

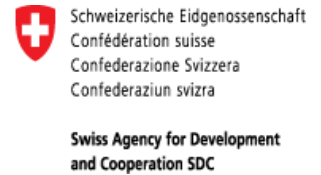


KNOMAD PAPER 36

The Impact of International Migration on Fertility: An Empirical Study

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January 2020



WORLD BANK GROUP

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KNOMAD is supported by a multi-donor trust fund established by the World Bank. The European Commission, Germany's Federal Ministry of Economic Cooperation and Development (BMZ), and the Swiss Agency for Development and Cooperation (SDC) are the contributors to the trust fund.

The views expressed in this paper do not represent the views of the World Bank or the sponsoring organizations. Please cite the work as follows: Rene Desiderio. 2020. "The Impact of International Migration on Fertility: An Empirical Study." KNOMAD Paper No 36, World Bank, Washington, DC.

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The Impact of International Migration on Fertility: An Empirical Study¹

Rene Desiderio²

Abstract

This paper focuses on how migration affects fertility in countries of origin and destination through the dissemination of values and information as well as through decisions to postpone the birth of children before departure. The heterogeneity in the fertility of women from various migrant groups is underlined in most studies, many of which indicate that the total fertility rates of migrants originating from high-fertility countries exceed the average in destination countries. While the various mechanisms underlying migrant fertility patterns and convergence have been examined, much less attention has been paid to the diffusion of host-country fertility norms across sending countries by emigrants and returnees. The prospect that immigrant inflows can save low-fertility receiving countries from population aging and decline has, in recent years, become increasingly attractive. Proponents argue for the rejuvenating effect of sustained entries of young migrants in preserving overall population size, the size of the workforce, and the age structure of the population. However, while immigration usually reduces the average age of the host populations, it cannot reverse population aging except through very high and exponentially increasing inflows. The demographic changes occurring in the developing world, particularly the declining birth rates in sending countries, will generate a new dynamic. A new generation of migrants with no spouses or children in the home country will have different motivations than did earlier generations of migrants, for whom sending remittances to a family left behind was a prime consideration, followed – in some cases – by family reunification.

Key words: International migration, demographic change, fertility

¹ This paper was produced for KNOMAD's Thematic Working Group (TWG) on Data and Demographics. KNOMAD is headed by Dilip Ratha, the Data and Demographics TWG is chaired by Rainer Muenz, and the TWG's focal point in the KNOMAD Secretariat is Supriyo De.

² Dr. Rene Desiderio is a research fellow at Fordham University. The author gratefully acknowledges research assistance provided by Akanbi Setiloane-Babatunde in updating and revising the paper. The focal point thanks Kebba Jammeh and Eung Ju Kim for further data updates.

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1. INTERNATIONAL MIGRATION FLOWS, MIGRATION CORRIDORS, AND THE FERTILITY OF MIGRANTS

International migration is an important feature of life in the 21st century—as it was in the 20th, and perhaps at an even greater magnitude. At the turn of the millennium in 2000, there were 173 million people living outside their country of birth globally. This stock grew rapidly over the following 19 years, reaching 272 million worldwide in 2019—a 57 percent increase during that period. The international migrant stock grew by an average of 2 percent per year between 2000 and 2005. The annual growth rate accelerated to a peak of 3 percent over the 2005–10 period, then slowed to around 2.5 percent per year during the years 2010–15.³

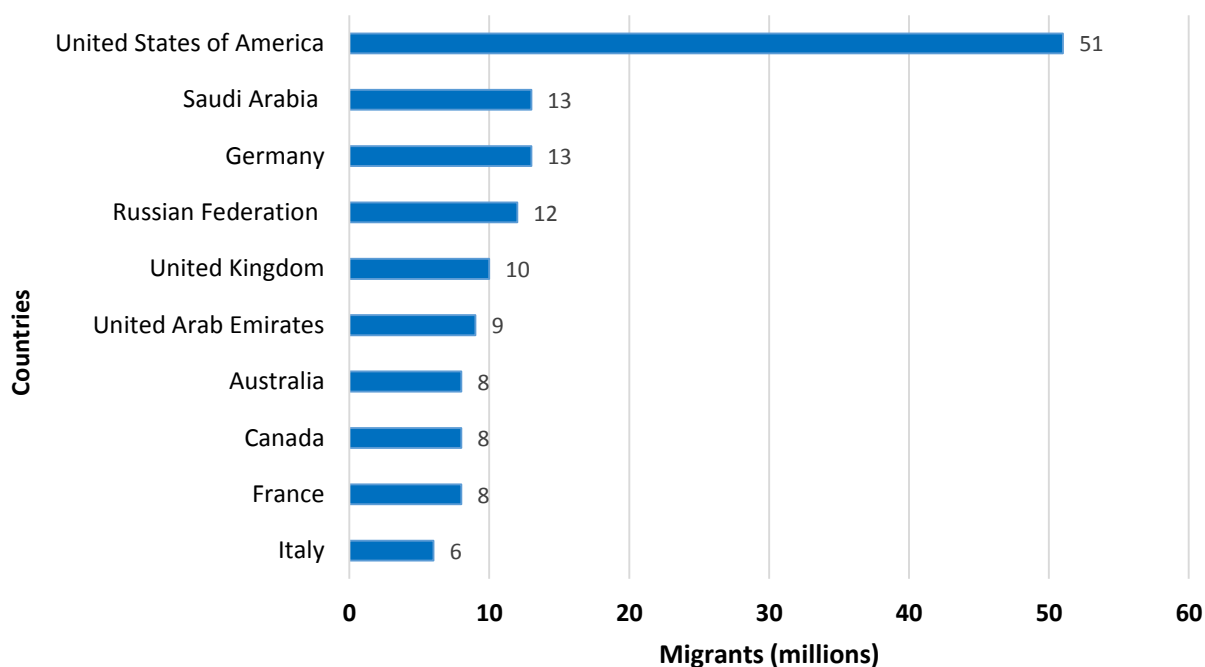
The number of international migrants has grown slightly faster than the world’s population. As a result, in 2019, the share of migrants in the total population reached 3.5 percent, up from 2.8 percent in 2000. There were differences, however, between geographic regions. International migrants account for at least 10 percent of the population in Europe, North America, and Oceania. This share is much smaller in developing regions, at less than 2 percent of the population in Asia, and Latin America and the Caribbean.

Two-thirds of the world’s international migrants were living in just 20 countries in 2019. The ten countries with the largest number of international migrants accounted for more than 50 percent of the global migrant stock. In the United States alone, there were 51 million international migrants, which was nearly a fifth (19 percent) of the world’s total. Germany and Saudi Arabia had the second and third largest numbers of international migrants (each had 13 million), followed by the Russian Federation with 12 million migrants (figure 1).

In addition to several countries in Europe that have long been preferred by international migrants—such as France, Germany, and the United Kingdom—former countries of emigration, such as Italy and Spain, have become attractive destinations for immigrants from developing countries, as well as other parts of Europe. Of the top 11 destinations worldwide with more than 5 million international migrants in 2019, six were in Europe, two each in North America and Asia, and one in Oceania.

³ Unless otherwise indicated, all figures cited in this section were taken from the latest report of the United Nations Department of Economic and Social Affairs, Population Division (UNDESA 2019).

Figure 1. Countries with more than 6 million international migrants (stock), 2019



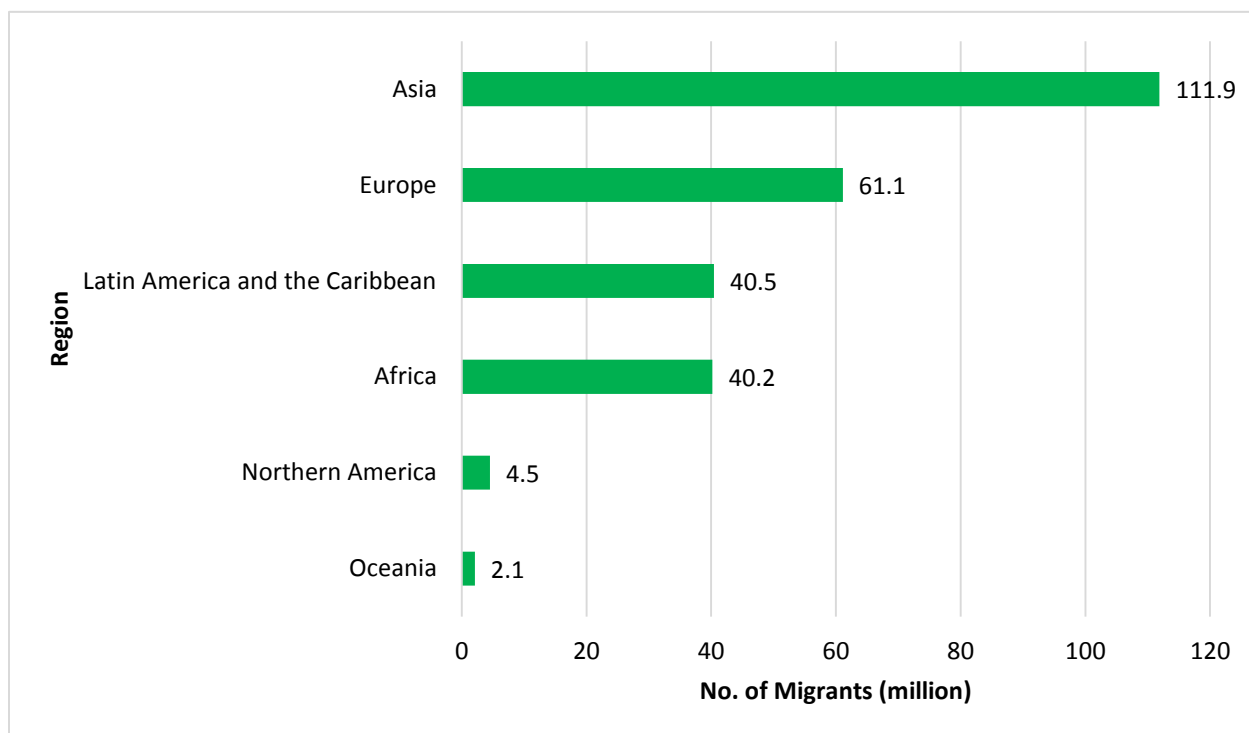
Source: UNDESA 2019.

In 2019, nearly three-fourths (198 million) of international migrants worldwide were born in the developing regions, with the largest number (nearly 111.9 million) originating from Asia (figure 2). Of the developed regions, Europe was the birthplace of the largest number of migrants (61.1 million). A much smaller number of migrants worldwide were born in North America (4.5 million) and Oceania (2.1 million).

Across countries, one-third of all international migrants originate from only ten countries in 2019. India had the largest number of people living abroad (18 million), followed by Mexico (12 million). Other countries with 6 million or more emigrants included China (11 million), the Russian Federation (10 million), the Syrian Arab Republic (8 million), Bangladesh (8 million), and Pakistan and Ukraine (around 6 million each).

Between 2000 and 2015, a number of countries experienced rapid growth in their emigrant population. Syria had the fastest average annual growth rate (13.1 percent per year), followed by Romania, Poland, and India (each with over 4 percent per year). Much of the increase in Syria was due to the large outflow of refugees and asylum seekers amidst the protracted conflict and humanitarian crisis there.

Figure 2. Number of international migrants, by region of origin, 2019



Source: UNDESA 2019.

1.1 Migration flows and corridors

Estimates of migration flows within and between regions suggest a stable intensity of global migration, with just over 0.6 percent of the world population moving between two five-year periods, 1990–95 and 2005–10. Table 1 shows the intensities of migration in 2005–10 to, from, and within 10 major world regions in millions. In absolute terms, Europe was the biggest receiver of migrants (8.9 million over five years), followed by North America (7.6 million). On the other hand, South Asia was the biggest sender, with 8.7 million emigrants, followed by Latin America (5.5 million).⁴

1.2 Total fertility in source and host countries

Women comprised nearly half (48 percent) of all international migrants worldwide in 2019. There are considerable differences, however, in their proportion across regional groupings. Between 2000 and

⁴ The estimates reflect migration transitions over a five-year interval, and thus cannot be compared to annual movement flow data published by the United Nations (Wittgenstein Centre for Demography and Global Human Capital and Vienna Institute of Demography 2010).

2019, the share of women in the stock of international migrants increased in several regions, but not in Asia, Europe, as well as Latin America and the Caribbean, where men dominate the stock of international migrants. Regions with a well-established history of immigration hosted the largest percentage of female migrants. In Europe, the proportion of women among the stock of international migrants remained almost stable (51.6 percent in 2000, 51.4 percent in 2019).

Table 1. Regional migration flows, 2005–10 (in millions)

Region	Moving into the Region	Moving out of the Region	Net Migration by Region	Moving within Region
North America	7.64	1.58	6.06	0.14
Africa	0.41	3.49	-3.09	3.63
Europe	8.92	0.70	8.21	2.64
Former Soviet Union	0.33	0.67	-0.34	1.98
West Asia	6.73	0.83	5.90	0.99
South Asia	0.02	8.72	-8.70	1.15
East Asia	0.52	1.97	-1.45	0.53
Southeast Asia	0.60	3.11	-2.51	1.42
Oceania	1.22	0.09	1.13	0.21
Latin America	0.23	5.46	-5.23	0.64

Source: Wittgenstein Centre for Demography and Global Human Capital and Vienna Institute of Demography 2010.

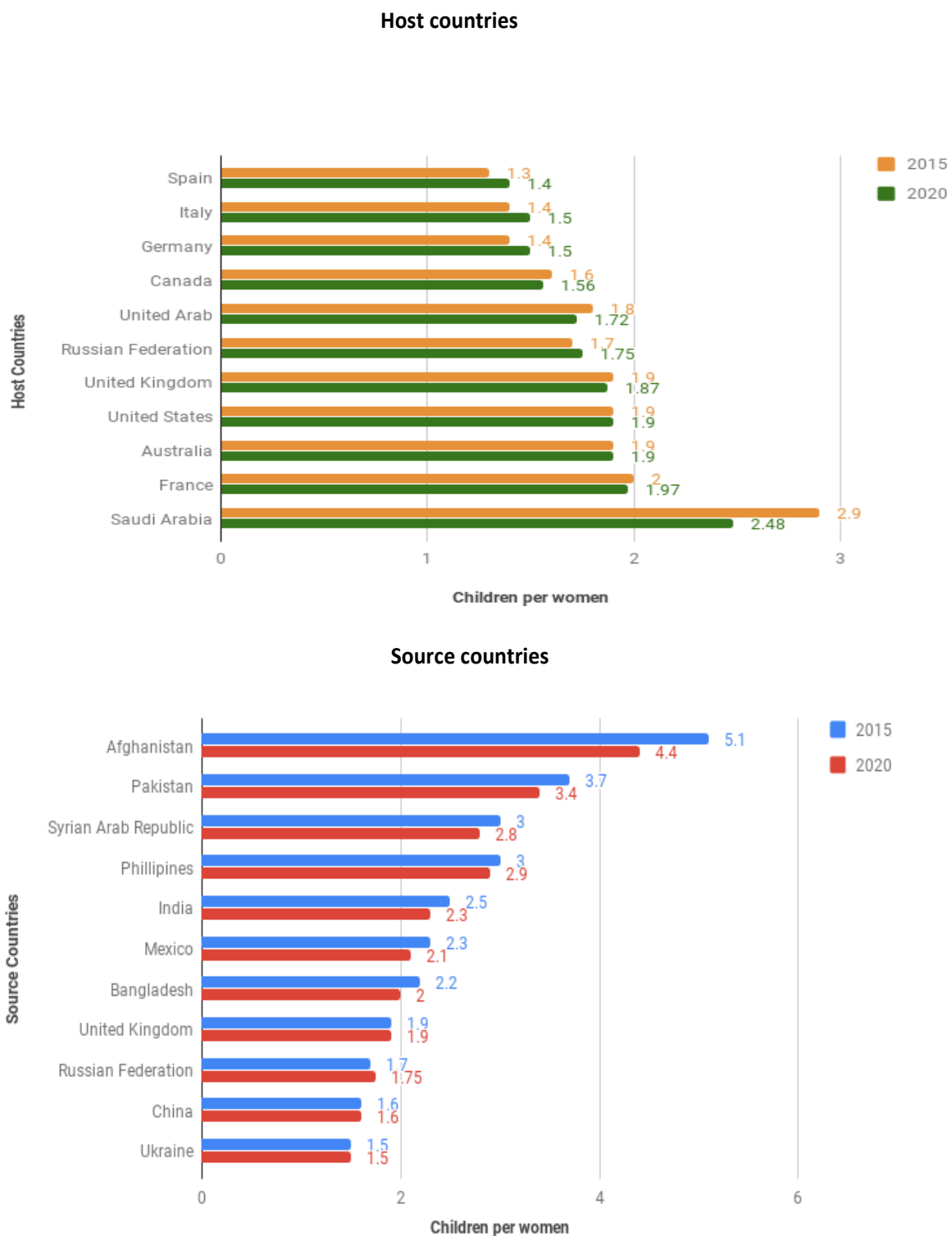
However, in North America, the share of women among all immigrants rose from 50.5 percent to 51.8 percent in 2019,⁵ while the percentage of women in the stock of migrants in Asia dropped from 46.2 percent in 2000 to 41.5 percent in 2019.

Globally, total fertility—the average number of children a woman would bear if fertility rates remained unchanged during her lifetime—was 2.5 children per woman in 2015 (UNDESA 2015, 2017). This average, however, masks the heterogeneity of fertility levels among regions and countries. Figure 3 lists fertility rates by country in 2015 and the expected fertility rate in 2020. The diagram shows that nearly all countries hosting the largest numbers of international migrants had fertility levels below 2.1 children per woman, that is, below replacement levels.⁶

⁵ This may be due largely to “the outcome of the aging in place of migrants who had arrived decades earlier and the fact that females, including female migrants, tend to have longer life expectancies compared to males” (UNDESA 2018).

⁶ Saudi Arabia was the only exception. A total fertility level of 2.1 children per woman represents the average number of children a woman would need to have to reproduce herself by bearing a daughter who survives to

Figure 3. Total fertility in host and source countries with the largest numbers of emigrants, 2015, 2020



childbearing age. If the level is sustained over a sufficiently long period, each generation will exactly replace itself in the absence of migration. UNDESA: <http://www.un.org/esa/sustdev/natlinfo/indicators>.

Source: UNDESA 2017, 2018.

The three major host countries with the lowest total fertility levels were Spain (1.3 in 2015; 1.4 by 2020) followed by Germany and Italy (1.4 in 2015; 1.5 by 2020). All others, including traditional destination countries, such as Australia, the United States, and the United Kingdom, had total fertility levels that ranged from 1.6 to 2.0. In 2015, only Saudi Arabia's total fertility (2.9) was higher than the global average. However, it is expected to fall to 2.5 by 2020.

In contrast to receiving countries, all top-5 sending countries with the largest emigrant populations in the world had total fertility levels above 2.1. At the same time China, the Russian Federation, Ukraine, and the United Kingdom had fertility rates below 2 children per woman while Mexico and Bangladesh are close to this level. The majority of countries considered in this study (except for the) are expected to have a lower fertility rate in 2020 than they had in 2015. In a minority of countries – namely Russian Federation, Germany, Italy, and Spain – this was not the case (UNDESA 2017).

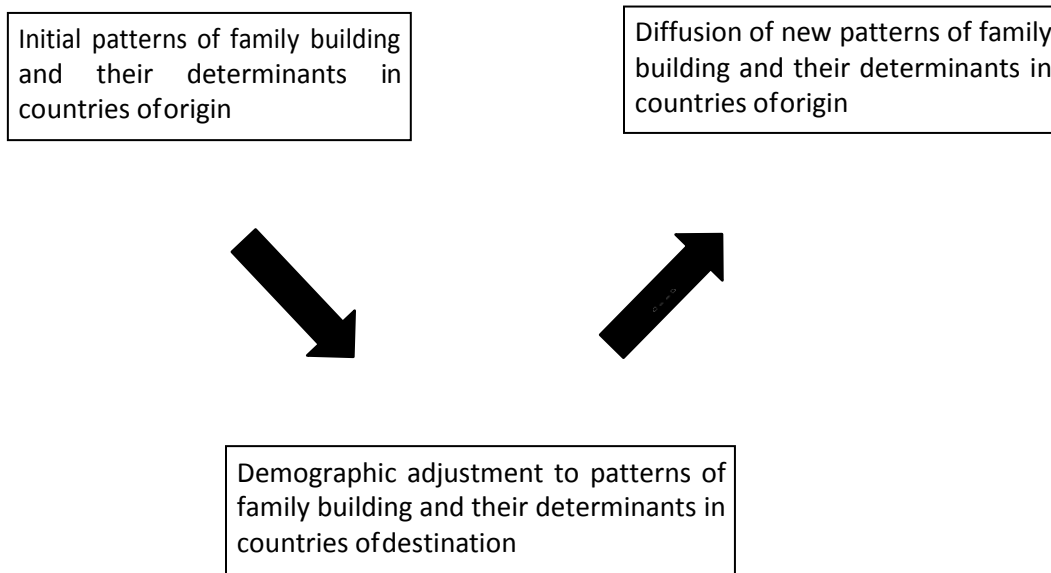
2. HOW INTERNATIONAL MIGRATION AFFECTS FERTILITY RATES: KEY TRENDS

Although international migration is a potent demographic force, there has been little attention paid to its effect on fertility and the number of births. Instead, the two phenomena are generally seen as independent. But it is obvious that they are strongly related, with migration usually increasing the resident population of young (and potentially procreating) adults in receiving countries and reducing this age group in sending countries. Studies have also demonstrated an indirect link caused by the change of social norms influencing fertility behavior (Fargues 2006).

The main focus of empirical studies has been on the adaptation of migrants' fertility behavior to the norms of their host countries. A much smaller number of studies consider migration's impact on the fertility of the home country population left behind (Beine, Docquier, and Schiff 2008). The mechanisms by which international migration contribute to global demography is largely by population movements from high to low birth-rate countries, as well as migrants adopting ideas and behavioral norms that prevail in host countries, and bringing these back to their home countries (Fargues 2006).

A framework introduced by Fargues (2004) illustrates the impact of international migration on fertility, as shown in figure 4. The left arrow shows the flow of migrants from countries of origin to countries of destination. A significant migration trend, discussed in the first section of this study, has been the movement from developing countries to more developed countries with lower birth rates.

Figure 4. The impact of international migration on fertility behavior



Source: Fargues 2004.

In general, the impact of migrants' exposure to new socioeconomic and institutional circumstances, values, behavioral norms, and practices, including those affecting fertility decisions, takes time to become apparent. One observable trend is that migrants from high to low fertility countries who stay long enough progressively assimilate and along with their integration in the new environment adopt the host country's prevailing childbearing practices and desired number of children.

Depending on the number of children that an individual had prior to migration, a convergence of demographic patterns with those of the host population eventually occurs (Fargues 2006). The adaptation hypothesis posits that the impact of host country values and norms on the behavior of migrants increases with the length of time spent in the host country, with migrants' fertility rates converging to those of the local host population over time (Beine, Docquier, and Schiff 2008). As will be discussed in the next section, this hypothesis has received wide support in the literature dealing with international migration and fertility.

Unlike the limited effect of the left arrow, which affects only migrants, the potential impact of international migration on fertility signified by the right arrow is much larger. This more widespread impact extends beyond the households that migrants left behind in their home countries. The positive spillover effect of migration in terms of reduced population pressure extends to migrants' local communities and possibly to their societies at large through, among other things, the mass media. By conveying the ideational roots of demographic change through various means, these migrants are effectively agents of the diffusion of demographic modernity (Fargues 2006).

There are several channels through which international migration may affect fertility rates in the source country (Beine, Docquier, and Schiff 2008). The first channel is the direct communication of emigrants and returnees with their families and friends. With modern telecommunication technologies, and especially with the rapid growth and vast spread of the Internet, emigrants are able to maintain increasingly close contact with those they left behind. Not only do they remit financial resources but also

knowledge, ideas, values, and behavioral norms that prevail in host countries. Moreover, modern transportation has made it easier and cheaper for immigrants to travel to their home countries. A second channel is through media coverage that may depict the lifestyles of return migrants and those living in receiving countries and how they might differ from those of the sending country population. A third channel relates to trade and investment ties between source and host countries, by which host country norms may often be diffused (Beine, Docquier, and Schiff 2008).

3. MIGRATION AND FERTILITY: A CLOSER LOOK

3.1 A summary of key hypotheses

The interaction between international migration and the fertility behaviors of migrants is the subject of a significant number of studies. Most focus on the impact of migration on the fertility of migrants themselves, and specifically on their fertility patterns in destination countries, with much less attention paid to the impact on non-migrants' fertility in countries of origin. A few studies have also looked into the fertility of the children of migrants born in the host country.

A number of hypotheses have been posited on the relationship between migration and fertility. These focus on trends such as socialization, assimilation, adaptation, disruption, and selectivity.

According to the socialization hypothesis, migrants are socialized by their early childhood experiences, and their postmigration fertility levels remain similar to those in their countries of origin.

Assimilation, like the socialization hypothesis, assumes that fertility preferences are strongly influenced by norms and values regarding family size learned during childhood and reinforced during early adulthood. However, unlike socialization, according to this hypothesis, migrants slowly adopt the norms and values prevalent in the host country, including those concerning family formation and reproduction. The assimilation process is assumed to be gradual and may take several generations to complete.⁷

The adaptation hypothesis maintains that an adjustment in migrants' fertility behavior occurs in response to the economic conditions in the host country. It is derived from economic models of fertility that regard household income and the relative costs of children as prime considerations in decisions about family size. The opportunity cost of raising a child, among others, prevailing in the host country discourages high-parity births, leading to lower fertility. Adaptation is expected to influence the fertility behavior of migrants within a short period of time (Lindstrom 1995). In general, it is difficult to separate the effects of assimilation from those of adaptation, particularly among settled migrants, because both processes can occur simultaneously. Thus, in many studies the two hypotheses are combined under the heading of adaptation or assimilation/cultural adoption (Lindstrom 1995).

⁷ A study in the United States reveals that assimilation is weakest among the first generation, particularly among immigrants who arrived as adults (Lindstrom 1995).

The disruption hypothesis focuses on the move itself, and the key idea here is that the process of migration interferes with fertility. This interference may be due to various factors such as spousal separation or reduced fecundity, given the stress often associated with moving to a new place or country, among others. However, the effects of disruption are temporary and occur only for a short period of time after the move. Fertility may resume its previous level and pace or may even accelerate in order to compensate for the disruption. But even a short disruption in childbearing may be enough to reduce cumulative fertility.⁸

Unlike the assimilation, adaptation, and disruption hypotheses, where changes in fertility behavior occur in response to various aspects of the migration process, the selectivity hypothesis refers to the tendency that migrants are selected for characteristics associated with lower- or higher-than-average fertility. Selectivity is often based on observed characteristics, such as education and occupation in the country of origin, or unobserved characteristics, such as mobility aspirations or openness to innovation (Lindstrom 1995).

The five hypotheses are not mutually exclusive, and studies have considered some of them jointly in the analysis of international migration and fertility. Many findings support a combination of the assimilation and adaptation hypotheses, which contend that the impact of host country norms and values on the behavior of migrants increases with the length of migration, with migrants' fertility rates eventually converging to those of the host population over time.⁹

3.2 The impact of migration on fertility in destination countries

As was mentioned earlier, most studies to date consider the impact of migration on fertility rates in migrants' countries of destination. This section provides an overview of several such studies, with a focus on major destination countries in developed regions

United States

Several studies on the fertility of migrants to the United States reveal little change in birth rates overall.¹⁰ According to the Center for Immigration Studies, the fertility of migrants has declined significantly since its peak in 2008. The birth rate among migrant women declined from 76 to 62 births per 1,000 between 2008 and 2013; in contrast, native-born women's fertility declined from 55 births to 50 births per 1,000. In 2008, the total fertility of migrants was 2.75 children and by 2013 it had fallen to 2.22 children, or a 0.53 child decline. For non-migrants, on the other hand, total fertility declined from 2.07 to 1.79 children, or a 0.28 child decline. If present trends continue, the fertility of migrants is

⁸ Stephen and Bean (1992). Several studies have mathematically demonstrated the possibility that recurrent separations increase the length of birth intervals, and thus reduce overall fertility, specifically among couples not practicing contraception.

⁹ The adaptation hypothesis has received wide support in the literature, not only in the case of international migration but also of internal (rural-urban) migration.

¹⁰ In 2013, immigrants increased the overall fertility of the United States by only 0.08 children, or 4.5 percent (Camarota and Zeigler 2015).

expected to drop below the 2.1 replacement rate, converging with that of non-migrants. This is not only a product of assimilation and adaptation to U.S. fertility trends, but also depends on birth rates among recent arrivals.

With migration from Mexico to the United States constituting the largest bilateral migration corridor in the world, studies of Mexican migration to the United States provide an instructive case for analyzing the relationship between international migration and fertility. Using retrospective life history data on fertility and migration from a binational study of Mexico-U.S. migration, Lindstrom and Saucedo (2002) tested for the effects of assimilation and adaptation. Their analysis revealed that when women migrate to the United States, either as temporary migrants or as long-term settled migrants, their experiences lead to lower birth probabilities while in the host country, as well as to fewer total births. Moreover, migrant women who stay longer and have more experience in the host country have lower fertility than similarly aged women with less experience.

Using microdata from the 1980 U.S. Census and aggregate data from sending countries, Kahn (1988) examined the fertility of migrants moving to the United States from high-fertility countries. Unlike previous assimilation studies that focused on integration into the host country, the author analyzed the dynamic nature of the assimilation process and the impact of selectivity. The premise of the study is that although part of the variability among migrant groups can be attributed to compositional differences, sending-country fertility levels continue to exert a positive influence on the fertility behavior of migrants. The results of the study revealed that this influence was considerably weaker among migrants who were positively selected with respect to their sending-country populations, presumably because they adapted more rapidly to the new environment. Additional evidence also showed that in general, as migrants become more assimilated, they are considerably less influenced and constrained by the norms and values of their countries of origin (Kahn 1988).

In a further study of migration and fertility in the United States during the 1980s, Kahn (1994) examined the sources of the growing gap in fertility between migrant and native women, as well as migrant expectations for future childbearing to see whether migrants adapt or intend to adapt their fertility once in the host country.¹¹ According to Kahn's analysis, although migrants expect to have higher fertility than non-migrants, they tend to adapt these expectations over time. That said, the study found that migrant women on average had increasingly higher fertility than non-migrants throughout the 1980s. This gap may be attributed not only to the relatively higher fertility rates of migrants, and in particular Hispanic and Southeast Asian migrants, but also to declines in fertility that were more rapid for the native-born than for migrants.

Notably, when the same study examined the migrant-native differential more closely, to account for differences in educational attainment, income, and other characteristics, migrants on average had lower fertility than similar natives. Furthermore, by the late 1980s, the standardized fertility levels of migrant women and natives were virtually identical. Thus, if both migrants and natives had the same socioeconomic characteristics, their fertility would be quite similar.

¹¹ In examining the fertility patterns of migrants and natives in the United States during the 1980s, the author used nationally representative data from the U.S. Census and Current Population Surveys (Kahn 1994).

Migrants who have been in the United States for a relatively long period of time have adopted fertility norms more similar to those of non-migrant women in the host country than to non-migrant women in their countries of origin. Similar patterns of adaptation were evident across various groups from high-fertility countries, such as Mexico and other Latin American countries, exhibiting a decline in fertility expectations over time. This is supported by a study of fertility among migrant Hispanic women in the United States conducted by Parrado and Morgan (2008). In line with expectations from the assimilation perspective, the authors found a clear pattern of convergence in fertility levels between Hispanic (and specifically Mexican) and non-Hispanic white women.

A study by Choi (2014) revealed that there was a disruption in fertility in anticipation of migration from Mexico to the United States. However, after migration, there was a resumption of premigration fertility patterns and partial compensation for the earlier fertility loss. As other studies have shown, Mexican migrants increasingly adopted the fertility behavior of the host population. While full convergence had not yet been reached, the fertility levels among Mexican migrants were decreasing over time as they tended to deviate from their premigration fertility patterns. The author also found that educational assimilation explains a considerable portion of the fertility decline.

Carter (2000) also found that in anticipation of or in response to the challenges of the migration process, disruption in fertility is not unlikely. The fertility of Mexican migrant women was found to be depressed in the years immediately following migration to the United States, and this trend was particularly evident among women with two children who might have otherwise anticipated having a third. The analysis indicates that for Mexican migrants, women's parity dictates the way international migration and fertility interact.

Two research studies—one using U.S. Census data from 1970 and 1980 (Stephen and Bean 1992) and the other data from national surveys in the United States and Mexico (Frank and Heuveline 2005)—tested hypotheses about the effects of disruption, selectivity, and assimilation on the reproductive behavior of Mexican migrant women. The studies suggested the possibility of a disruption effect, with migration forcing women to interrupt their childbearing. However, after their resettlement in the United States, they make up for the delay, temporarily increasing their fertility levels.

The increase in fertility, according to Frank and Heuveline (2005), may also be due to the effect of selectivity, given that the process of migration between the United States and Mexico has “matured and become less selective over time, specifically in particular communities with long histories of sustained migration to the U.S.” The authors contend that women with sociodemographic profiles that tend to show higher fertility patterns may also be more likely to migrate. These include women with lower education levels and from more rural and marginalized areas that are characterized by higher fertility norms.

In terms of the effects of assimilation, the findings of Stephen and Bean (1992) “do not necessarily suggest complete convergence” the longer that Mexican migrants are in the United States, but they imply substantial movement in that direction. There is evidence that fertility levels decline, the greater the length of familial exposure to the United States and, in the case of younger groups of Mexican migrant women, they even “fall below the level of U.S.-born Mexican-origin and non-Hispanic White women when other variables are held constant” (Stephen and Bean 1992). Studies by both Stephen and

Bean (1992) and Frank and Heuveline (2005) suggest that with more time in the host country and greater assimilation into the larger U.S. society, the fertility levels of Mexican migrant women will subsequently decrease and are likely to resemble those of the rest of the U.S. population.

Australia

Abbasi-Shavazi and McDonald (2000) examined the fertility patterns of migrants in Australia during the period 1977–91, when the policy of multiculturalism—which was intended to allow migrants to practice and maintain their cultural heritage, traditions, and language—was instituted. They looked into whether migrants and their children were more likely to maintain the fertility patterns of their countries of origin than was the case in the past, when migrants were seen to adapt to Australian fertility behavior.

Results of the study showed that there were marked variations in total fertility rates among migrant women and a declining trend in the levels of fertility of most migrant groups across the periods. Lebanese migrants stood out from other migrant women with 4.2 children per woman, followed by Turkish migrant women. The fertility of migrants from Cyprus, Greece, Italy, and the former Yugoslavia, which was consistently reported as high in the 1970s, had by 1987–91 declined to below the host country level.¹² In general, the fertility of most migrant groups had converged to, or fallen below, that of mainstream Australians. The findings also revealed that the fertility of the children of migrants who were socialized in Australian society converged to that of their adopted home.

Although Australia moved toward a paradigm of multiculturalism, the study showed strong evidence of migrants adapting to the patterns of fertility of the Australian population as a whole. The authors surmise that the political economy facing migrants may be a more influential determinant of fertility than the cultures that they brought with them. At the same time, they acknowledge that whether migrant fertility is determined by adaptation or cultural maintenance, it is complicated by other possible considerations.¹³

While adaptation to the host country was the dominant feature of migrants' fertility behavior, the study also showed evidence of cultural maintenance among two large and geographically concentrated migrant groups—the Greeks and Italians. Both these migrant groups and their children closely followed the levels and trends (including age patterns) of fertility in their countries of origin.¹⁴ This finding is consistent with the results of an earlier study (Day 1983), which found that, all told, the completed fertility of migrants (even when standardized for their duration of residence in Australia) conformed less to the fertility of the Australian-born than to the patterns of fertility seen in migrants' respective countries of birth. The study's author concluded that, with regard to fertility, cultural pluralism was "alive and flourishing" in Australia (Day 1983

¹² The fertility of non-migrant women back in these countries of origin also declined during that period.

¹³ Important considerations relevant to migrants' fertility include the social selection of migrants, disruptions relating to the migration process, and the type of residence in Australia (Abbasi-Shavazi and McDonald 2000).

¹⁴ These two migrant groups organize special activities for their young people, including weekend programs in which their children learn the language and some of the customs of the home country, enabling them to absorb the family values of the cultures of their parents, including values related to the roles of husbands and wives (Abbasi-Shavazi and McDonald 2000).

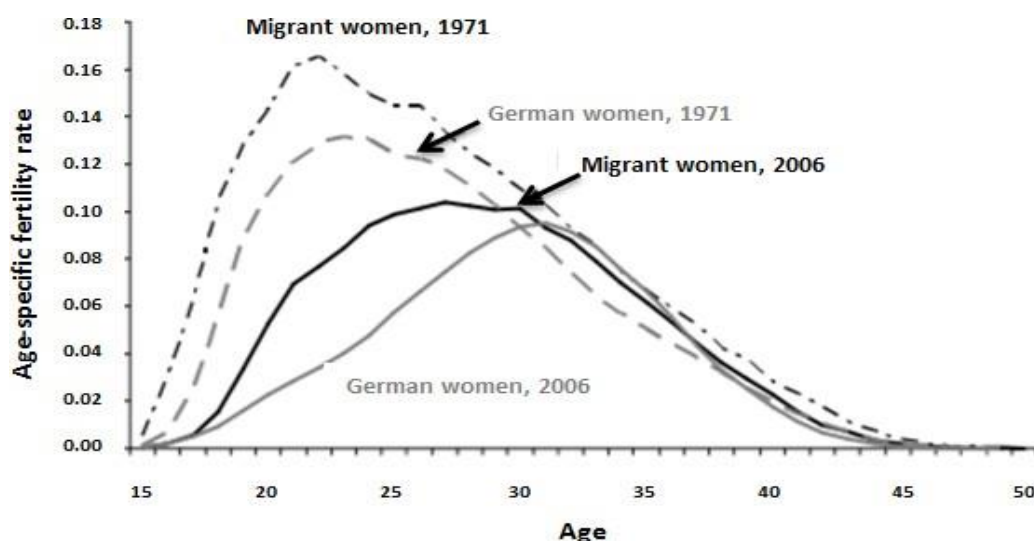
Germany

In Germany, the population of persons with a migrant background (that is, first-generation immigrants and their children) has been growing rapidly since the turn of the millennium, numbering about 12 million (half of whom are women, at 6.2 million) or 15 percent of the total population in 2015 (UNDESA 2016). The country hosted the largest number of migrants after the United States worldwide due to the European migrant crisis that started in 2015. A study done by Schmid and Kohls (2009), examining the reproductive behavior of migrant women, showed significant fertility differences between migrants and native-born German women. In 1975, the period fertility of German women was 1.3 while that of migrant women was exactly double this, at 2.6. By 2006, the fertility gap had narrowed significantly: migrant women were at 1.6, approaching the level of the host population at 1.2.

The authors found that binational couples had lower fertility than couples of the same foreign nationality. The results of the study confirmed the expected path of migrant women's reproductive behavior, wherein fertility declines alongside an increasing level of integration in the adopted country.

As clearly illustrated in figure 5, which depicts the age-specific fertility rates of German and migrant women in 1971, both groups had nearly the same fertility pattern. This pattern was characterized by low teenage fertility, and then, from the age of 18 onward, a sharp rise in fertility, with the highest rates occurring at ages 20–25, followed by a steady decline from the age of 25 onward. By contrast, in 2006, differences between the two groups had become apparent: both groups had low teenage fertility, but from the age of 18 onward, the age-specific fertility rates of migrants rose faster than that of non-migrants. The highest age-specific fertility rates among migrant women were in the age group 25–29 years; among native-born German women, on the other hand, these were in the 29–32 group. After age 35, both German and migrant women showed nearly identical rates.

Figure 5. Age-specific fertility of native-born German and migrant women, 1971 and 2006



Source: Schmid and Kohls 2009.

United Kingdom

Dubuc's (2012) analysis of the fertility of migrant women in the United Kingdom supports the adaptation/assimilation hypothesis that migrants and their children adjust their fertility behavior to the norms of the host country. While there were large initial differences in the fertility rates of major migrant ethnic groups¹⁵ from high-fertility countries, over time all of these markedly decreased, converging toward the lower U.K. average fertility of 1.77 in 1987–2006.¹⁶

The study also provides evidence that the reproductive behavior of the children of migrants was aligning with local norms. Their fertility patterns were not only closer to the U.K. average but also exhibited a lower overall rate than those of their migrant parents and of newcomers from the same high-fertility countries of origin. This not only suggests that migrants adapt to the host country's fertility behavior, but also that the country where childbearing and socialization occur exerts a strong influence on later behavior (Dubuc 2012).¹⁷

The findings of a more recent study done by Kulu et al. (2015) on the childbearing patterns of the descendants of migrants showed that first-birth levels are elevated among women of Pakistani and Bangladeshi origin relative to non-migrants. The authors conclude that, overall, the childbearing behavior of the descendants of migrants in the United Kingdom and other European countries falls in between the fertility pathways followed by their parents' generation and the respective native-born populations (Kulu et al. 2015).

France

In France, as in most other European countries, migrant women have higher fertility than women born in the country (in France, the difference was 2.5 versus 1.65 in 1998). Using 1991–98 data, Toulemon (2004) showed that the greater fertility of migrant women had little impact on France's national average, raising it from 1.65 to only 1.72, or by a modest 0.07 children.¹⁸ The study also revealed that migrant women who entered France at very young ages had only slightly higher fertility than women born in France (less than an additional 0.4 births on average). By contrast, those who arrived at ages 25 to 30 had much higher fertility but with a very specific profile: at arrival in the host country, age-for-age, they had fewer children on average than did native-born women.

Since migration in many cases was associated with entry into a marital union, it is reasonable to assume that the migrant women waited to settle down before they bore children or that migration selected

¹⁵ The major ethnic migrant groups from high-fertility countries in the United Kingdom include those who originated from Pakistan, Bangladesh, the African countries, and, to a lesser extent, India (Dubuc 2012).

¹⁶ The author noted that intergenerational fertility convergence was especially pronounced for U.K.-born women of South Asian origin, whose proportion within their ethnic group was increasing, moving their total fertility rate closer to the U.K. level over time. Children of migrant women from Pakistan and Bangladesh, in particular, had fewer children at young ages, compared with their immigrant counterparts (Dubuc 2012).

¹⁷ Increased involvement in education and lower fertility at young ages illustrated a convergence in the sociodemographic characteristics of the children of migrants with non-migrants in the United Kingdom (Dubuc 2012).

¹⁸ The reason for the minor contribution was that migrants made up only 7.4 percent of the population, and 8.5 percent of women of reproductive age.

women with fewer dependent children.¹⁹ The author also contends that the fertility profiles of migrant women are significantly influenced by the moment of migration (and, specifically, their age at migration). Taking into account and specifically distinguishing births before and after migration is important. The author argues that the classic calculation of the total fertility rate (which sums age-specific fertility rates) heavily overestimates migrant women's fertility by discounting the significant premigration low fertility and the immediately postmigration fertility surge.

The result of the new method was significantly different from that generated by the standard approach.²⁰ While the total fertility of migrant women was estimated at 2.50 using age-specific fertility rates alone, factoring in the breakdown of migrant women by age at entry reduced this to 2.16—and the gap between the fertility of migrant and nonmigrant women decreased. After matching migrant and native-born women by standardizing them on the same age structure, the fertility differential fell from 0.85 children on average to just 0.46 children. The gap arose from a combined deficit and surplus: on arrival, migrant women of a given age had fewer births than native-born women (0.09 fewer children), but after arrival, they had 0.55 children more (Toulemon 2004).

Examining the results of the census waves of 2004–06, Héran and Pison (2007) confirmed that migrant women in France tend to wait until they arrive before having their first child, a strong pattern highlighted by Toulemon (2004). The authors found that the total fertility rate of migrant women was very low before they arrived in France (at around one child per woman) and that it rose in the subsequent year, before flattening out at a level ranging between two and three (Héran and Pison 2007).

Algerian women who migrated to France experienced an earlier fertility decline (4.22 children per woman in 1980) than those who were left behind in Algeria (6.77). However, since the decline was slower among Algerian emigrants, their fertility rates were higher than among non-migrant women in Algeria (3.19 against 2.97 in 2000). The same holds for Moroccan, Tunisian, and Turkish women. The result is largely attributed to a statistical artefact resulting from earlier marriage in the home country and the effect of the social selection of migrants.

With the quasi-closure of Europe to labor migration starting from the mid-1970s, family reunification became the first channel of legal entry for non-Europeans, which meant that a birth was very likely to follow shortly after migration. At the time of migration to France, 49 percent of Algerian migrant women were married, as were over 50 percent of Moroccans and Tunisians (52 percent) and Turks (59 percent). Births delayed in the countries of origin were recovered in the host country, as reflected in table 2. For the same generation of women from the Middle East and North Africa (MENA), those who resided in France for more than 10 years had a much lower level of fertility than those who arrived later and lived there fewer than 10 years.

¹⁹ Whatever the factors may be, the author maintains that the year of migration marks a sharp break between predeparture low fertility and immediate-post-arrival high fertility, after which it gradually aligns with the fertility of native women, particularly among those arriving at younger ages (Toulemon 2004).

²⁰ The method suggested requires detailed data that only a specialized survey can provide. It is based on an indirect calculation, which combines cohort (for premigration ages) and period (for fertility at post entry ages) indicators (Toulemon 2004).

Fargues (2006) maintains that the “demographic adjustment effectively operates, but only after a certain duration of stay.” Moreover, family reunification tends to perpetuate the social selection of migrants. MENA migrants who arrived in France at the time of massive labor migration (before 1974) were mostly unskilled workers, belonging to social groups with higher fertility than the national average in the sending countries (Fargues 2006).

Table 2. Total fertility rates among migrant women in France, according to date of migration

Nationality	1980–89	1990–99
Algerians	2.66	4.08
Moroccans	2.91	4.31
Tunisians	2.66	4.46
Turks	2.46	3.99

Source: Fargues 2006.

Netherlands

In the Netherlands, Garssen and Nicolaas (2008) found that an individual’s age at first childbirth and number of children can change significantly from one generation to the next. Their findings revealed that migrant families’ adjustment to the native Dutch fertility pattern was caused by intergenerational differences rather than by the cultural assimilation of first-generation migrants. Analysis of data showed that Turkish and Moroccan women, in particular, adjusted their fertility levels only slowly to those of native-born Dutch women. On the other hand, the fertility of the children of migrants was much closer to the host population than to their mothers. The authors attribute the slow decline in the fertility of first-generation Turkish and Moroccan women to their main migration purpose, which was family formation. Both women and men migrants were more traditional in terms of fertility behavior relative to non-migrants in their country of origin.

A clear difference between the generations was evident among Moroccan women. First-generation migrants hardly delayed motherhood, while their daughters delayed it to a significant degree. Given the substantial dip in migration for family formation purposes and changes in the ratio of the first generation to the second, the fertility of the total group of Turkish and Moroccan women is expected to diminish further, with the second generation playing a major role in the decline (Garssen and Nicolaas 2008).

Sweden

Applying event-history techniques to longitudinal population register data on childbearing and the migration of women to Sweden, Andersson (2004) examined patterns in childbearing among migrant women.²¹ The results revealed that many of the observed differences in levels of parity-specific childbearing between migrant women and native-born populations were due to the elevated fertility of

²¹ The study covered migrant women from the 1960s to the 1990s (Andersson 2004).

most migrants shortly after migration. This was particularly evident among first-birth rates:²² practically all groups of childless migrant women were particularly likely to become mothers during their first few years in Sweden.²³ By contrast, the fertility level of those who had lived in the country for at least five years, in most cases, was very similar to that of Swedish-born women, lending support to the idea that migrant women rapidly adapted to the childbearing behavior prevalent in the host country.

In a study analyzing descendants of migrants from high-fertility countries (Turkey, Lebanon, and Syria) to Sweden, Scott and Stanfors (2011) found that they had significantly higher first-birth rates than native Swedes or descendants of migrants from other European countries. The results also revealed that in most cases, fertility levels were lower among native-born migrant children than among those who arrived in Sweden as children. These findings support the idea that the integration of the children of migrants born in Sweden is more comprehensive than that of their parents or of migrants who arrived in their formative years before age 18.

Norway

Analyzing data on migration and maternity histories collected by the Central Population Register of Norway, Ostby (2002) found that the total fertility rate for all women was 1.8 in 1997/98 and would have been 0.05 lower if migrant women had been excluded. The study showed that the fertility rates of migrant women from both Western and non-Western countries were low in the years before their arrival in Sweden. There was only a small increase in fertility in the year of arrival among migrant women from Western countries, and this continued to increase gradually over the next few years. Among migrant women from non-Western countries, the increase in the fertility rate in the year of arrival was pronounced and persisted into the first year after arrival before it started to decline. In general, the disruptive effects of migration—such as stress, separation of spouses, later marriage, or reluctance on the part of women to migrate while pregnant—had postponed fertility around the time of arrival. Once this postponement had been offset, a decline ensued.

The study also revealed differences in the fertility patterns of refugees and nonrefugees around the time of arrival. Women who moved to Norway as refugees had higher fertility rates during the years before arrival than those who did not come as refugees.²⁴ The results did not indicate a significant relationship between the duration of residence and fertility levels of migrant women of Western origin, whose fertility was nearly the same as that of Norwegian-born women. Hence, changes in their fertility behavior involved only small adjustments. By and large, however, the analysis showed a significant decline in fertility with increasing length of residence, amounting to an average of one child less after being in the host country for 20 years (Ostby 2002).

²² Many children were born during the first years after migration, since immigrants postponed childbearing until they had settled in the host country. After the first years' high birth rate, the fertility level gradually decreased (Andersson 2004).

²³ Immigrants coming from various Muslim-majority countries were an exception to this observation (Andersson 2004).

²⁴ One plausible explanation is that children left behind in the country of origin might possibly be of greater importance among refugees than among non-refugees (Ostby 2002).

Spain

Recognizing the potentially rejuvenating effect of increased migration flows combined with higher migrant fertility in a country with extremely low fertility rates, Roig and Castro (2007) examined the childbearing behavior of migrant women in Spain. The results of the study showed that the impact of migrants' fertility on the country's overall demographics largely depends on the size and composition of the migrant population, particularly with regard to region of origin and education, the fertility gap between migrants and natives, and the persistence of this gap over time.

The study also revealed that despite considerable variability, migrant women in Spain have higher fertility rates overall than native-born women.²⁵ The contribution of migrant women to the overall fertility rate, however, is modest. In the absence of migration, the total fertility rate in 2002 would have been 1.19 instead of 1.27; immigration increased the national fertility rate by only 0.08 children. After controlling for age, marital status, number of co-resident children, and educational composition, the fertility gap between migrant and Spanish women narrowed considerably.²⁶ The study also suggested that the effect of length of residence in Spain was consistent with the adaptation hypothesis. Its findings were also consistent with the disruption hypothesis, and confirmed a temporary disruption.

A study done by Del Rey and Parrado (2012)—using data from the 2007 National Survey of Immigration, which collected unique retrospective information on family dynamics, migration, and fertility histories in Spain—also supports the disruption hypothesis. The fertility of migrant women declined in the years prior to their migration but dramatically increased in the first few years of residence in Spain. Three years after arriving in Spain, the total fertility rate of migrant women was 2.5—much higher than that of the native women. While there was considerable fluctuation in the rate, it followed a downward trajectory after reaching this peak.

Considering that large-scale immigration is a relatively recent phenomenon in Spain, the study's authors cautioned that it was too early to test whether a process of convergence toward the reproductive patterns of the native-born was taking place. They also projected that the fertility of women from the source countries of the five largest immigration flows to Spain—Morocco, Ecuador, Colombia, Peru, and the Dominican Republic—would range from 2.0 to 2.5 in 2015–20. If this holds true, migrant women will have lower fertility than the national average in Spain (Roig and Castro 2007).

²⁵ In 2002, the total fertility rate of foreign women residing in Spain was 2.12 children compared with 1.19 children among Spanish-born women. There are large differences according to region of origin, with the highest fertility level found among North African women (3.8), followed by Sub-Saharan African women (2.9) and Asian women (2.7) (Roig and Castro 2007).

²⁶ Only Northern African women had significantly higher odds of having had a birth in the year preceding the 2001 Census than Spaniards. According to the authors, this may reflect the fact that women from the region are more likely to migrate to Spain for marriage or family reunification than for work, as reflected in their low participation in the labor force (Roig and Castro 2007).

3.3 The impact of migration on fertility in source countries

As mentioned earlier, the other side of the international migration–fertility framework—that is, the impact of migration on the fertility of non-migrants in *sending* countries—is far less researched than the impact of migration on migrants’ fertility in the *host* countries. Hence, the empirical evidence is scant, with very few studies done.²⁷ Examining the MENA countries, Fargues (2004) explored whether returning migrants brought back cultural values and fertility norms prevailing in their destination countries to their home countries.

Starting from the 1970s and over the course of the ensuing decades, several MENA countries witnessed an intense emigration flow headed to either the Gulf or to the West. Most emigrants from the Maghreb (Algeria, Morocco, and Tunisia) and Turkey went to Europe, where fertility was low and small-sized families and individualistic values were predominant. On the other hand, most emigrants from the Mashreq (Egypt, Lebanon, Syria, and Yemen) headed toward the Arab Peninsula and the Gulf (figure 6), characterized by larger families than those in the sending countries, as well as deeper-rooted patriarchal values.

The results of the study showed that migration to Europe was accompanied by an accelerated move toward low birth rates in the Maghreb. Migration to the Gulf, on the other hand, coincided with a slowed pace of fertility transition in the Mashreq. The study suggests that emigration may have indirectly altered the reproductive behavior of women in the sending countries and affected population numbers in the region: fewer people in the Maghreb but larger numbers in the Mashreq.

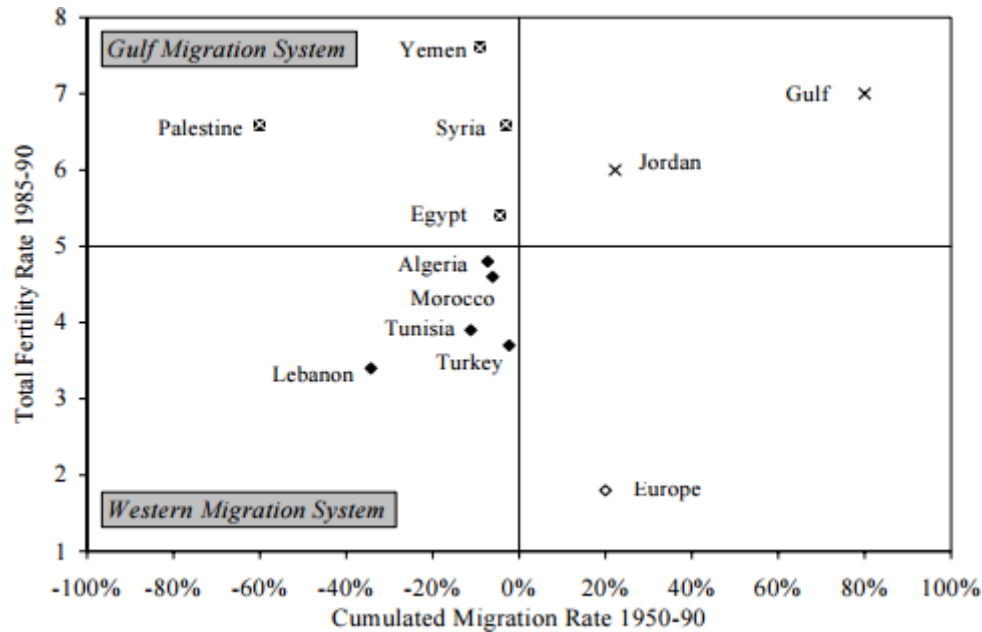
A closer examination comparing Morocco and Egypt reiterated the hypothesis that international migration brings about normative changes through diffusion, which in the case of Egypt led to reinforced control of the family over its members, and in the case of Morocco led to increased individual autonomy among women.²⁸ The social and cultural conservatism in the Gulf and Saudi Arabia encountered by Egyptian migrants was brought back home to a more open society, slowing down the process of fertility decline. For Morocco, on the other hand, the exposure of its migrants to Europe’s cultures and ways of life accelerated demographic change.²⁹

²⁷ As noted by Fargues (2004), with the exception of a few questions directly relating to the ideal number of children, sex preference, or views about marriage, large fertility surveys have not included the role played by culture and values in demographic change.

²⁸ Fargues (2004) underscores the role of education and maintains that migrants in a host country where education is relatively widespread convey its value to their community of origin.

²⁹ The Maghreb countries experienced a marked decline in their birth rates, unlike Egypt, where fertility rose temporarily from 1974 to 1985 (after falling from 1964 to 1973; Fargues 2004).

Figure 6. Migration and fertility in the Middle East and North African countries



Source: Fargues 2004.

An econometric analysis done by Bertoli and Marchetta (2012)—using Egyptian household-level data to test the ideational hypothesis advanced by Fargues (2004)—revealed that returnees adjusted their fertility choices to match the norms that prevailed in their previous countries of destination, characterized by higher fertility rates. The authors found that Egyptian married couples in which the husband is a returnee migrant from an Arab country had a significantly higher number of children than those couples with non-migrant husbands. The impact of return migration on the total number of children in returnee households ranged between 1.14 and 1.43 children. In host countries where Egyptian migrants worked, the average fertility rate was between 1.04 and 1.55 children higher per woman than in Egypt from 1970 to 2000. This suggests that the number of children of Egyptian returnees was closer to the norm that prevailed in their destination countries than to the one at origin, in line with the hypothesis introduced by Fargues (2004). The positive economic effects of migration were matched by the introduction of conservative cultural norms that slowed down the process of demographic transition³⁰ in Egypt by increasing fertility levels (Bertoli and Marchetta 2012).

A rigorous econometric analysis of the migration-induced transfer of fertility norms by Beine, Docquier, and Schiff (2008) provides evidence of a strong transfer of fertility norms from migrants to their countries of origin.³¹ The main finding of the study is that the transfer of norms from low- (high-) fertility destination countries reduces (raises) fertility in migrants' countries of origin. The authors found that a 1 percent increase in the fertility norm to which migrants are exposed reduces source-country fertility by about 0.3 percent. Hence, migration from high-fertility sending countries to low-fertility destination

³⁰ The demographic transition refers to a change from high to low rates of mortality and fertility. The concept states that "societies that experience modernization progress from a pre-modern regime of high fertility and high mortality to a post-modern one in which both are low. The term 'modernization' is not defined, nor does it include the crucial questions about causation that form the subject of much modern demographic literature" (Kirk 1996).

³¹ The econometric analysis was based on a database of international bilateral migration for the year 2000 that covered all countries and territories (Beine, Docquier, and Schiff 2008).

countries reduces fertility in the sending ones (Beine, Docquier, and Schiff 2008).

Lindstrom and Saucedo (2002) examine Mexican migration to the United States, and find that migration is selective by gender and migration type. Temporary migrants had higher fertility than those who settled in the United States. In large part, this was attributed to men and women migrants having different affinities for family roles and reproductive norms they encountered in the United States. Mexican men, the study finds, had higher marital fertility after returning home. The authors contend that this was not due to a lack of exposure to low-fertility norms and values in the United States but rather a rejection of them. While the migrant men were aware of family values and gender roles prevalent in the United States,³² they did not embrace them as they continued to hold on to traditional, patriarchal family relations that emphasize the authority of husbands and fathers in the home. This is supported by a study³³ wherein Mexican men cited U.S. family values as a reason for not settling in the host country and as a basis for preferring Mexican-born women to Mexican-American women as potential spouses.

Mexican women and couples who returned to Mexico with greater knowledge of contraceptive and birth spacing from the United States, on the other hand, had a slightly lower-than-expected completed fertility, suggesting a role as diffusion agents in their home country (Lindstrom and Saucedo 2002).

4. SUMMARY AND POLICYIMPLICATIONS

Migration is a powerful component of demographic change, but it is a complex process and its effects are difficult to trace. Of the three components of population change—migration, birth, and mortality—data on migration are the most difficult to gather, posing a big challenge to forecasting efforts. In recent years, there has been a resurgent interest in the reproductive behavior of migrants, especially in receiving countries with low fertility rates and aging populations. How migrants affect the fertility trends of their home countries, through the dissemination of values and information, has received less attention.

4.1 Main findings

Studies on the fertility of international migrants have generally focused on three topics:

- The reproductive patterns of migrant women and their fertility differentials with the native-born
- The convergence in the fertility levels of migrant women and the native-born, seen as part of migrants' process of adaptation and assimilation in the receiving country
- Migrants' transfer of norms and diffusion of ideas and values related to reproduction and family

³² These include the small family ideal, greater female autonomy, and more equitable relations between marriage partners (Lindstrom and Saucedo 2002).

³³ The interpretation is supported by results of fieldwork conducted by Lindstrom in migrant communities in Mexico (Lindstrom and Saucedo 2002).

building to non-migrants in sending countries

The heterogeneity in the fertility of women from various migrant groups is underlined in most studies, many of which indicate that the total fertility rates of migrants originating from high-fertility countries exceed the average in destination countries. With some exceptions, particularly among European migrants, this pattern appears to be consistent across the first generation of migrants. A considerable number of studies have found that over time, the fertility of these migrant women and their children will not deviate much from that of the native-born population. In other words, migrants gradually adjust their reproductive behavior and adopt the fertility norms and practices of the host country.

While there is agreement that the childbearing behavior of migrant women will approximate that of the native-born in their host countries, authors offer different explanations why. A common interpretation is that while migrants are still influenced by the fertility norms and childbearing practices of their country of origin, over time they experience socioeconomic and cultural integration that increases the opportunity costs of childbearing, and the likelihood that they will eventually adopt the fertility norms of native-born women. Other authors argue that the convergence between the fertility patterns of migrants and those of the host country are due not only to behavioral change but also to the fact that migrants are a selected group of individuals. They contend that migration is not a random process but that migrants are selected by their education, economic status, occupation, marital status, or parity, as well as other characteristics that are not easily measured, such as social mobility aspirations and work ethics.

Regarding the factors shaping the reproductive behavior of migrants, some studies have emphasized the socioeconomic and political context in the receiving country, including social stratification and differential opportunity structures and the legal rights that children could provide to an otherwise irregular migrant family. National origin, premigration fertility, and time of arrival at destination have also been put forward as important and relevant considerations.

While the various mechanisms underlying migrant fertility patterns and convergence have been examined, much less attention has been paid to the diffusion of host-country fertility norms across sending countries by emigrants and returnees. A limited number of studies provide evidence of the transfer of fertility norms from migrants to their countries of origin, resulting in a decrease or increase in home country fertility rates. The reduction is attributed to the adaptation and assimilation of migrants' fertility behavior to the norms of the receiving countries. The transfer of norms from low- (high-) fertility destination countries reduces (raises) fertility in migrants' countries of origin. However, returning Egyptian migrants from other Arab countries with higher fertility brought with them conservative cultural norms that increased fertility levels and in turn slowed down the process of demographic transition in Egypt. Most studies conclude that just as migrants facilitate transfers of knowledge and ideas, they are also likely to transfer fertility norms to non-migrants left behind in their home communities.

Research studies on the impact of migration on fertility have made an important contribution to the understanding of fertility assimilation and adaptation, but not without limitations that are largely related to data. Data on migration are generally considered below the quality of those on birth and mortality. For instance, in many countries until recently, statistics covered only the number of resident foreign

citizens, not the number of foreign-born migrants. Since the two are not the same, and with the massive influx of the latter, migrants could easily be more than double the number of foreign residents in many destination countries. Moreover, migration data are difficult to compare internationally, given differences in administration processes and legal provisions (Coleman 2008).

In some studies on the fertility assimilation trajectories of migrants, the assumed premigration fertility levels largely determine the conclusions, in the absence of information or empirical estimates of premigration fertility. As demonstrated in one study, using the national fertility rate as a proxy for premigration migrant fertility biases the account of fertility assimilation, considering that migration is found to be selective in terms of fertility (Choi 2014).

Varying assumptions about premigration fertility, moreover, have led to contrasting interpretations of a postmigration rise in fertility followed by a steady decline. The lack of information about premigration fertility makes it unclear whether a postmigration rise in fertility is due to actual increases in fertility or a fertility catch-up process that compensates for earlier disruption due to migration. Clearly, studies using longitudinal data with complete migration and birth histories allow a better understanding of the complex interplay of migration and fertility.

Even where migration data are available, methodological limitations hamper research. For example, one study relied primarily on completed fertility rates that only captured the fertility behavior of women aged 45 and older. But these serve as inadequate proxies for younger cohorts of women, who have the ability to shape the size and composition of the future population, especially in light of significant declines in national fertility (Choi 2014). In another study, the methodological approach used to assess migrant selectivity by comparing pre- and postmigration fertility levels was contrary to a view common among researchers that selectivity should be assessed by comparing migrant fertility prior to migration with that of non-migrants.

4.2 Policy implications

The prospect that immigrant inflows can save low-fertility receiving countries from population aging and decline has, in recent years, become increasingly attractive. Proponents argue for the rejuvenating effect of sustained entries of young migrants in preserving overall population size, the size of the workforce, and the age structure of the population. However, while immigration usually reduces the average age of the host populations, it cannot solve population aging except through very high and exponentially increasing inflows. In the medium term, higher birth rates are seen as a more demographically efficient response, although that option is also limited (Coleman 2008).

Studies have shown that no matter how fertility is measured, migrants' higher fertility has only a small impact on a nation's overall fertility. Furthermore, with fertility declining around the world, including from major sending countries, migrants are also having fewer children. To address challenges relating to population aging and decline, policies would have to look for solutions other than migration. This means that the small impact migration has on the overall fertility rate in the host country, and the resulting impact on the aging of the population, is becoming even smaller.

The demographic changes occurring in the developing world, particularly the declining birth rates in sending countries, will generate a new dynamic. A new generation of migrants with no spouses or children in the home country will have different motivations than did earlier migrants, for whom sending remittances to a family left behind was a prime consideration, followed by family reunification. With relatively young, single migrants, remittances will become less frequent and will have more diverse uses depending on whether they intend to return home or stay permanently in the host country. This has implications for the migration policies of sending countries, as well as receiving countries, regarding remittances and family reunification, respectively (Fargues 2011).

As discussed in this study, migration from high- to low-fertility countries contributes to a reduction in the population pressure of sending countries. This in turn has policy implications for these countries, especially those in the developing world. The role that emigrants play as channels for innovative ideas and for the transfer of low-fertility norms can be tapped and mobilized. In addition, ways to direct potential migrants and workers toward countries with the lowest fertility rates can be explored.³⁴

Countries such as Nigeria, the Philippines, Iran, China, and Ethiopia have experienced extensive brain drain that is greatly detrimental to their economic and social fabric (UNDESA 2014). It is notable that in response to the emigration of intelligent, highly trained, and educated people from a particular country to a host country for economic or educational opportunities, in the late 1970s the United Nations Development Program designed the “Transfer of Knowledge through Expatriate Nationals” (TOKTEN) initiative. This aimed to tap the expertise and knowledge of emigrants through short-term volunteer programs in their countries of origin. With its explicit attention to human capital building through migration, this is a program that may be worth renewing (Fargues 2006).

4.3 Further research

The literature on migration and fertility has provided a better understanding of the links between the two, and the extent that changes in one may affect the other. Further research, however, is needed for a more dynamic understanding of the connection between migration and childbearing that recognizes conditions at destination. For example, it would be helpful to highlight the impact of the social and economic conditions facing various migrant groups and the effects on their reproductive decision-making processes. It would also be interesting to examine how observed patterns in childbearing are related to the socioeconomic characteristics of migrant groups, and how they interrelate with the broader process of migrants’ integration into their adopted home.

There is clearly a need to look more closely at the salient aspects of migrants’ assimilation and adaptation experience. Is migrants’ depressed postmigration fertility a result of their socioeconomic and cultural integration in the new environment, or a reflection of the challenging and difficult settlement experiences they often face?³⁵ For some migrants, the main challenge could simply be culture shock. For

³⁴ For example, Fargues (2006) suggests directing migrants to countries of the Organisation for Economic Co-operation and Development.

³⁵ Multiple and unique stresses that migrants and refugees experience that affect their well-being include, among others, loss of cultural norms and social support systems, adjustment to a new culture and environment, and changes in identity and concept of self.

others, it could be the formidable barriers to attaining legal residence and a stable job, which are prerequisites to both bringing children left behind in the home country and to having additional children in their adopted country.

Several studies have shown that migrants serve as channels of new ideas, values, and practices relating to reproduction and family building. It would be interesting to analyze how this transfer process differs by whether these channels are male or female. Other questions that need to be further explored relate to the fertility decision-making processes of migrant women. For example, what forces propel them to migrate at particular times in their reproductive lives? to alter their childbearing plans and fertility desires and behaviors? to plan or not to plan postmigration births? Another promising line of research is examining how the proximate determinants of fertility, like the use of contraceptives, relate to assimilation and adaptation processes.

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