations to those with aging populations, migration can help smooth asynchronous demographic patterns across countries. However, it can also intensify the decline in the labor force stemming from demographic changes in some countries.

Figure 3. Age Profile of International Migrants, 2013

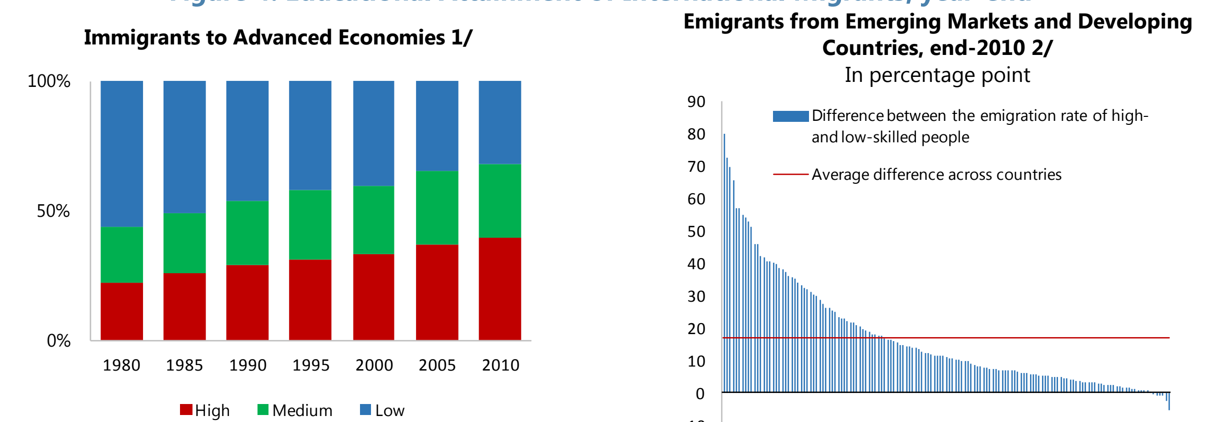


Source: UN (2015), IMF staff calculations

1/ Share of working-age population is calculated as the ratio of population aged 15-64 to total population.

7. **The educational attainment of migrants has increased significantly in recent decades.** From the perspective of recipient countries, recent migration patterns reveal a strong selection-effect of immigrants. In particular, the share of highly educated individuals in total migrants doubled between 1980 and 2010 in major advanced economies (Figure 4). International migrants are, on average, more highly educated than their native-born counterparts (OECD, 2015a). However, there are significant cross-country differences, with the share of high-skilled immigrants ranging from 15–70 percent, partly reflecting different migration policies. From the perspective of source countries, recent patterns demonstrate the brain drain effect of international migration. Specifically, the emigration rate of high-skilled people exceeds that of low-skilled ones in most emerging and low-income developing countries (Figure 4). The broad-based increase in global educational attainment, however, has mitigated the negative effects of rising high-skilled emigration in source countries. For instance, although the number of highly educated African migrants residing in OECD countries increased significantly over the last decade, the emigration rate of highly educated people actually decreased in Africa (OECD, 2015a).

Figure 4. Educational Attainment of International Migrants, year-end

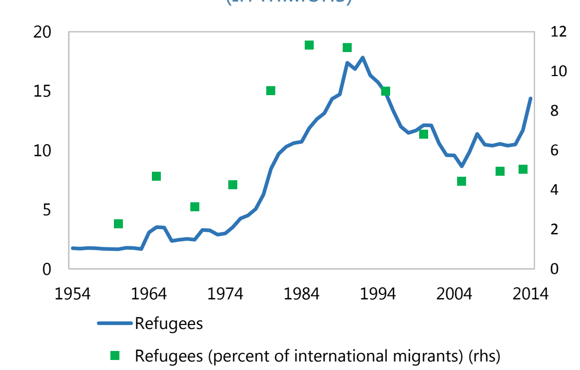


Source: IAB, IMF staff calculations
1/ Low, medium and high educational attainment refers to primary, secondary and tertiary education, respectively.
2/ Emigration rate is calculated as the share of emigrants with specific educational attainment in total population with the same educational attainment. Each bar represents data for a single country.

B. Humanitarian Migration

8. **Humanitarian migration is moderate relative to overall international migration, but is subject to large swings**. International refugees account for around five percent of total international migrants, and constitute less than one percent of the domestic population in most recipient countries. However, refugee flows have been highly volatile. In the last four decades, the number of refugees ranged from 5–15 million (Figure 5), with swings driven by geopolitical factors, wars, conflict, and critical shortages of life-sustaining resources such as water or food.

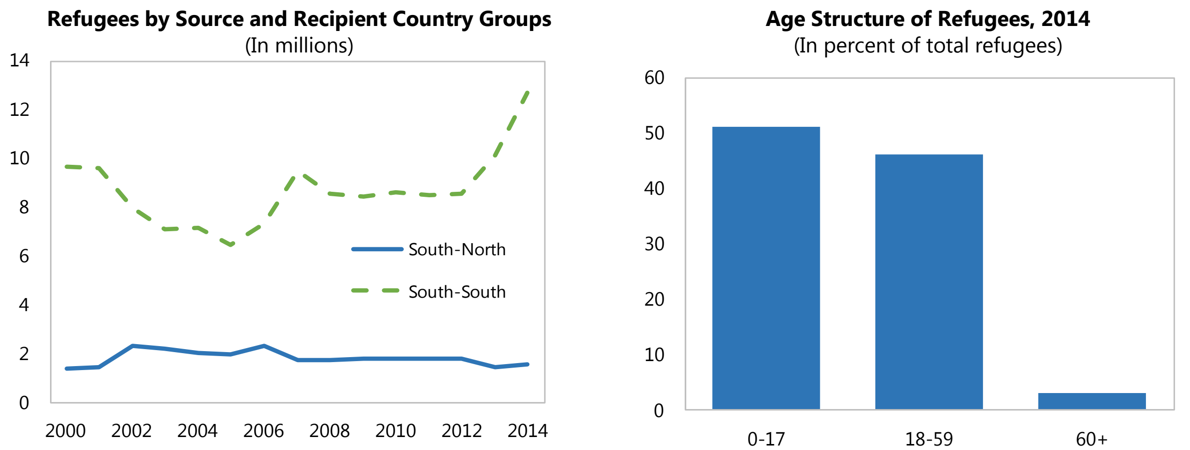
Figure 5. Humanitarian Migrants, year-end
(In millions)



Source: UNHCR, UN, IMF staff calculations

9. **Humanitarian migration is characterized by the dominance of South-South flows and high child dependency**. Both the direction and age profile of humanitarian migration differs from that of economic migration. Emerging market and low-income developing economies constitute both the main source and recipients of refugees, with South-South migration representing almost 90 percent of total humanitarian migration in recent years (Figure 6). Moreover, refugees tend to be characterized by high child and very low old-age dependency. For instance, more than half of the refugees in 2014 were under the age of 18, with only 3 percent older than age 60. As a result, they could boost the working-age population in recipient countries over time. However, their immediate impact on total dependency ratios appears ambiguous.

Figure 6. Pattern and Characteristics of Humanitarian Migrants



Source: UNHCR, IMF staff calculations

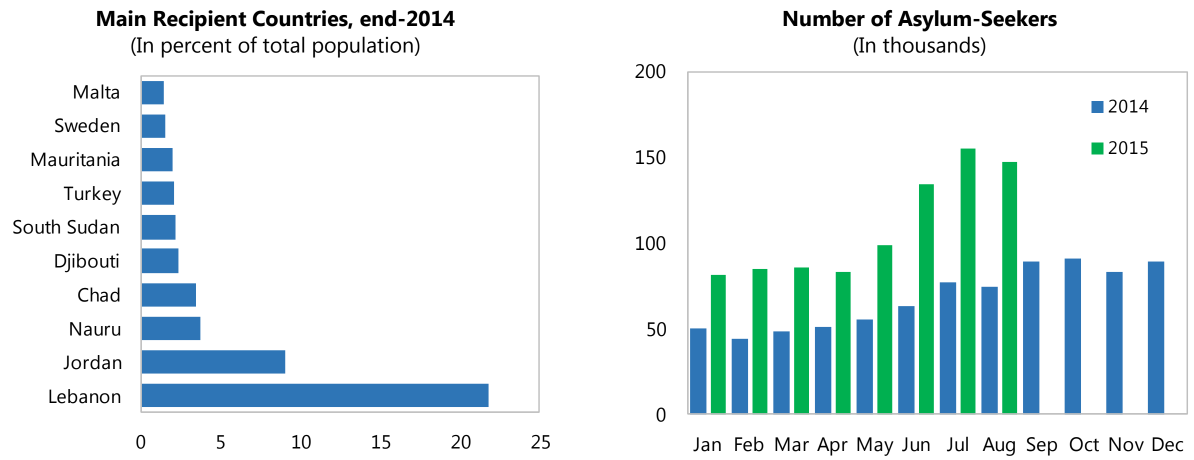
10. **Humanitarian migration has intensified in recent years, with the number of forced migrants now at the highest level since the 1990s.** The number of refugees increased by 40 percent to 14.4 million between 2011 and 2014, mostly driven by intensifying violence in the Middle East and North Africa (MENA) region, Afghanistan and SSA.[3] The annual increase of 2.7 million in 2014 has been the highest since 1990. Moreover, given the large number of internally displaced people (38 million at the end of 2014), the recent spike in the number of asylum-seekers in Europe (Figure 7), and protracted conflicts in MENA and elsewhere, the number of refugees could increase even further in the coming period.[4] Challenges faced by recipient countries are reinforced by the heavy concentration of refugees in a few emerging and developing countries. In particular, almost one-third of global refugees, mostly from Afghanistan, Iraq and Syria, resided in Lebanon, Pakistan and Turkey (almost 2 million refugees from Syria) in 2014. Lebanon, for instance, experienced an inflow of over one million refugees (one-fourth of its population) between 2012 and 2014 (Figure 7).

[3] In the SSA region, longstanding and recent conflicts (e.g., Burundi, Democratic Republic of Congo, Somalia, Central African Republic, South Sudan), in conjunction with lack of economic opportunities, have resulted in massive internal displacement and steady influx of about 3 million refugees into neighboring countries.

[4] For example, the OECD (2015b) expects the number of asylum seekers to reach one million, with around 350-400 thousand people granted refugee or similar status in Europe in 2015 alone.

While the number of refugees in European Union (EU) countries has been lower, the recent surge is very large by historical standards, straining recipient countries' capacity to process asylum-seekers and receive refugees.[5] Moreover, challenges are further reinforced by the potentially protracted nature of the refugee situation. Specifically, around 6.4 million refugees were in a protracted situation globally in 2014, with an average duration of 25 years (UNHCR, 2015).

Figure 7. Recent Trends in Humanitarian Migration



Sources: UNHCR, IMF staff calculations.

DRIVERS OF MIGRATION

11. **Incentives to migrate are shaped by a combination of push and pull factors.** These factors can be temporary or structural in nature, reflecting economic, social, cultural, and demographic forces as well as migration policies. Moreover, characteristics such as age, gender, education, and social class influence how individuals respond to these drivers. The ability to overcome obstacles (e.g., distance, physical and political barriers), knowledge of a potential receiver population, and family ties can also facilitate or retard migration. Empirical evidence generally suggests that pull factors tend to have a stronger impact on economic migration.[6] In contrast, humanitarian migration is driven by push factors such as political instability, wars, ethnic violence, or natural disasters.

Economic, social and cultural factors

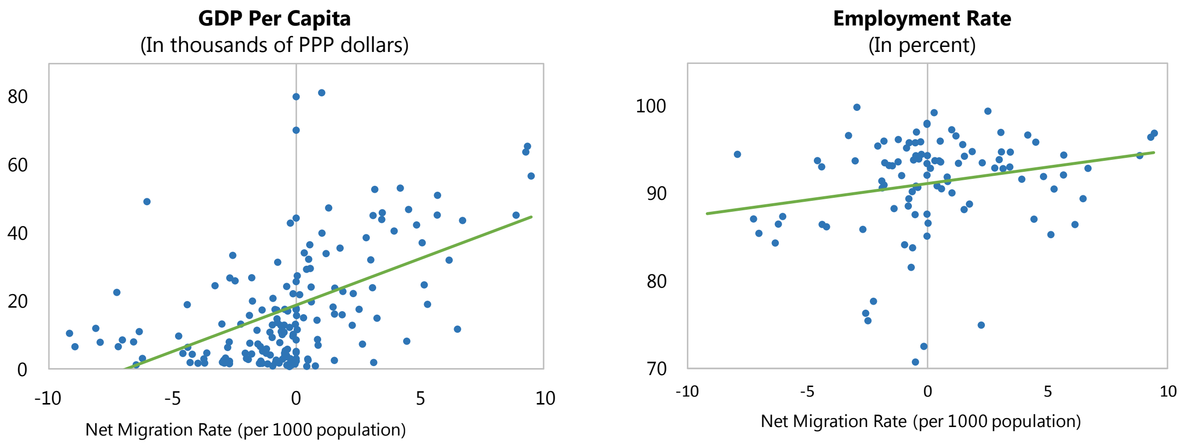
12. **Economic incentives have long been the main driver of migration.** Cross-country differences in incomes, wages, and economic opportunities driven by productivity and employment differentials and income inequality create incentives for migration flows. Business cycles conditions

[5] About 617,000 first-time asylum seekers entered the EU through August this year, representing a 95 percent increase compared to the same period in 2014.

[6] See, for example, Jerome (1926); Hunt (2006); Pedersen et al. (2008); Warin and Svaton (2008), Zaiceva and Zimmermann (2008); and Mayda (2010).

can create incentives to migrate, with immigration and remittance flows often behaving in a procyclical manner (Mandelman and Zlate, 2012). On average, the net migration rate is positively correlated with GDP per capita and employment rates (Figure 8).[7] As source countries develop and income gaps with recipient countries decline, economic incentives for migration can become less pronounced. The broader impact on migration, however, depends on the patterns of growth in source and recipient countries. If economic development does not promote employment growth, the potential to exacerbate push factors to emigrate is enhanced (World Bank, 2015).

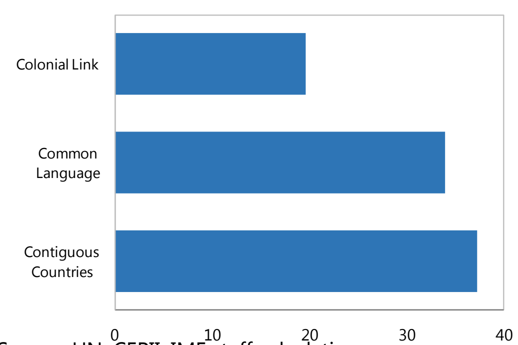
Figure 8. Relationship between Net Migration Rate and Economic Variables, 2011–15



Source: UN (2015), WEO, IMF staff calculations.

13. **Social and cultural factors are also important drivers of migration.** Migrants often tend to relocate to countries with similar social and cultural characteristics, such as common language or close geographical proximity, in order to minimize migration costs (Bauer and Zimmermann, 1999). Indeed, recent evidence suggests that about one-fifth of international migrants reside in countries with colonial links, a third in countries that share common languages, and more than a third in neighboring countries (Figure 9). The movement to neighboring countries is even more prominent for refugees as they use these countries as transit points, often straining their absorption capacity.

Figure 9. Social and Cultural Drivers, 2013
(In percent of total migrants)



Source: UN, CEPII, IMF staff calculations.

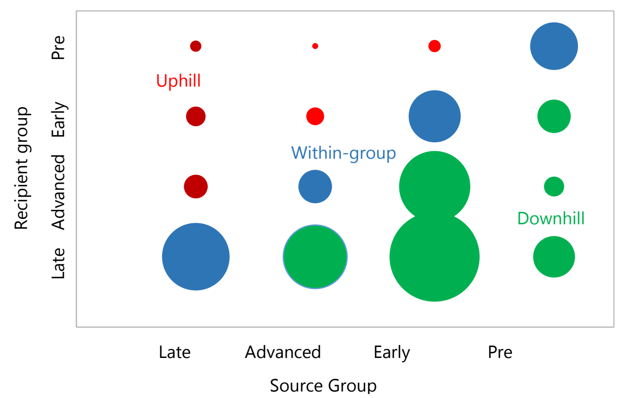
[7] Net migration rate refers to the difference between immigrants and emigrants per 1,000 population. A positive value means more people entering the country than leaving.

Demographics

14. **Demographic differences contribute to migration flows.** Differences in population growth rates and other demographic characteristics between source and recipient countries directly impact migration flows. Specifically, demographic changes can affect migration depending on countries' stage of demographic transition— the asynchronous decline in mortality and fertility rates (see Annex 1). In countries where populations are relatively young and job opportunities are limited, the excess supply of labor resulting from a high working-age population can result in high rates of structural unemployment (push factor).[8] In many advanced economies, rapidly aging populations, high old-age dependency ratios, and labor shortages create a pull environment.[9] In parallel, as fertility rates fall and the working-age population growth slows in source countries, push pressures for emigration can decline.

15. **Migration trends are broadly in line with the patterns suggested by the current stages of demographic transitions.** Based on a cluster analysis, a demographic typology is developed to classify groups of countries according to their current state of transition (i.e., late, advanced, early or pre-transition, see Annex 1). Figure 10 shows that world mass migration is heavily dominated by "downhill migration" (green bubbles) —migration from countries at an earlier stage in the demographic transition to countries at a more advanced stage. "Uphill migration" (red bubbles), however, tends to be more moderate.[10] Going forward, migration could contribute to global adjustment to asynchronous demographic changes (Box 1).

Figure 10. Migration Across Country Groups, 2005-2010



Source: Abel and Sander (2014), IMF staff calculations

Note: The size of each bubble indicates the number of migrants. "Uphill" ("downhill") migration shows migration from country groups in a more advanced (an earlier) stage in the transition to those in an earlier (a more advanced) stage.

- Most *late-transition countries*, with low population growth rates and some of the highest shares of the elderly in the world, have experienced considerable positive net migration in absolute terms, mostly from advanced- and early-transition countries, with a heavy concentration of immigrants in the United States, Canada, Australia, some EU member countries, and Russia. Figure 11 shows that net migration has offset the negative natural population change in the

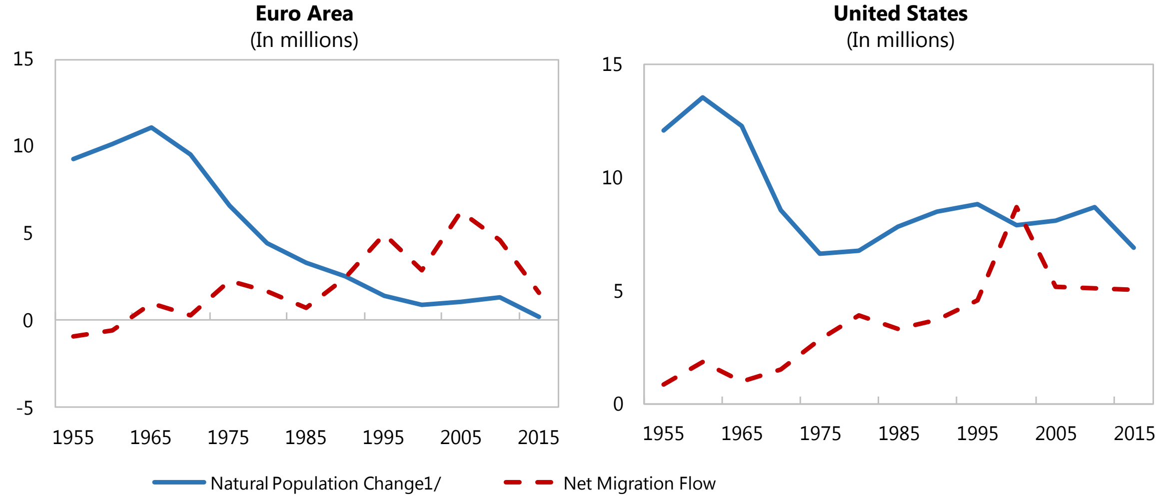
[8] Age distribution also influences incentives to migrate. In particular, the expected net present value of benefits is higher for younger persons as they tend to stay longer to reap the benefits (Mayda, 2007).

[9] Migration can also indirectly influence the population size and age structure of recipient countries by shifting average fertility rates. In particular, the average fertility rates of the migrant population, which is predominantly from lower income countries, tend to be higher than the national average for a generation or more.

[10] The clustering reveals a high correlation between income level and demographic transitions. Indeed, almost every advanced country belongs to the late-transition group. Emerging market economies are concentrated in the early- and advanced-transition groups, while low-income developing countries are in the pre-transition group.

euro area since the 1970s. In these countries, international migration has helped mitigate population aging by boosting the working-age population. A few late-transition countries, however, have experienced net emigration, intensifying challenges arising from population aging (e.g., Bulgaria, Romania).

Figure 11. Decomposition of Population Changes in Selected Countries

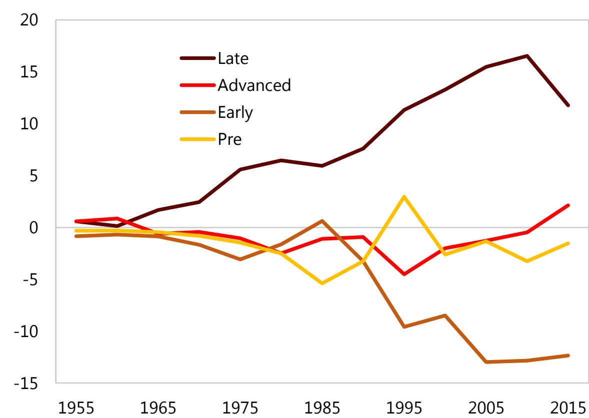


Source: UN (2015), IMF staff calculations
1/ Natural Population Change = Population Change – Net Migration

- *Advanced-transition countries,* where working-age people are projected to constitute a shrinking share of the population in coming decades, have experienced broadly-balanced net migration as a group (Figure 12). However, there is considerable cross-country heterogeneity. For instance, despite their relatively advanced stage in the transition, some countries (e.g., Sri Lanka, Vietnam) continue to experience significant net emigration, while other countries (e.g., Malaysia, Singapore) have seen sizeable net immigration in recent years.

- *Early-transition countries,* which are still benefiting from the demographic dividend, exhibit strong homogeneity in terms of the sign of net migration (i.e., net migration is negative in most countries). Bangladesh, India, Mexico and Pakistan account for a large part of emigration. While the main destinations are advanced- and late-transition countries, large intra-group migration has led to sizeable immigration in several GCC countries (e.g., Kuwait, Saudi Arabia), mostly from South Asia.

Figure 12. Net Migration Across Country Groups
(In millions)



Source: UN (2015), IMF staff calculations

- *Pre-transition countries* are predominantly high-fertility low-income countries, mostly in SSA, which are characterized by negative net migration. Despite the substantial youth bulge and the large income gap with advanced economies, these countries play a moderate role in world mass migration largely on account of poverty constraints (i.e., potential migrants cannot finance the costs associated with migration). However, economic growth could alleviate this constraint over time, allowing an increasing number of people to emigrate.

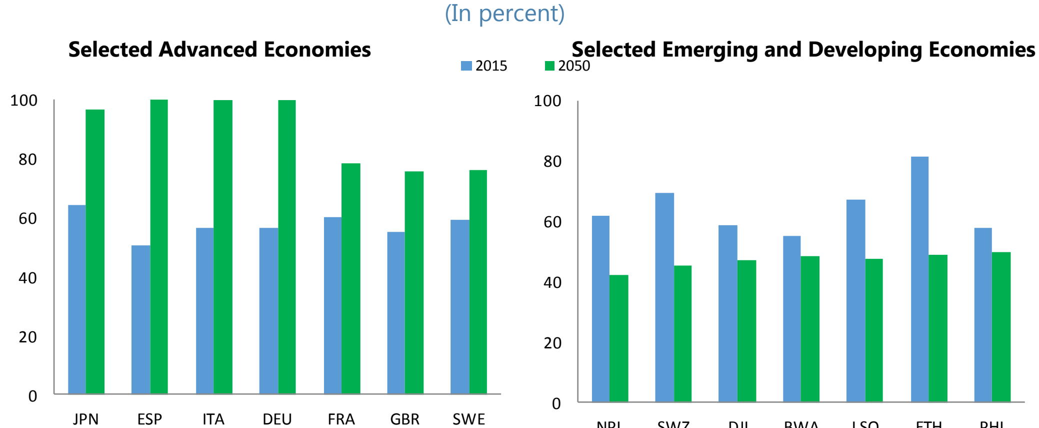
Box 1. Migration and Asynchronous Demographic Changes: Looking Ahead

Asynchronous demographic changes across countries have major implications for the size and age structure of populations in the long term. In many advanced economies, the population is forecast to age rapidly over the next few decades, as the effects of several decades of low birth rates and greater longevity are realized. According to UN projections, Europe's dependency ratio—the number of children and retirees per 100 working age people—will rise steeply from about 50 in 2015 to about 77.5 in 2050 in the absence of any migration. While the general aging trend is pan-European, the speed of this demographic transition differs from country to country. In contrast, many emerging markets and developing countries in the early stages of demographic transition will experience an increase in the working-age population in the near future as fertility rate remains relatively elevated while mortality rates rapidly decline, resulting in a steady decline in total dependency ratios. According to UN projections, the child dependency ratio in SSA will decline from about 85.6 percent in 2015 to 62.4 percent by 2050. This corresponds to a 7.7 percentage point increase in the working age population by 2050.

Migration can contribute to global adjustment to uneven demographic change. The projected dependency ratio in 2050 provides an indication of which countries could potentially benefit the most from migration over the next few years. In recipient countries, immigrants could mitigate the decline in working-age population ratios, especially in aging countries. On the other hand, migration outflows can help alleviate labor market pressures in source countries, especially those with a large, young working-age population, although associated brain drain can present a challenge. The overall impact of migration on both source and recipient countries, however, depends upon the skills of migrants.

Total Dependency Ratios, 2015 and 2050 1/

(In percent)



Source: UN (2015)

1/ Zero migration scenario in 2050. Total dependency ratio is defined as population aged 0-14 and above 65 per 100 population aged 15-64.

Migration and Integration Policies

16. **Migration policies have a direct impact on migration flows.** In the past ten years, many countries have revised their migration laws in response to changes in demography, labor market conditions, and political contexts. Evidence shows that migration policies can shape the level and types of migrants (Mayda, 2010). For instance, Canada has adopted a point system for the selection of high skilled labor by considering potential migrants' education, intended occupancy, language proficiency, age, and work experience. This policy has resulted in an increase in immigrants with specific skill characteristics catering to the country's demand. The United States, however, has focused its migration policy on family reunification, with approximately two-thirds of total permanent immigration coming from the family reunification program (McKay, 2003). Migration policies can also create international spillovers in that a relatively open migration policy in one country could reduce migration flows to other countries (Timmer and Williamson, 1998; Boeri and Bruecker, 2005).

17. **Integration policies facilitating assimilation of migrants can serve as a pull factor.** Opportunities including ease of access to jobs and training can be important factors driving migrants' choice of destination countries. Countries with policies promoting effective integration of migrants into the society typically attract more skilled migrants.

ECONOMIC IMPACT OF MIGRATION

A. Recipient Countries

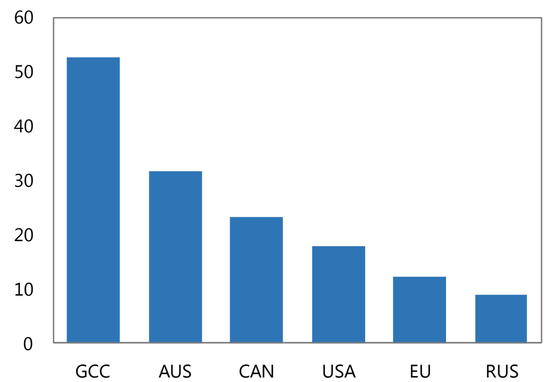
18. **Concerns about the adverse economic impact of economic migration have shaped the policy debate in recipient countries.** Immigration tends to be a highly sensitive and political topic, reflecting widespread concern that an influx of migrants reduces wages and employment opportunities for native workers and constitutes a drag on public finances through social benefits. Empirical evidence, however, suggests a different picture. While immigration can adversely impact specific labor market segments, there is little evidence of a broad-based *average* impact for natives. The net fiscal impact of migration is also typically small. Instead, it can help increase labor force participation, raise human capital, and contribute to technological progress. Moreover, immigration presents an opportunity for many recipient countries to address pressures associated with population aging and shrinking populations. The overall economic impact depends on the characteristics of migrants, including age, skill levels, and intended duration of stay (e.g., permanent versus temporary).

Labor Market Outcomes

19. **Immigration constitutes a major source of labor force growth in many recipient economies**. Since most migrants are young, immigration can have a large impact on labor force participation. For instance, immigration accounted for almost half of the increase in the labor force in the United States and over two thirds in Europe over the past decade, (OECD, 2012). Looking at migrant stocks, which reflect the accumulation of immigration over time, foreign-born workers

constitute a large share of the labor force in many countries. In the GCC, for instance, foreign born workers account for over 50 percent of the labor force (Figure 13). The positive labor supply boost, however, may not be universal as migration could have a more adverse impact in countries with already high unemployment/underemployment and significant skill-mismatches.

Figure 13. Share of Immigrants in Labor Force, 2013
(In percent)



Source: UN, IMF staff calculations

20. **The impact of immigration on labor market outcomes depends on the degree of substitutability between migrant and native workers.** If migrants are close substitutes to native workers (e.g., if migrants have similar skills), they are likely to compete for the same jobs, potentially adversely affecting employment and wages of native workers. This effect can be particularly strong in the short-term when other factors of production, such as capital, cannot adjust. On the other hand, if migrants complement native workers—if migrants fill sectoral labor shortages, push natives to invest more in education to distinguish themselves, or generate technology and knowledge spillovers—the impact of immigration is likely to be positive for native workers.

21. **Past evidence suggests that immigration has a muted impact on labor market outcomes of native workers.** While some downward pressures on wages for natives can occur in low-skilled sectors, concerns for a broad-based decline in wages and employment opportunities for natives are largely empirically unsubstantiated.[11] Instead, migrant workers have in many instances contributed positively to recipient countries' labor markets by expanding occupations and filling labor needs. This has been particularly true for strongly declining occupations or ones where native workers are in short supply. Some recent studies have also found that an influx of immigrants has prompted native workers (especially the high skilled) to specialize in more complex occupations, thus raising their productivity and wages.[12] The labor market impact also depends on how the skill set of migrant flows match the structure of the economy (e.g., relative importance of agriculture, manufacturing, and services sectors) and the relative productivity of the various sectors.

22. **Labor market disparities between native workers and migrants can be persistent.** A large number of studies document that immigrants in Europe have lower participation and employment rates and earn less than native workers (Figure 14). While these gaps can partly be explained by education differences, they also reflect the fact that migrant skills often tend to be undervalued, thus forcing highly educated migrants to take on low-wage jobs (Clark and Drinkwater,

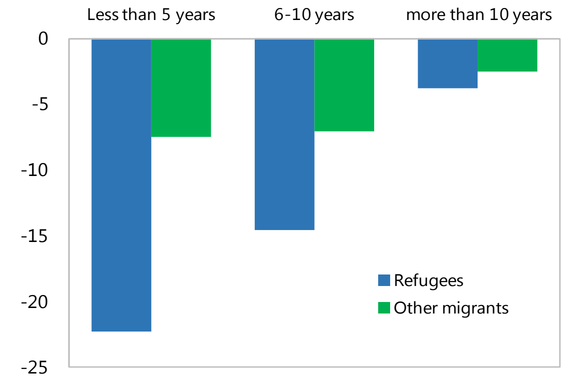
[11] See Aiyar et al. (2015) for references to the empirical literature. Due to data constraints, most empirical studies focus primarily on advanced economies.

[12] See Cattaneo and Peri (2015), Ottaviano et al. (2013).

2008). Overtime, however, these earnings and employment gaps can diminish as immigrants improve their language skills or obtain more education (Ho and Shirono, 2015). Nonetheless, evidence suggests that gaps can be permanent (Aiyar et al., 2015). A key factor determining labor market outcomes for migrants is how quickly they are integrated into the domestic labor market. A protracted or failed integration process can lead to persistently low labor force participation rates, high unemployment, and social disadvantages (civil and political exclusion and discrimination) amongst immigrants.

Figure 14. Employment Rate of Migrants Relative to Native Workers

(In percentage point)



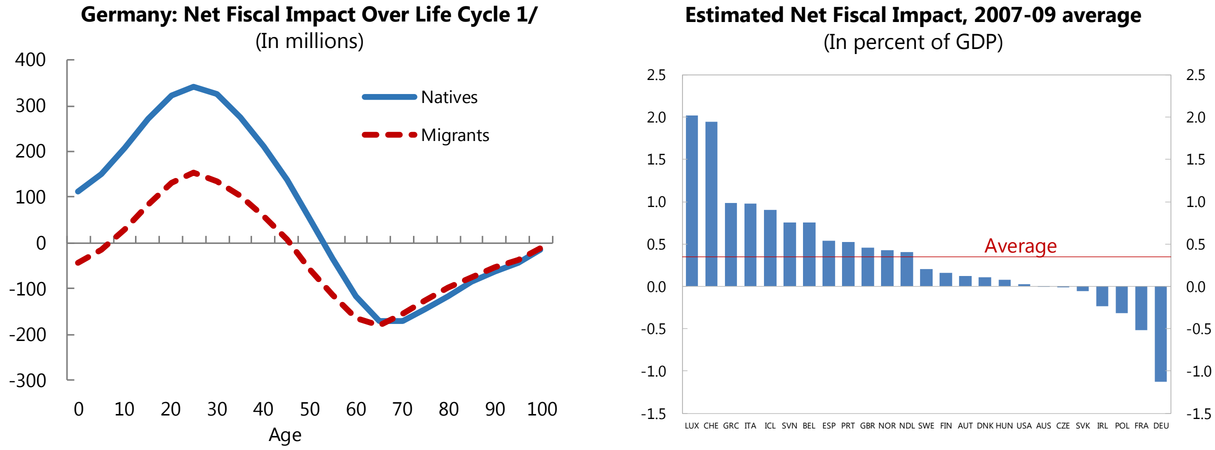
Source: Aiyar et al. (2015)

Fiscal Impact

23. **The impact of immigration on public finances depends crucially on migrants' ability to integrate into the labor market.** Migrant workers bring in additional tax revenues and social contributions, but they also consume welfare services and claim social benefits (e.g., healthcare, infrastructure, and unemployment benefits). Assessing the net fiscal balance/contribution of migrants is complex and subject to significant uncertainties as it depends on a range of factors (e.g., earnings potential, country-specific factors such as the design of tax and benefit systems). Importantly, the fiscal balance, defined as the difference between taxes paid and benefits received, of migrants is likely to differ from native workers as they spend a shorter time in the labor force and, on average, have less favorable labor market outcomes.

24. **The net fiscal impact of immigration, on average, is small.** Recent studies find that the net average fiscal balance of immigrant households in advanced economies is positive but often below that of native workers (OECD, 2013). Indeed, estimates indicate that the net impact of immigration on public finances rarely exceeds ±0.5 percent of GDP for advanced economies (Figure 15). Moreover, the relatively less favorable net fiscal balance of immigrants compared to native workers is primarily due to lower contributions in terms of taxes and social security, and not higher benefit claims, reflecting less propitious labor market outcomes. In addition, the fiscal impact of immigrants evolves over time. Migrants have a negative net fiscal balance at young and old age, and a positive contribution in-between. Relative to native workers, however, immigrants' net balances tend to turn positive later, peak at a lower level, and turn negative earlier (Figure 15). In developing countries, the net fiscal impact is also likely to be small given limited access to welfare benefits and the small tax contributions from undocumented immigrants. However, fiscal costs related to the inflow of refugees in developing countries could be substantial (see Section C).

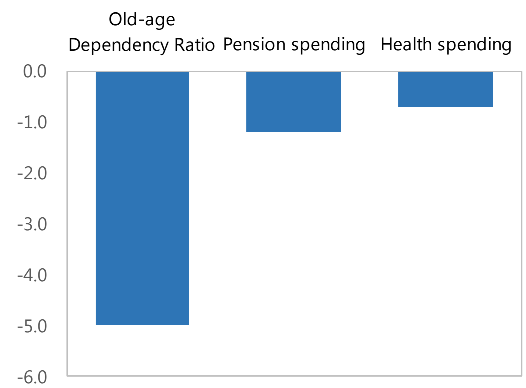
Figure 15. Fiscal Impact of Migration



Source: Bonin, (2014), Aiyar et al. (2015)
1/ Based on generational account approach, base year = 2012

25. **Immigration can help reduce long-term expenditure pressures from population aging in many recipient countries**. While immigrants have a relatively small *direct* effect on public finances, the impact on long-term expenditure trends can be significant, particularly in the face of higher age-related spending in many recipient countries. Specifically, pension and health spending in more developed economies is projected to reach 24.8 percent of GDP by 2100, up from 16.4 percent in 2015. Recent IMF work shows that allowing for higher immigration could help reduce old-age dependency ratios, and thus age-related expenditures by 2 percent of GDP by 2100 (Clements et al., 2015; Figure 16). Immigration flows, however, would have to increase substantially to fully address the effects of population aging.

Figure 16. Estimated Impact of Migration in More Developed Economies, 2100 1/
(In percent of GDP)



Source: Clements et al. (2015)
1/ The impact of migration is calculated as the difference between the baseline scenario, which assumes the continuation of current migration trends, and the zero migration scenario.

Economic Growth and Welfare

26. **Immigration can have a positive impact on economic growth by increasing the labor force, encouraging investment, and lifting productivity growth.** The boost provided to labor force participation can lift economic growth by reducing wage pressures and stimulating investment through higher returns to capital. Migration can have additional indirect effects. In particular, to the extent that migrants, on average, are younger than native workers, migration inflows can reduce dependency ratios, potentially increasing savings. Moreover, high-skilled migration may have a positive effect on innovation and technological progress, thereby stimulating productivity growth. Finally, migrants can expand the economy's productive capacity and increase overall welfare by

stimulating product variety available in consumption and intermediate inputs (Giovanni et al., 2015). While empirical evidence on the growth impact of migration is scant, model simulations from recent studies suggest that the welfare impact of observed levels of migration ranges from 5–10 percent for the main receiving countries (Giovanni et al., 2015).[13]

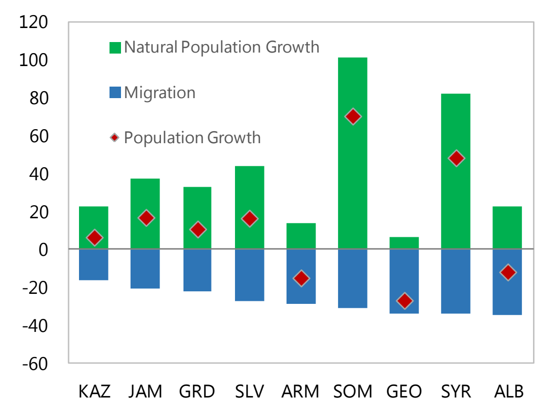
B. Source Countries

27. **Brain drain and remittances continue to be the main issues for source countries, but fiscal impacts and investment flows are increasingly gaining attention.** Source countries face several challenges with respect to emigration. While wages for those who stay behind may increase, the loss of high-skilled labor can have adverse consequences for human capital accumulation and the tax base. At the same time, remittances constitute a major income source and can help improve economic development outcomes. Emigration can also help establish migration networks across countries that lower information barriers and spur trade and investment flows.

Labor Markets and Fiscal Outcomes

28. **For some source countries, emigration has been a significant drag on population growth.** This has been the case for a number of smaller developing countries. For instance, despite positive natural population growth, Georgia and Armenia's populations have contracted by 15 and 27 percent, respectively, since the collapse of the Soviet Union. Some larger emerging economies and countries in the Caribbean have also experienced notably lower population growth on account of emigration (Figure 17).

Figure 17. Contribution of Migration to Population Growth in Main Source Countries, 1990–2015
(In percent)



Source: UN, IMF staff calculations.

29. **Emigration can have a significant impact on labor market outcomes for those that stay behind.** In addition to reducing labor force growth and the overall size of the economy, there is now growing evidence that emigration also impacts relative wages and inequality. Some national level studies suggest that a 10 percent emigrant supply shock leads to a 2–5 percent increase in wages (Mishra, 2014). The distributional impact of wage increases, however, depends on the skill level of migrants. If migrants are more educated, on average, a decrease in the relative supply of skilled

[13] In particular, the study finds that the large majority of OECD countries would be worse off in the absence of migration in the long-run. The average OECD country would experience a welfare change of -2.4 percent, with substantial dispersion in outcomes. The largest losses would be experienced by those countries with the largest observed shares of the foreign-born in the population (e.g., Australia, Canada, and New Zealand).

labor in the source country can increase the wage gap between high- and low-skilled labor. The opposite would hold if migrants were relatively unskilled.[14]

30. **High-skilled emigration can lead to a sizable loss of human capital.** Emigration has had a substantial impact on the labor force for some countries and regions, particularly for high-skilled labor (Table 1). For instance, Caribbean countries lost over 50 percent of their high-skilled labor between 1965 and 2000 (Mishra, 2006). Such "brain drain or "positive selection" typically occurs due to the high initial resources needed to undertake migration, higher returns to education in recipient countries, and more favorable immigration policies for skilled labor. High-skilled emigration can also have an indirect negative impact on productivity growth in source countries as more educated workers confer externalities in terms of know-how transfers to others. There is some evidence that such losses can outweigh the benefits from remittances (Mishra, 2014).

Table 1. Emigration Rates by Country/Region to OECD Countries, 2010–11

	General emigration rate	Emigration rate of the highly educated
Africa	2.4	10.8
China	0.4	1.8
India	0.4	3.2
Brazil	0.7	2.4
Russia	1.6	1
Mexico	12.1	6
Turkey	4.3	3.7

Source: Credit Suisse (2015).

31. **Fiscal costs of emigration have received less attention, but could be significant**. The net fiscal cost of emigration occurs due to lost tax revenues and education subsidies accrued by migrants. At the same time, emigration would also incur fiscal savings due to lower spending on social services. Overall, the fiscal position of the migrant plays a crucial part in assessing these net losses or gains. Since high-skilled workers are likely to contribute more in terms of taxes and claim less benefits, high-skilled emigration could have a net negative impact on fiscal outcomes.[15]

Remittances

32. **Remittances constitute one of the most important income sources for individual households and for a number of small source countries.** Remittance flows to developing

[14] For instance, Mishra (2007) suggests that emigration can partially explain increasing wage inequality in Mexico. Campos-Vazquez and Sobarzo (2012), however, find that wage increases in Mexico have been particularly strong for the poor and less educated.

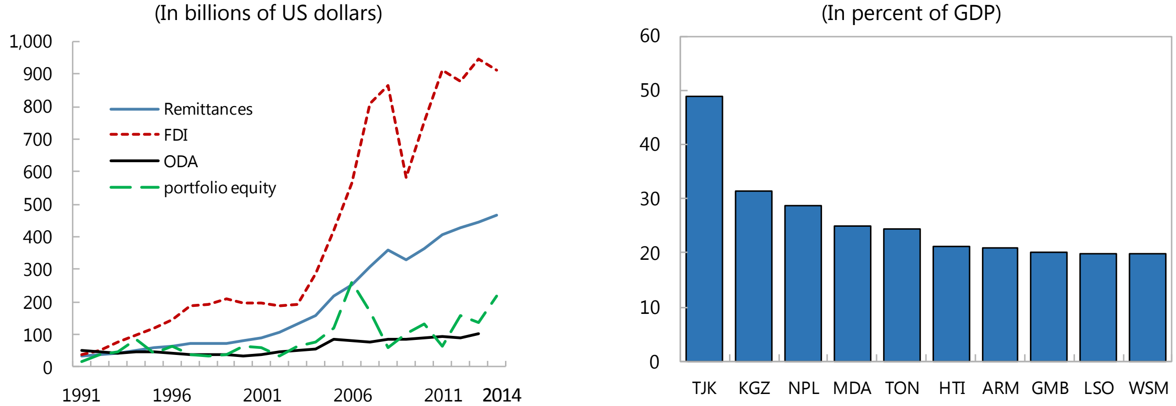
[15] See Campos-Vazquez and Sobarzo (2012).

countries amounted to US $436 billion in 2014, more than half of total net FDI inflows, and well over three times as much as official development assistance (Figure 18) . While large countries such as India and China receive a significant share of these flows, they only constitute a small share of their GDP. For some smaller countries, however, remittances amount to over 25 percent of GDP (e.g., Tajikistan, Nepal, and Moldova) and represent an important source of foreign income (Figure 18).

Figure 18. Remittances

Financial Inflows
(In billions of US dollars)

Top Remittance Recipient Countries per GDP, 2014
(In percent of GDP)



Source: WDI, WEO, IMF staff calculations.

33. **Remittance flows are generally associated with positive contributions to economic and human development.** Remittances constitute a significant income boost, particularly for poorer households. A seminal cross-country study of 71 emerging market and developing countries found that a 10 percent increase in remittances per capita leads to a 3.5 percent decline in the share of people living in poverty (Adams and Page, 2005). Moreover, remittances have been shown to disproportionally increase education and health spending relative to consumption. Several studies have found that remittance-receiving households invest relatively more in education than their counterparts (Ratha, 2014). There is also evidence that remittances have a positive impact on school attendance of girls and are associated with lower infant mortality and higher birth weights (Mansuri, 2006). However, remittances have also been associated with adverse labor supply responses by pushing up reservation wages and lowering work efforts.

34. **Remittances also have important macroeconomic implications**. While remittances represent an outflow from recipient countries, they tend to be counter-cyclical vis-à-vis economic conditions in source countries. Hence, unlike private capital inflows, remittances can have a stabilizing influence, allowing for greater consumption smoothing. There is also evidence that remittance flows reduce aggregate output, consumption and investment volatility and improve overall credit ratings (Chami et al., 2009). They can contribute to financial development by increasing domestic savings, easing credit constraints, and increasing financial intermediation. On the other hand, remittances provide a powerful spillover channel as they tend to be highly correlated with economic fluctuations in recipient countries. Large and persistent remittance flows can also lead to real appreciations and a contraction of the tradable sector (IMF, 2005).

Trade and Investment Flows

35. **Cross-border migration can lead to increased trade and investment flows between recipient and source countries.** While traditional trade theory suggests migration and trade are substitutes (Mundell, 1957), modern trade theory argues that there is a complementary relationship between them (Markusen, 1983).[16] Migrants bring specific skills and work experiences and knowledge about market structures, languages, consumer preferences, business ethics, institutions, and legal and regulatory regimes in their home countries. Such knowledge can help break down information asymmetries between recipient and source countries, and thus reduce costs associated with contract negotiations and enforcement. This is particularly relevant in the case of high-skilled migrants who are likely to have deeper knowledge about their home countries and be part of established networks. Cross-border migration and the development of diaspora networks can therefore help strengthen trade and investment linkages, especially for foreign direct investment which requires a more long-term perspective and greater reliance of country specific knowledge. Indeed, empirical studies generally find a positive association between migration, trade and investments flows.[17]

C. Humanitarian Migration

36. **The economic impact of humanitarian immigration often differs from that of economic migration.** Refugees are less positively selected based on attributes associated with labor market success relative to other migrants (Chin and Cortes, 2015). As a result, refugees tend to fare worse initially in recipient countries' labor markets. Over time, however, refugees catch up and their labor market performance gradually converges to that of other immigrants. Large and sudden inflows of refugees can result in an additional supply of low-skilled workers, putting downward pressure on wages. Refugee inflows can also increase the share of informal employment, particularly when they are not allowed to work legally. While the increase in consumption brought by refugees can contribute positively to economic activity, rising imports to meet the needs of the increasing population can worsen external balances.

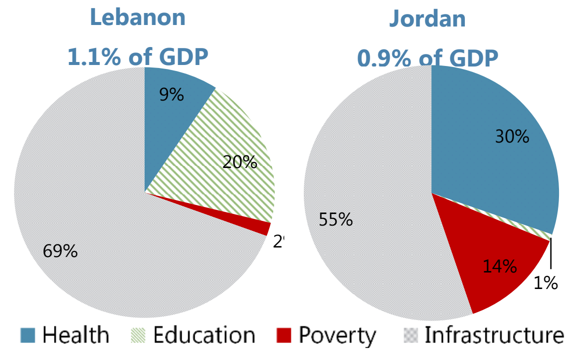
37. **The fiscal impact of refugees tends to be higher compared with that of other immigrants, particularly in the short-run.** At the initial stage, refugees are more likely than other immigrants to receive social transfers and welfare services from the government. In addition, there are other fiscal costs associated with refugees, such as processing asylum applications, providing temporary aid while cases are pending, deporting rejected applicants and maintaining border security. In the context of the ongoing refugee crisis in MENA, the sudden inflows of a large number of refugees have generated acute fiscal pressures in recipient countries. For instance, the estimated direct fiscal costs for Lebanon and Jordan were 1.1 and 0.9 percent of GDP in 2014, respectively, covering spending mostly related to health, education, and infrastructure (Figure 19 and IMF, 2015).

[16] The modern trade theory incorporates certain assumptions such as increasing return to scale, monopolistic competitions, and differences in technological advancement. See Krugman (1979), Helpman and Krugman (1985).

[17] See Javorcik et al. (2011) and Kugler et al. (2013).

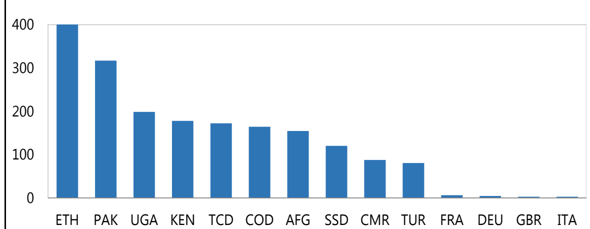
In neighboring transit countries, large short-term migration inflows can lead to fiscal costs stemming from temporary assistance provided for refugees and put upward pressures on food and housing prices. For instance, according to the authorities' estimates, Turkey has spent US$ 8 billion (including foreign contributions of US$ 0.4 billion) or roughly 1 percent of GDP for housing Syrian refugees since 2011. In addition, many refugees stay in host countries only on a temporary basis. Hence, future tax and social contribution collections to offset the short-term costs can be uncertain. Final destination countries also face substantial fiscal costs associated with health, education, infrastructure, and social programs. For instance, estimates suggest budgetary expenses for asylum seekers in EU countries could increase by a cumulative 0.15 percent of GDP in 2015–16 compared to 2014 (Aiyar et al., 2015). The economic burden can be particularly large for poorer countries (Figure 20). The overall fiscal impact, however, depends on various factors such as the age and skill profile of refugees, and the absorption capacity of recipient economies. In addition, funding provided by international organizations such as UNHCR could alleviate fiscal pressures faced by poor countries.

Figure 19. Estimated Direct Fiscal Cost of Syrian Crisis, 2014
(In percent)



Sources: USAID, ESIA, and IMF staff calculations.

Figure 20. Economic Burden in Recipient Countries
(Number of refugees per PPP GDP per capita)



Source: IMF WEO, IMF staff calculations.

38. **Refugee crises are typically associated with a dramatic decline in the labor force and human capital in source countries.** Refugee outflows and large numbers of internally displaced peoples often result in a massive reduction in working-age population, human capital and therefore potential growth of home countries. For instance, at an average growth rate of 3 percent, it would take 20 years for Syria, whose population is estimated to have shrunk by 20 percent in addition to the 40 percent internally displaced, to recover to its 2010 GDP level. A dramatic deterioration in living conditions and increase in unemployment has resulted in a significant rise in poverty and need for humanitarian assistance.

DOMESTIC AND GLOBAL POLICY IMPLICATIONS

39. **International migration creates policy challenges and opportunities for source and recipient countries and the global community.** For many recipient countries, particularly in advanced economies, the key challenge is to minimize short-term costs by facilitating smooth integration of migrants into labor markets while taking advantage of long-run opportunities to

address demographic pressures. For source countries, the crucial challenge is to reduce barriers that discourage migrants from providing financial support for those that stay behind while implementing policies geared towards retaining and re-attracting emigrants, particularly the high-skilled. There are also significant political and social challenges posed by high/persistent levels of migration. With regard to refugees, the immediate challenges are to address the humanitarian emergency, assist countries whose short-term capacity for absorption has been stretched, especially neighboring host countries, and to swiftly integrate refugees in labor markets. At the global level, enhanced policy coordination is essential to effectively address humanitarian migration crises and leverage benefits from enhanced international labor mobility.

A. Recipient Countries

40. **Recipient countries should design immigration policies that enhance migrants' economic contributions, including by countering population aging and addressing skill-shortages.**

- *Demographic pressures.* Given that approximately 80 percent of international migrants are working-age, well above the share of the same cohort in the global population, migration can help mitigate challenges stemming from aging populations and rising old-age dependency. Countries could thus actively employ immigration policies to boost labor force participation in order to improve growth prospects and ensure sustainability of public finances.
- *Specific labor needs*. Introducing economic criteria into migration policies can also help address specific labor needs and skill-shortages. For example, recipient countries could offer benefits (e.g., permanent residence, family reunification) to migrants with specific skills and introduce programs for temporary migrants, depending on cyclical shifts in labor market demand.

41. **Well-designed integration policies are essential for harnessing the benefits of immigration.** Integration policies should be geared towards strengthening labor market assimilation, enhancing access to education and improving skill recognition in order to help integrate the added labor supply**.**

- *Labor market assimilation.* Immediate access to the full labor market can accelerate the integration of migrants. Providing immigrants and prospective employers, especially small- and medium-sized enterprises, with labor market information (e.g., job openings, the administrative procedures of hiring migrants, employees' rights) can help smooth labor market integration. Proactive job placement and other incentives can also help overcome initial obstacles to employment such as high entry costs.
- *Access to education and finance*. Providing affordable education, language and job training can help achieve a good skill-balance amongst migrant workers, avoid labor market segregation and excess unemployment, and minimize social tensions. Education and housing policies can reduce the risk of social exclusion for both first- and second-generation immigrants, including by offering targeted assistance aimed at addressing their special needs. Moreover, ensuring that migrants have access to financial services (e.g., ability to open bank accounts and make financial transactions) can have important micro and macroeconomic benefits (Sahay et al, 2015)

- *Improving skill-recognition*. Successful integration requires that full use be made of migrants' skills through the recognition of qualifications. Countries could adopt simple, affordable, and transparent procedures for the recognition of foreign qualifications and work experience.
- *Support migrant entrepreneurs.* Encouraging immigrant entrepreneurship could help foster competitiveness and innovation. This can be facilitated by reducing barriers to new start-ups through simpler regulation and administrative procedures, and by implementing business-support programs to foster social, financial and human capital (e.g., legal advice, counseling, training, and access to finance).

B. Source Countries

42. **Reducing remittance costs can help raise development financing for source countries.** Remittance costs have fallen over time, partially reflecting the commitment by the G20 to reduce transaction costs to 5 percent of the amount transferred by 2014. Nonetheless, at an average of 8 percent, transaction costs remain high with significant cross-country variation, partially reflecting financial underdevelopment in source countries and low competition in the market. Estimates suggest that reducing remittance costs to 1 percent could release savings of 30 billion dollar per year, an amount larger than the entire annual bilateral aid budget to Africa (Ratha, 2014). While remittances represent an outflow from recipient countries, given the positive association between remittances and economic development, reducing remittance costs could play an important part in the post-2015 development agenda to raise development financing. In particular, global and domestic actions could help address high remittance costs by fostering greater competition in the remittance market, facilitating the use of more efficient technologies, and mitigating the impact of de-risking by international banks (World Bank, 2015). [18]

43. **Other market-based options could be further explored to leverage benefits from emigration, in particular the issuance of diaspora bonds**. Estimates suggest that savings by diaspora from developing countries amounted to close to half a trillion U.S. dollars in 2013 (World Bank, 2015). Given that emigrants tend to be relatively more willing to invest in their home countries, partly reflecting lower information barriers, source countries could potentially mobilize these savings at a low cost by issuing diaspora bonds. A number of countries have already issued diaspora bonds (e.g., India, Israel, Nigeria, Ethiopia, and Philippines) to finance infrastructure, housing, health, and education projects. Success in mobilizing diaspora savings will depend on several factors, including the income level of the recipient country, the size of the diaspora, and the degree of confidence that emigrants have in the government of the source country (or a private issuer). Other market-based financing options such as using remittances as collateral for borrowing (e.g., through securitization) could also be further explored.

[18] Concerns have been raised that banks are de-risking remittances to offset the cost of complying with AML/CFT and other requirements, and thereby raising remittance costs. The G20 has asked the World Bank to analyze the impact of the de-risking on the remittances market.

44. **Implementing comprehensive and targeted policies could retain and re-attract migrants.** This could be facilitated by implementing productivity-enhancing policies to raise demand for skilled labor, improving local labor market conditions, and reorienting education policies to ensure better skill matching. Removal of regulatory and bureaucratic barriers, improved business climate, better recognition of skills acquired abroad, and targeted tax benefits could also help attract high-skilled migrants to return. Making social security benefits portable to source countries (e.g., through bilateral agreements) could help encourage emigrants to return.

C. Humanitarian Migration

45. **Immediate policy priorities should focus on achieving better living conditions for those in need and assisting countries where absorption capacity is stretched**. While policy priorities could be different for advanced economies and low- and middle-income countries, efforts need to focus first and foremost on achieving adequate living conditions for those in need, including through better access to shelter, care and quality education. Financial assistance from the international community would help in this regard. Assisting countries whose short-term capacity for absorption has been stretched, especially neighboring host countries is essential. Better conditions in refugee camps would also reduce incentives for refugees to undertake dangerous journeys and relieve pressure on destination countries.

46. **The asylum-seeker processing capacity of recipient countries should be boosted.** Supporting and processing a large number of asylum-seekers during a short time span can be costly and quickly overwhelm country capacity. To this end, a more efficient mobilization of resources is required to administer asylum seekers. Policies in destination countries to accommodate incoming asylum seekers should be informed by, among other considerations, an assessment of the longer-term benefits of immigration. Accelerating administrative procedures could also speed up the labor market integration of refugees in recipient countries.

47. **The redistribution of refugees could ensure that they do not overburden individual countries.** The concentration of refugees in a few recipient countries can place a heavy burden on their public finances. In the short term, alleviating the strain on health, education, housing, and social protection systems is essential. Other countries, especially some advanced economies with spare reception capacity and favorable labor market conditions, should thus assess the scope for admitting more refugees. Transit countries could provide a temporary welcome for refugees to mitigate the immediate impact on final destination countries, potentially on a cost-sharing basis. However, as transit countries tend to be highly heterogeneous, their capacity to provide support for refugees varies significantly.

48. **Ensuring smooth and rapid integration into local labor markets is even more critical in the case of refugees**. Prompt labor market integration of refugees who stay can help alleviate short-term costs in recipient countries and ensure that refugees can contribute to public finances without significant delay. Other interventions, including, active labor market policies, tailoring such policies to address the specific needs of refugees (e.g., language courses and job training), providing

information about the labor market (e.g., job openings, legal procedures), and the acquisition of targeted skills can help refugees find work.

D. Global Polices

49. **Working towards a multilateral framework is warranted to better govern international migration and maximize economic benefits.** Migration is likely to become an increasingly important part of globalization, potentially playing a key role in achieving higher and more sustainable global growth, especially in an era of asynchronous demographic transitions. Global policy efforts should focus on encouraging cooperation and dialogue between source and destination countries in order to take full advantage of global benefits of international migration, including by reducing international spillovers from immigration policies, facilitating remittance flows, protecting labor rights, and promoting safe and secure working environment for migrants.

50. **Global cooperation is vital for addressing humanitarian migration.** Policies addressing refugees demand holistic humanitarian, financial, and development responses. These include enhanced global development diplomacy—aiming to prevent, contain, and respond to humanitarian crises—and more flexible and innovative financing instruments to ensure adequate and effective assistance, and policies facilitating refugees wishing to return home. Specifically, transit, destination and high-income donor countries need to coordinate their approach among themselves and with the UN and other international organizations. For example, the donor community, including international institutions, the G7, the GCC and the EU, should provide financial support to improve conditions for refugees in conflict-neighboring countries. The recent influx of refugees in the EU has also demonstrated the need to develop a new framework that appropriately accounts for heterogeneity within the Union and provides a more harmonized approach to asylum policy.

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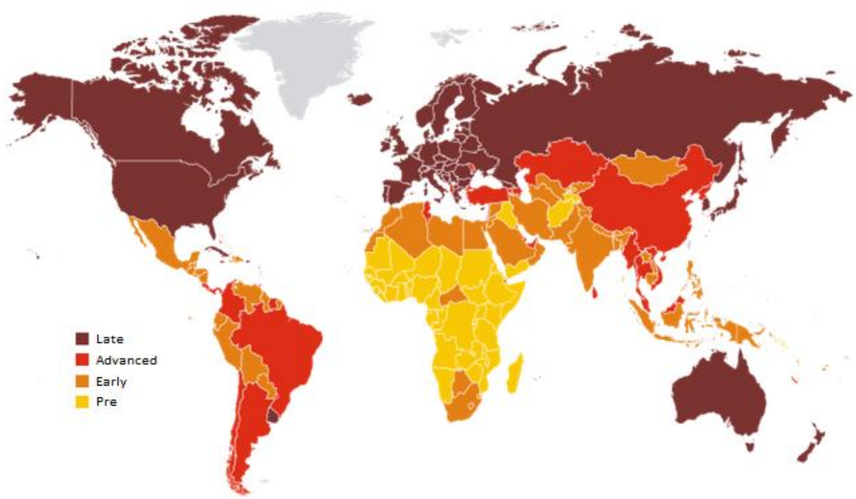
Annex I. Current State of Demographic Transitions

Demographic transition. The demographic transition is characterized by the asynchronous decline in mortality and fertility, i.e. it describes the transition from high birth and death rates to low birth and death rates. This transition has major implications for the size and the age structure of the population across countries. First, the asynchronous decline in mortality and fertility results in a temporary increase in population growth and a permanent rise in the size of population. Second, the initial decline in infant and child mortality creates a youth bulge that works itself through the age structure, thereby leading to a continuous aging of the population. In other words, the process can also be described as the transition from high child dependency to high old-age dependency with an intermediate period characterized by an increasing share of the working-age population. The latter phenomenon is the so-called demographic dividend.

Country groups based on their current state in the transition. Countries are at different stages in the demographic transition, with some countries still benefiting from the demographic dividend while others facing population aging. Instead of describing demographic transitions across country groups defined based on their income level (e.g., advanced, emerging and low-income countries) or geographical location, we clustered countries based on their key demographic variables (Figures A1 and A2):[1]

Figure A1. Demographic Transition Across Countries



Source: UN (2015), IMF staff calculations

[1] The k-means clustering method was used to create four groups of countries based on their current state in the demographic transition. The cluster analysis takes into account current population growth and age composition, as well as measures capturing the timing and profile of the transition. Specifically, we used the following variables: (i) average annual population growth (excluding migration) between 2010 and 2015, (ii) child and old-age dependency ratios between 2010 and 2015, and (iii) the number of years before or after the lowest level of total dependency ratio is reached. In general, early stages in the transition are characterized by high population growth and relatively young population (high child dependence and low old-age dependence). The last variable indicates whether the first demographic dividend is still to arise or has already started to dissipate. As such, smaller values indicate an earlier stage in the transition.

Group 1: Late-Transition Countries

Most advanced economies (e.g., Australia, Canada, Japan, the United States), the majority of the European Union member countries as well as a few emerging market countries (e.g., Russia), have almost completed the demographic transition. These countries are typically experiencing moderate and decelerating population growth and a decreasing share of the working-age population on the back of rising old-age dependency ratios.

Group 2: Advanced Transition Countries

A large number of emerging market economies in Southeast Asia and Latin America (e.g., Brazil, China) are in a relatively advanced stage in the transition. After reaching its peak in most countries at the beginning of the 2000s, the share of working-age population is set to decrease due to a relatively rapid transition from a high child dependence state to a high old-age dependence state.

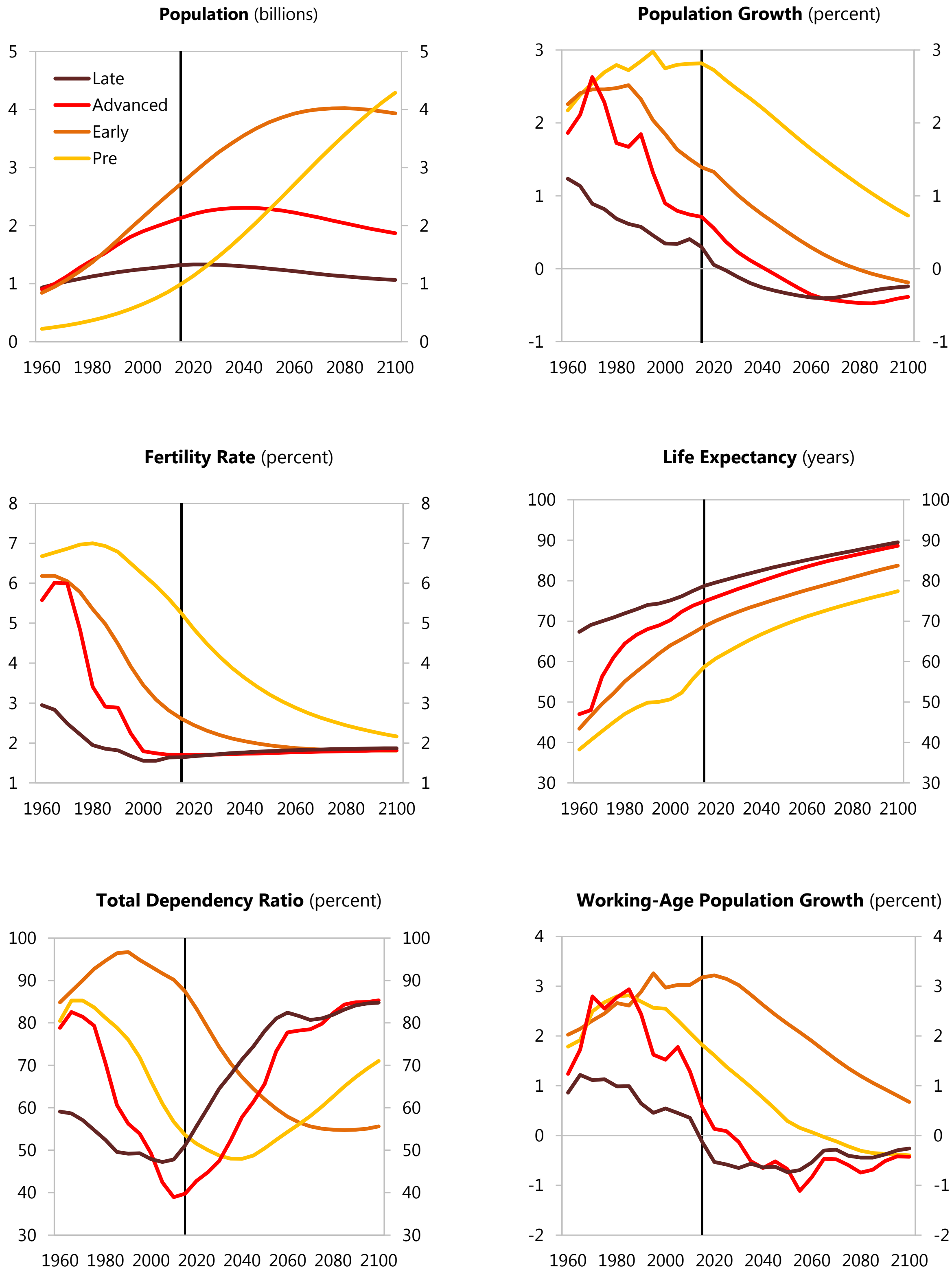
Group 3: Early-Transition Countries

Several low-income developing and emerging market economies in Asia, Latin America, and the MENA are still in relatively early stages in the transition. Most of these countries entered the transition in the twentieth century; however, fertility rates are still relatively high in many countries. The share of working age population has been increasing over the last four decades and is expected to reach its peak in the first half of the twenty-first century (i.e. on average these countries are still benefiting from the demographic dividend).

Group 4: Pre-Transition Countries

A high number of low-income developing countries, mostly in Sub-Saharan Africa, were the last to enter the demographic transition. While mortality started to decline in the 1960s, fertility has remained at an elevated level, leading to a significant population increase. Moreover, persistently high fertility has created a series of sizeable youth cohorts, causing child dependency to remain high and thus the share of working-age population not to increase until the 1990s.

Figure A2. Demographic Indicators Across Country Groups



Source: UN (2015), IMF staff calculations