Migration in the Long Term: The Outlook for the Next Generations

Can migration help mitigate demographic gaps, population aging, and global labor market imbalances? The first half of this century will see considerable disparities in demographic developments between rich and poor countries. The former will experience a rapidly aging population and labor force shortages, while the working-age populations will continue to grow rapidly in the latter. These disparities create opportunities for demographic arbitrage-reducing labor market imbalances through increased labor mobility for the benefit of both the sending and receiving regions. From a quantitative perspective, the diverging demographic trends and structural differences between most European countries and MENA's economies suggest that there are synergies to explore.

Yet, whether increased labor mobility from the MENA Region can compensate for the aging labor force in Europe will depend crucially on whether MENA's skill supply matches Europe's skill requirements. Moreover, MENA, like some other developing regions, will increasingly face problems similar to those of Europe: a rapidly aging workforce and a growing contingent of elderly dependents. Within MENA, the Gulf Cooperation Council (GCC) countries provide something of a special case—they are not, demographically, experiencing a shrinking labor force, but their economies are dependent on a large migrant labor force.

This chapter presents demographic projections available from the United Nations, with a focus on demographic imbalances between European and MENA countries. Different scenarios for education profiles and labor force participation rates are provided to investigate the extent to which Europe, through different policy measures including migration, could meet this

challenge. The chapter discusses various policy options to improve labor migration outcomes.

The analysis presented rests on the assumption that countries aim to replenish a diminishing labor force with the same kind of workers. In addition, younger workers may possess new skills that older workers do not—for one thing, newer cohorts are more educated than older ones. Older workers will have built up specific experience that younger workers do not have. Thus, from an aggregate perspective, workers of different generations are far from perfect substitutes for one another.

## Overview of the Worldwide Impact of Demographic Developments on Labor Migration

World population growth is slowing down, although there are important differences between regions and countries. Demographic projections are based on data from the United Nations (2005), which estimates past population data and projects future demographic developments by gender and age groups from 1950 to 2050 for every country worldwide. Importantly, the projections presented here are based on the assumption of no migration taking place.[1] These projections show that (i) although the world population will reach 9 billion people by 2050, the pace of growth is slowing down, (ii) the population is aging overall, and (iii) there are large regional disparities in demographic developments. In the industrial parts of the north (North America, Europe, and Russia), in the high-income countries of East Asia and the Pacific (EAP), as well as in China, the demographic projections foresee low or even negative demographic growth. In contrast, in much of the developing world, the total population will continue to increase. In MENA and South Asia, a decline in the youngest population (ages 0–14) will be visible in 2040. In the middle-income countries of Latin America, EAP, and India, the overall population will continue to increase until 2050, but a decline in the youngest population will become apparent as early as 2020 (see figure 4.1).

The International Labour Organization (1997) provides estimates of past and future participation rates by gender and age group from 1950 to 2050 for every country worldwide. These estimates are compatible with the UN population data and allow for an exploration of the impact of demographic changes on the labor force. In the next 45 years, *without migration*, the decline in the labor force is estimated to reach 215 million people in regions with a shrinking labor force. Although the world labor force is projected to increase, there are sharp differences between regions, with some facing dramatic declines in labor force numbers—*all* in the absence of migration (see table 4.1).

In the aggregate, China is projected to experience the largest absolute decrease in its total labor force (see figure 4.2). However, this would represent only about 10 percent of its current labor force. Besides, China might not face

Figure 4.1. Demographic Change by Age Group and Region Worldwide, 2010–50

(in millions, zero-migration variant)

Legend: ■ 0–14 ■ 15–24 □ 25–39 □ 40–64 ▨ 65+
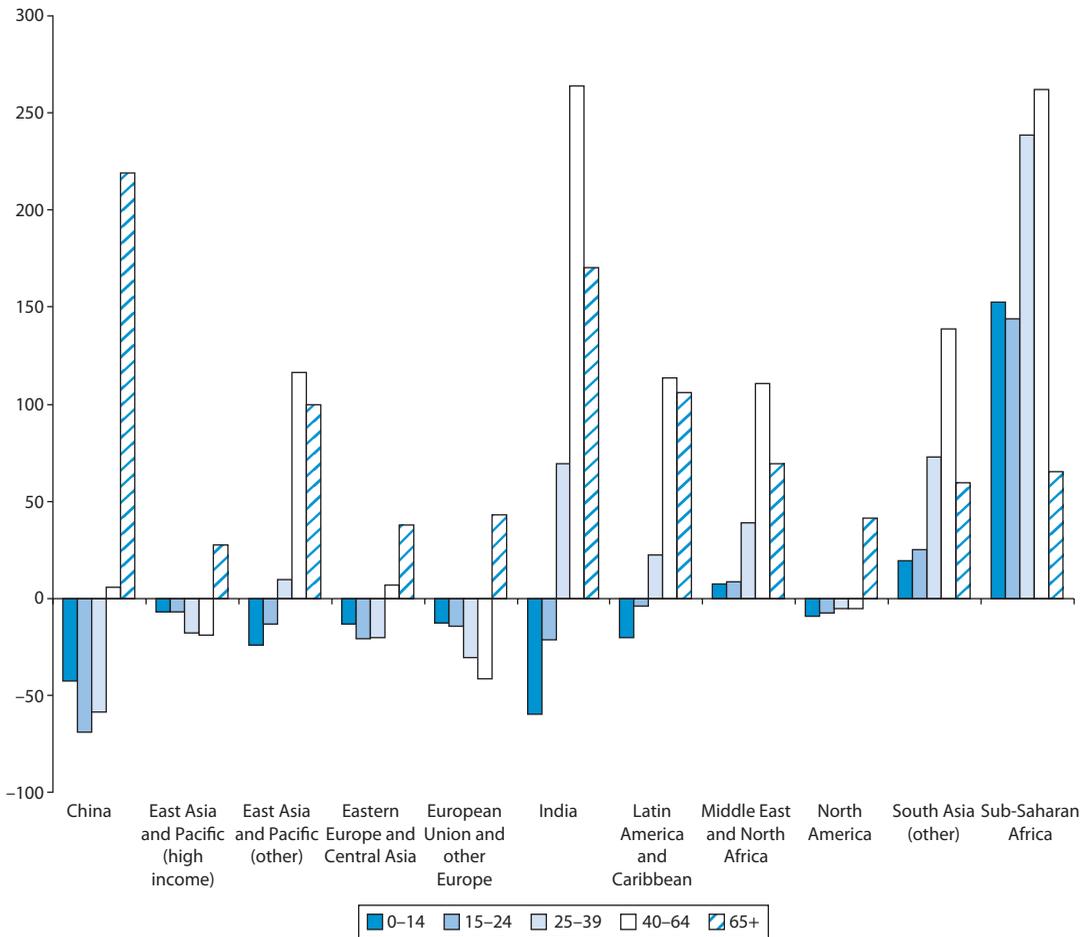
Source: Koettl in background papers.

the same dire consequence from an aging labor force as the member countries of the Organisation for Economic Co-operation and Development (OECD), because it has the potential to maintain economic growth rates by improving labor productivity. In relative terms, the largest labor force decline will occur in the EU-25+,[2] where the labor force is projected to decrease by 66 million people, or about 30 percent, by 2050. The biggest decrease is projected for the 2020s with a drop of 20 million people. The nearby countries in the Europe and Central Asia (ECA) Region face similar prospects. The decline in the labor force (and demand for labor migrants) of that region is estimated at 23 million between 2005 and 2050.

The high-income countries of EAP also face a sustained reduction in labor up until 2050.[3] The reduction will start between 2010 and 2020 and

**Table 4.1. Projected Change in Labor Force, 2005–50, by Region**

(in millions)

	2005–10	2010–20	2020–30	2030–40	2040–50	Total Change
Potential Demand Regions						
Change in total labor force	35	–9	–74	–76	–92	–216
China	27	13	–37	–37	–51	–85
EU and other Europe	–3	–14	–19	–17	–14	–67
East Asia and Pacific, high income	0	–5	–9	–10	–9	–33
Eastern and Central Europe and Central Asia	7	–2	–5	–9	–13	–22
North America	4	–1	–4	–3	–5	–9
Potential Supply Regions						
Change in labor force ages 15–39	111	185	126	96	52	570
Sub-Saharan Africa	31	72	78	79	69	328
South Asia excluding India	17	28	19	15	10	89
India	26	44	18	–2	–17	68
Middle East and North Africa	14	13	6	9	3	44
Latin America and Caribbean	12	15	6	0	–5	29
East Asia and Pacific excluding high income	11	13	0	–5	–8	12

Source: Koettl in background papers.

Figure 4.2. Change in Total Labor Force for Deficit Regions by Decade, 2005–50

(in millions, zero-migration variant)
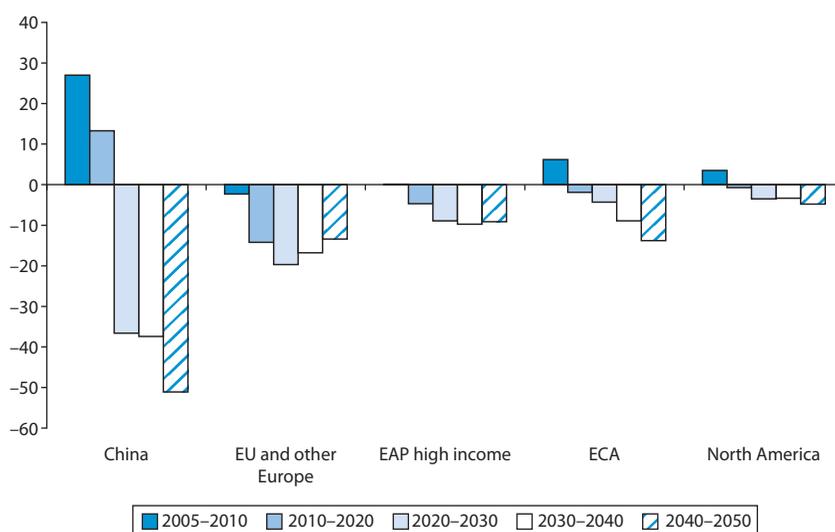
Source: Koettl in background papers.
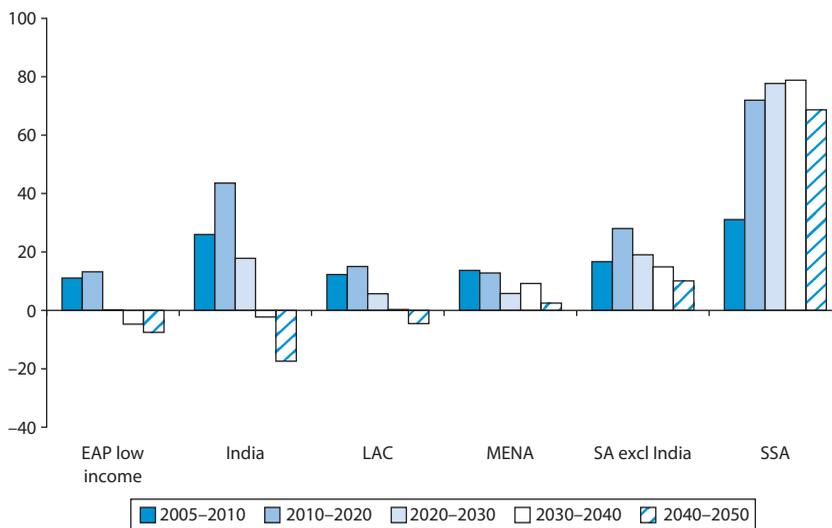*Note:* EU = European Union; EAP = East Asia and the Pacific; ECA = Europe and Central Asia.

will continue in the 2030s, with a loss of almost 10 million people in that decade. In total, the labor force is projected to decline by 33 million people by 2050.

In Canada and the United States, which have been traditional countries of immigration, the decline is more moderate, at about 9 million people occurring after 2010. North America appears to have a relatively stable labor force because of its relatively high fertility rate.

In contrast, other and generally poorer regions would have migrant labor to offer. Because of the nature of migration and the costs of uprooting individuals and workers, migrants are most likely to come from the pool of young workers, that is, those between the ages of 15 and 39. This group will be the largest in the countries of Sub-Saharan Africa, followed by South Asia and MENA (see figure 4.3). In Sub-Saharan Africa, in the next 45 years or so, the labor force in the age group 15–39 is projected to increase by a total of 328 million by 2050.[4] India and the other South Asian countries are projected to be the second-largest potential suppliers of migrant labor with, respectively, an increase of 68 million and 89 million people in the labor force between 15 and 39 years old. In the MENA Region, the increase in the labor force in the same age group is estimated to reach 44 million people, compared with 29 million in Latin America and the Caribbean (LAC), and 12 million in EAP. However, except in Sub-Saharan Africa, the supply of migrant labor will decline after 2020. Beyond 2030, India, EAP, and LAC will experience declining labor forces.

Figure 4.3. Change in Total Labor Force for Growing Regions by Decade, 2005–50

(in millions, zero-migration variant)

Source: Koettl in background papers.
Note: EAP = East Asia and the Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SA = South Asia; SSA = Sub-Saharan Africa.

Given current immigration policies and economic and political circumstances, how many migrants would move from surplus to deficit countries? The above discussion highlights the diversity in demographic developments over the coming 40 to 50 years. As indicated in table 4.1, the decline in the labor force of population-shrinking regions is estimated at 216 million, whereas the increase in the labor force of population-growing regions would be 570 million. The change in the 15–39 age group cannot be seen as a potential supply of migrants in its entirety, because it is highly unlikely that all of the 570 million additional workers between 15 and 39 would be willing to migrate. It is useful to contrast these numbers with the number of migrants that would move from growing regions to deficit regions over the next 45 years, if current migration rates prevail in the future (status-quo scenario).

Under this status quo, only a tiny fraction, 32 million—or less than 6 percent of the additional workforce in surplus regions—would leave sending regions for deficit regions. The 32 million workers is a modest number, compared with the cumulative labor force deficit by 2050—some 215 million, half of which will materialize in Europe, North America, and high-income countries in East Asia. Figure 4.4 provides a breakdown of potential migrants from sending regions. Latin America would be the region with the highest potential migration, given its current high emigration rates to North America. Other regions with much higher population numbers have a lower migration potential because a low share of their total population currently emigrates.

Figure 4.4. Emigration of Labor Force Ages 15–39 by Sending Region at Current Emigration Rates, 2005–50, by Decade
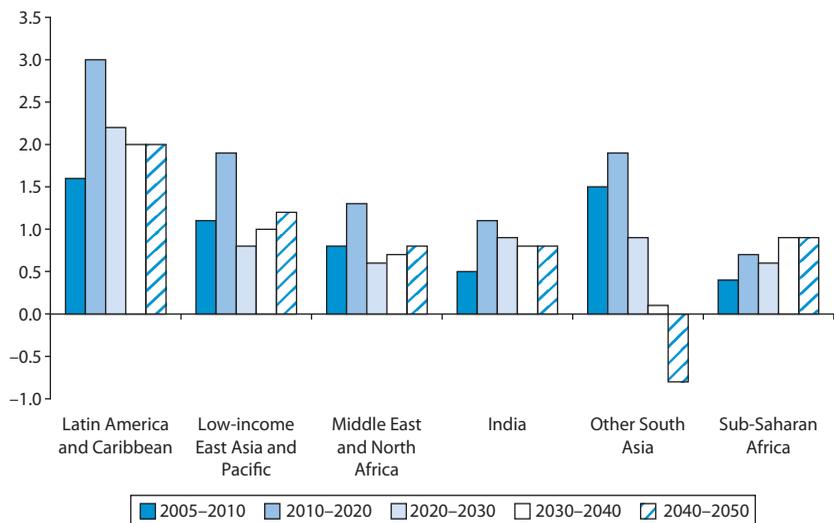
(in millions)

Population and Labor Force Dynamics in MENA[5]

Concentrating on the MENA Region and Europe, what demographics dynamics can be expected over time and what role could or would migration play? In addressing this question, it is important to recall that the MENA Region consists of both high immigration and high emigration countries. Emigration countries include Algeria, Djibouti, Egypt, the Islamic Republic of Iran, Iraq, Jordan, Lebanon, Morocco, the Syrian Arab Republic, Tunisia, West Bank and Gaza, and the Republic of Yemen. Immigration countries include Libya and the GCC countries, which have some of the highest shares of foreign migrants in the world. As seen in figure 2.2, a substantial part of migration from MENA countries, especially Egypt and the Mashreq, is actually directed to the MENA oil-producing countries.

Working-age population growth is high now; over time, however, MENA emigration countries will have to face the problems associated with an aging workforce. Labor-abundant countries in MENA are facing high pressures on labor markets because of the demographic bulge caused by many young, new entrants on labor markets. However, as fertility rates continue to fall, this phenomenon will pass. By 2050, these young entrants will be retiring, and MENA emigration countries will confront the same difficulties that Europe faces today. The pool of potential migrants—the younger cohorts—is thus increasing at a slower rate over time.

In the absence of emigration, the population in MENA countries would increase by 80 percent between 2005 and 2050, and the labor force would approximately double over the same period. The total population of MENA emigration countries would increase from 301 million in 2005 to 537 million in 2050, or by 237 million people. The largest increase will occur in the 40–64 age group (108 million), followed by the over 65 age group (59 million), and the 25–39 age group (49 million).[6]

Labor force growth, however, is driven by assumptions on labor force participation rates as well as population growth. If participation rates stay at their 2010 levels until 2050 (Variant I scenario), the labor force of MENA emigration countries is projected to increase from 112 million in 2005 to 227 million in 2050. By far, the largest increases in the labor force will be in the 40–64 age group (63 million), followed by the 25–39 age group (37 million). By contrast the youngest age group (15–24) will increase by less than 4 million. Figure 4.5 provides a breakdown per period and age group.

Both MENA emigration and immigration countries will see sharp drops in the growth rate of younger cohorts. Overall, however, there are quite marked differences between the MENA emigration countries. The young labor forces in Iraq, West Bank and Gaza, and the Republic of Yemen are expected to double or more between 2005 and 2050, suggesting that they could be major suppliers of migrants over the foreseeable future. In contrast, countries like

Figure 4.5. Projected Change in Labor Force between 2005 and 2050 by Age Group for MENA Emigration Countries, Variant I

(in millions)
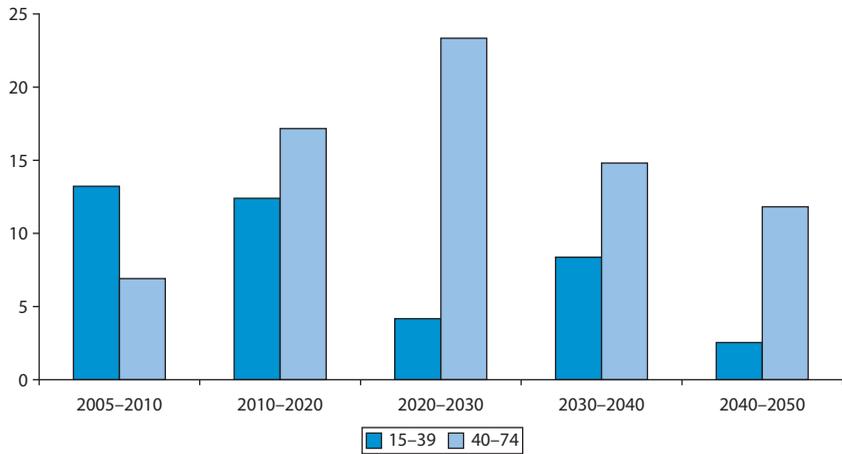
Source: Koettl in background papers.

Algeria, the Islamic Republic of Iran, Lebanon, and Tunisia will see a much faster transition to an aging labor force. These countries have invested in education and have relatively high rates of tertiary-level education, and therefore, their labor force may be relatively more attractive to other countries. As a result, they may make a parallel transition from emigration to immigration countries over time. The differential growth by age group is most visible in the labor forces of the Maghreb countries, the Islamic Republic of Iran, and Lebanon, where the net increase in the young labor force is negative or negligible (see figure 4.6).

Assuming instead that the participation rate profiles of the MENA emigration countries converge by 2050 to the average of the 2005 profiles of their EU-Mediterranean peers—namely, France, Greece, Italy, Portugal, and Spain (Variant II)—the increase in the labor force will stand at 126 million. Because of participation rate dynamics, the largest increase will then take place in the 25–39 age group, where participation rates will stand at 87 percent, compared with 72 percent in Variant I. Moreover, with convergence toward EU-Mediterranean labor force participation levels, the share of women in the total labor force would rise to 47 percent in 2050, compared with 32 percent under Variant I.

In the absence of migration, the population of MENA immigration countries in the Gulf will increase but also age rapidly. Trends in these countries are driven by the large stock of foreign population currently residing there (even if no further immigration is assumed under this scenario). The most important growth by far will take place in the population age 40 or above, and the 65-plus population will expand by 11 million people alone. These phenomena will

Figure 4.6. Projected Change in Labor Force between 2005 and 2050 by Country and Age Group for MENA Emigration Countries, Variant I
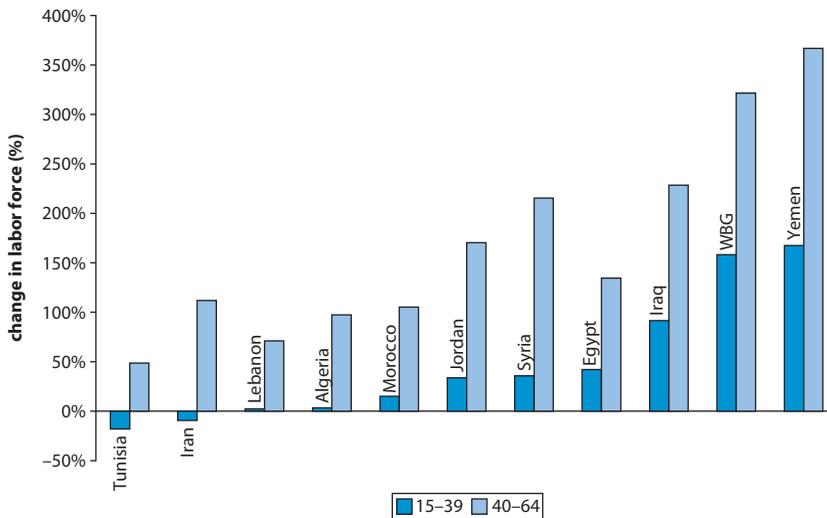
Source: Koettl in background papers.
Note: WBG = West Bank and Gaza.

carry over to labor force growth, which will increase by some 12 million people, or 70 percent. Three-quarters of this increase will come from the older age groups, however (see figure 4.7).

Moreover, labor force dynamics will differ significantly between countries. One set of countries—Bahrain, Kuwait, Qatar, and the United Arab Emirates— would face labor force reductions, whereas the labor force in Libya, Oman, and Saudi Arabia would more than double. But only in Oman and Saudi Arabia would the younger labor force increase significantly (see figure 4.8).

Would the growing labor force reduce demand for migration in GCC countries? The share of foreign population in GCC countries ranges from about 30 percent in Saudi Arabia to as much as 80 percent in the United Arab Emirates. In spite of a growing set of policies aimed at reducing immigration, the recent oil-fueled economic boom seems to have stimulated migration flows further, and the near-total segmentation of labor markets—foreigners in private sector jobs, nationals in public sector jobs—has made migrant labor a structural feature of GCC economies. Therefore, it is reasonable to believe that these countries will continue to demand foreign labor, whatever the underlying demographics.

At current participation rates and education levels,[7] MENA countries would offer large numbers of essentially low-skilled workers. Overall, by 2050, the increase in the labor force among the 15–39 age group, which has the largest potential to migrate, will stand at 41 million, if only emigration countries are included. However, the labor force is currently predominantly low skilled. If

Figure 4.7. Projected Change in Labor Force between 2005 and 2050 by Age Group for MENA Immigration Countries, Variant I
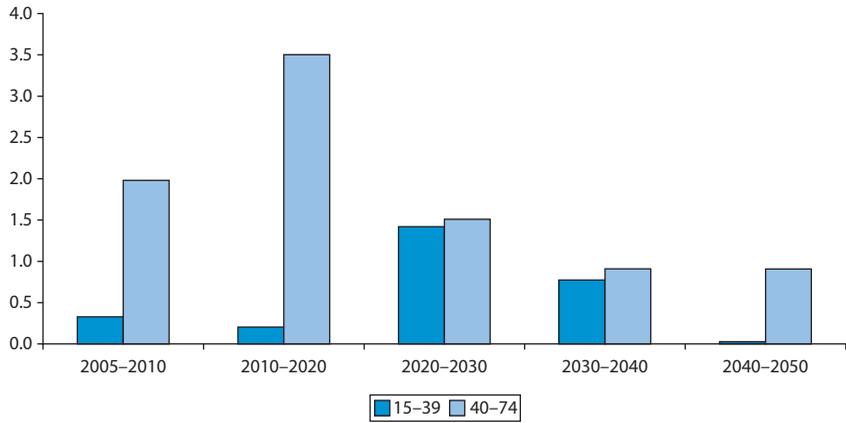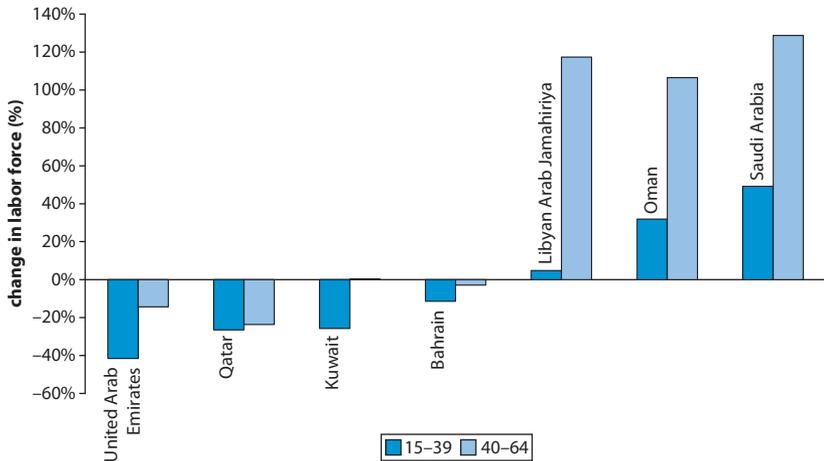
(in millions)

Figure 4.8. Projected Change in Labor Force between 2005 and 2050 by Country and Age Group for MENA Immigration Countries, Variant I

Source: Koettl in background papers.

these ratios do not change (and assuming constant labor force participation rates), the labor force under 40 years of age will mainly expand among those with primary education or less (25 million) and to a much lesser extent among the secondary educated (9 million) and the tertiary educated (7 million).

If their education profiles converged to EU-Mediterranean countries, MENA countries could offer a substantially more skilled workforce, however. Assuming constant participation rates, the low-skilled labor force would increase by 7 million people by 2020, but subsequently would shrink by

10 million plus during 2020–50. In contrast, by 2050, those at various levels of secondary schooling would increase by 30 million and people with some or full (complete) university education would increase by 13 million.
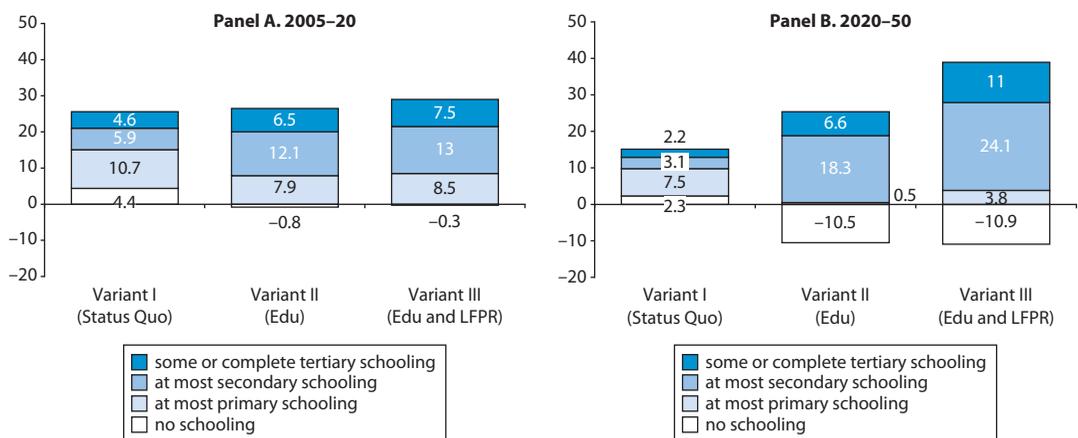
With both participation rates and education levels approaching the levels of their EU-Mediterranean peers, the labor force with secondary or tertiary levels of schooling would increase by 56 million people by 2050. Important changes will take place between now and 2020. Based on the last scenario, people who have completed more than primary schooling will have increased by 21 million by 2020. Figure 4.9 illustrates these three variants and shows that in the short run (up to 2020) the impact of education and labor force participation is relatively moderate but in the longer run (2020–50) policies could have a large impact on the education attainment of the labor force.

Population and Labor Force Dynamics in Europe

Between 2005 and 2050, in the absence of immigration, the population of EU-25+ is estimated to decrease significantly and become much older. The region's shrinking and aging population will impose new challenges on Europe's social protection systems, in particular, health care and pensions.[8] During the period, if no emigration occurs, Europe's overall population will be reduced by 57 million people from 472 million to 415 million. The largest drops will occur in the 25–39 age group between 2010 and 2030 (–20.4 million) and in the 40–64 age group between 2020 and 2050 (–42.9 million).[9] In consequence,

Figure 4.9. Evolution of MENA Labor Force (Ages 15–39) by Education Level under Different Scenarios,[a] 2005–20 and 2020–50

(in millions)

and as noted above, between 2005 and 2050, the labor force in EU-25+ is expected to decline by 66 million people, if participation rates do not change. A large drop will occur already before 2020 for workers between the ages of 25 and 39 (–13 million people). After 2020, the largest drop will occur in the older age group, when the group of workers above 40 years old will fall by 30 million. These developments will raise the old-age dependency ratio[10] from 0.25 in 2005 to 0.55 in 2050 and increase the ratio of the nonactive population to the labor force from 1.08 to 1.59.

The most acute decline in the younger EU-25+ labor force would take place in the new accession countries and in the southern Mediterranean countries. Fertility rates in Europe vary from around 1.2 to 1.5 in the eastern, central, and southern European countries to 1.6 to 2.0 in the Benelux and northern European countries. As a result of these disparities, countries like Poland and Spain could lose almost half of their young labor force. In contrast, the Nordic countries, as well as France and the United Kingdom, would lose between 10 and 20 percent of their young (and old) labor force (see figure 4.10).

Policies to offset the decline in the labor force in Europe in the absence of immigration can have only a limited effect. In principle, and in the absence of extremely high productivity growth, Europe's shrinking and aging labor force phenomenon could be addressed through domestic labor market policies that have three different objectives: (i) to increase overall participation rates to significantly higher levels, comparable to those in other industrial countries like Switzerland, the United States, and the United Kingdom; (ii) to increase the

Figure 4.10. Projected Change in Labor Force between 2005 and 2050 by Country and Age Group for EU-25+, Variant I
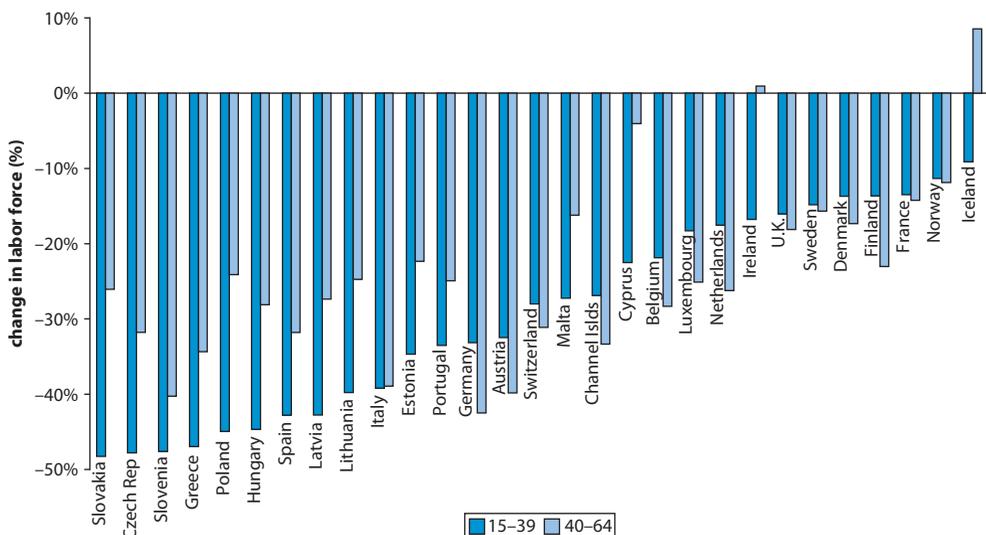
Source: Koettl in background papers.

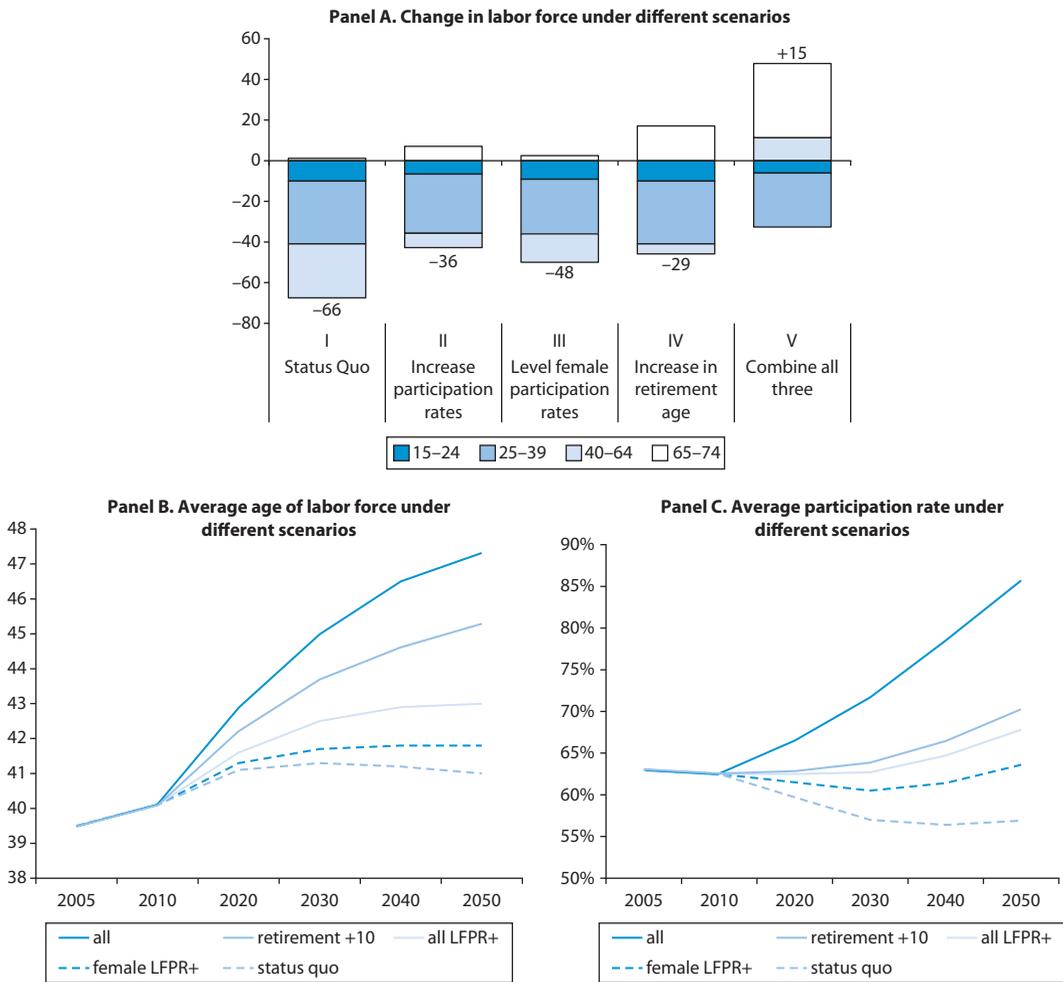participation rate of women to levels comparable to those of men; and (iii) to increase the retirement age.

However, none of these policies could reverse the labor force decline entirely or its aging population. Figure 4.11 presents five scenarios for labor force development between 2005 and 2050. The first is the benchmark, status-quo scenario. The second assumes that labor force participation rates increase to significantly higher levels, comparable to those in Switzerland and the United Kingdom. The third scenario postulates that women's participation rates reach those of males in all age groups, while the fourth postulates an increase in the retirement age of 10 years. The fifth scenario combines the three previous policy measures. As seen, the labor force gap is not near to closing except in the last and highly unrealistic scenario, which would require dramatic increases in the already relatively high European participation rate, and which would result in a significantly higher average age in the European labor force.

Further caveats apply to these scenarios. None of these policies may be easy to implement for political economy reasons; increases in retirement age, in particular, have proven highly unpopular. Moreover, an increase in women's participation rates may increase demand for household and caring services, which would require more labor than the replacement estimates take into account—for example, the recent Spanish immigration boom has followed a remarkable increase in female participation rates.

Increased labor migration in Europe could help mitigate the age structure of the European labor force, but the window of opportunity for demographic arbitrage would most likely close after 2020. As a result of its aging labor force, Europe's greatest labor immigration needs will be for workers under the age of 40 up to the year 2025, and above the age of 40 thereafter. But because international migrants usually tend to be in the 25–39 age group, it is unlikely that Europe will be able to attract the older and more experienced workers who will be needed after 2020. If Europe has not been able to attract adequate labor migrants by 2020, it would probably be too late to stabilize its labor force; Europe's needs for experienced workers then would have to be accommodated through the immigration of younger and relatively inexperienced workers, leading to an overall younger labor force structure. The possibility for Europe to offset the decline in the labor force through increased immigration will exist mostly in the next 25 years.

Europe will need to replace young medium-skilled workers. Additional simulations, based on population and labor force data by education attainment, suggest that without labor immigration, Europe would lose a large number of primary and secondary educated people over the next 45 years (see figure 4.12). At current labor force participation and education attainment rates, the decline in secondary educated workers could reach 35 million by 2050. If education levels continue to rise, the European labor force would lose fewer tertiary-educated people, but the decline in primary- and
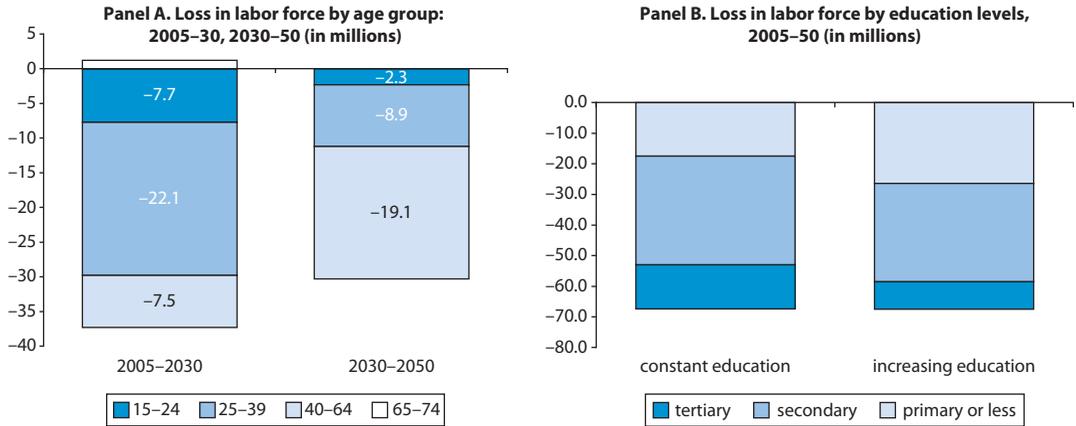
Figure 4.11. Go It Alone: Changes in Labor Force and Labor Force Average Age

Panel A. Change in labor force under different scenarios

Panel B. Average age of labor force under different scenarios

Panel C. Average participation rate under different scenarios

Sources: UN 2005, ILO 1997, and author's calculations.
Note: LFPR = labor force participation rate.

secondary-educated people would remain dramatic. These results are consistent with the shorter-term projections undertaken for France, discussed above, which also show an important need to replace medium-skilled (and low-skilled) people who will retire. It is likely that the projected drop in primary- and secondary-educated workers will translate into greater needs for medium-skilled workers, usually who have completed their secondary education. In fact, most primary educated people in the current EU-25+ labor force are rather old and have either considerable job experience (counteracting low levels of education) and are retired or about to retire. Young people with little or no education therefore would not be suitable replacements.

Figure 4.12. Labor Force Decline by Age and Education Levels

Panel A. Loss in labor force by age group: 2005–30, 2030–50 (in millions)

Panel B. Loss in labor force by education levels, 2005–50 (in millions)

15–24   25–39   40–64   65–74

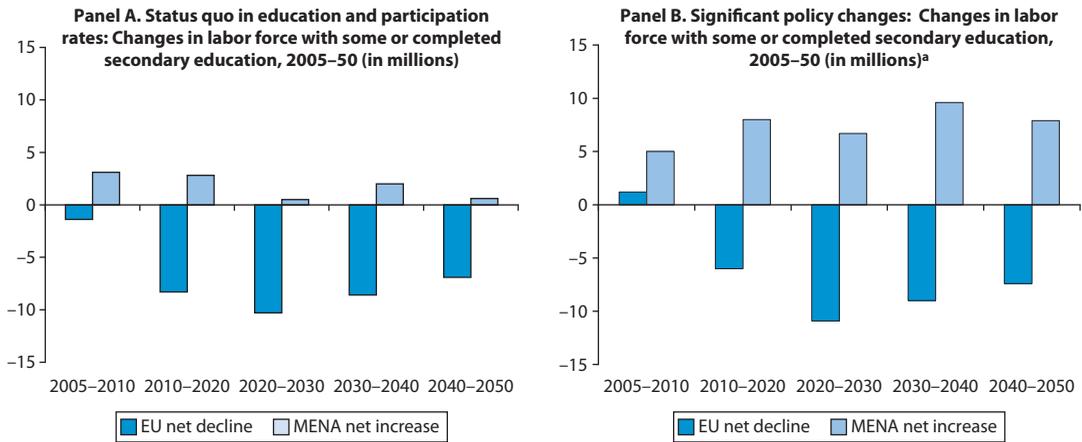tertiary   secondary   primary or less

Source: Koettl in background papers.

But even France, the Nordic countries, and the Benelux countries will feel the pressures of declining labor force. The case of France puts the labor force decline in perspective. France is likely to face a much smaller decline in its labor force than, for example, Spain or the new accession countries. Fertility rates stand at almost 1.9, and in the absence of migration, the labor force would decline by about 13 percent by 2050, among the older and younger workers alike. Yet, these numbers translate into a net loss of some 80,000 people per year during the period. The retirement of baby boomers could open up some 750,000 new jobs per year over the period 2005–12—jobs that new entrants will not be able to fill in numbers.

MENA countries are currently not well placed to meet increased demand for labor in the European Union. Whether assuming zero migration or that current migration rates persist, the demand for replacement labor in the European countries is projected to cumulate in the 2020s. As discussed above, demand for replacement workers in European countries will predominantly concern medium-skilled workers who have completed their secondary education. Currently, however, workers from emigration countries in the MENA Region provide a poor match in relation to Europe's needs, as the 15–39 labor force mainly will expand among those who have completed their primary education. If education rates and labor force participation rates stay unchanged, the skill mismatch will become significant. This mismatch will be most apparent in the 2020s, when Europe's potential demand for secondary-educated migrants of roughly 10 million will coexist with a projected potential supply of labor migrant with secondary education of only 0.5 million in MENA.

If MENA's emigration countries make efforts to increase labor force participation and education rates significantly, the scope for arbitrage would be

Figure 4.13. Replacing People and Medium-Level Skills over Time: The Impact of Policy

Panel A. Status quo in education and participation rates: Changes in labor force with some or completed secondary education, 2005–50 (in millions)

Panel B. Significant policy changes: Changes in labor force with some or completed secondary education, 2005–50 (in millions)a

EU net decline   MENA net increase

Sources: UN 2005, ILO 1997, and authors' estimates.
Note: a. MENA matches current average education and participation rates in southern European countries; the European Union continues to increase levels of education.

much higher. Assuming, as in the scenarios presented earlier, that labor force participation rates and education rates can converge over time to the levels of the southern European countries, the match between MENA and the European Union would improve considerably (see figure 4.13). Between 2005 and 2030, the MENA emigration countries would produce a net increase of 20 million people with secondary education and 10 million people with tertiary education. This scenario's outcome will depend partly on the success in improving participation rates for women in MENA countries.

Notes

1. See Koettl in the background papers for details about the data and the methodology used for the demographic analysis.

2. The EU-25+ includes the 25 EU member states, except Bulgaria and Romania, and also includes the Channel Islands, Iceland, Norway, and Switzerland.

3. These are, among others, Australia; Hong Kong, China; Japan; the Republic of Korea; New Zealand; and Singapore.

4. There is considerable uncertainty, though, on the impact of HIV/AIDS on life expectancy in African countries.

5. While the population projections in this section come from the United Nations, the projections of labor force deficits and surpluses by age group, education, and skill level are based on Koettl's comprehensive work in the background papers.

6. The 25–39 age group is projected to increase significantly between 2005 and 2020 (more than 33 million), but will be rapidly declining from 2020 onward. Between 2020 and 2050, the 25–39 age group will increase by only 16 million. In the 2020s, this age group will decrease, but will return to a strong growth in the 2030s. The reason for this evolution is that the current strong youth cohort will produce a strong cohort of offspring.

7. See Koettl in the background papers, table A9, for the detailed figures.

8. Holzmann 2005.

9. These two age groups are part of the same cohort—the cohort following the baby boomers born in the 1950s and 1960s (the "demographic echo" of the baby boomers).

10. The old-age dependency ratio is the ratio of the over 65 age group to the 15–64 age group. The ratio gives the number of people of retirement age per person of working age.