ANZELIKA ZAICEVA
University of Modena and Reggio Emilia, Italy, and IZA, Germany

I Z A
World of Labor
Evidence-based policy making

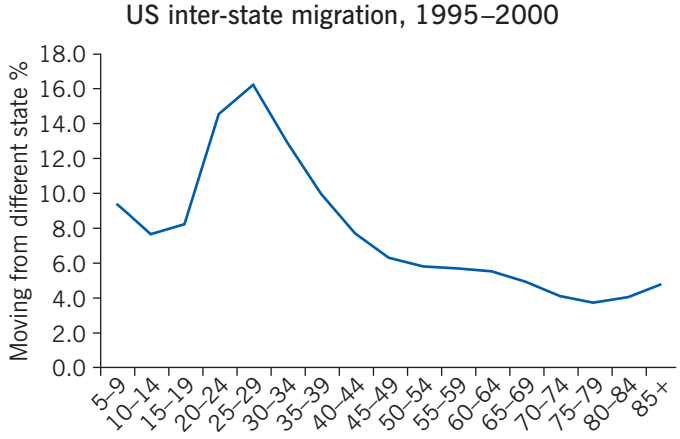
The impact of aging on the scale of migration

Older people migrate less than young, yet with population aging, mobility of elderly and specialized workers may increase

Keywords: migration, population aging, elderly migration

ELEVATOR PITCH

Population aging will continue in the future, in both developed and developing countries. This may lead to lower migration, since the desire to migrate declines later in the life cycle. In addition, indirect labor demand effects may also reduce migration. However, migration of the elderly, return retirement migration, as well as mobility of certain specialist workers such as health and longer-term care providers, may increase. Also, in a family context, the emigration of children may have significant consequences for the elderly left behind, both in terms of poverty risk and health care.



KEY FINDINGS

Pros

- There might be an increase in migration and return migration at older ages and following retirement.
- Older individuals move for economic as well as non-economic reasons.
- With aging and improved health and health care, mobility of the elderly may increase.
- Aging may lead to higher mobility of certain specialists, such as health and longer-term care workers.
- In the context of the family, migrant children help to support elderly parents through remittances.

Cons

- Aging may reduce migration as older people tend to migrate less than young.
- Aging may lead to lower migration of workers of all ages as a result of lower labor demand for migrants.
- By reducing migration, aging may have additional adverse effects for the labor markets and welfare.
- Aging is also present in migrant-sending countries, where both facts exacerbate the negative effects.
- The emigration of children may lead parents "left behind" to face higher poverty risk and a greater need for care.

AUTHOR'S MAIN MESSAGE

The implications of population aging for migration and the links between the two are becoming increasingly important. Aging has reached an unprecedented scale and will continue to increase. Evidence suggests that aging may reduce migration, yet as a result of improved health and retirement provisions, migration of the elderly may increase. This has important implications for migration, citizenship, health, and retirement policies. Portability of pensions, securing access to medical assistance, and health care provision in new destinations are also now crucial considerations for policymakers.

MOTIVATION

Rising migration and significant demographic shift are two important phenomena that have gained increased attention in recent years, both in academia and in policy making.

A demographic transition to lower fertility and lower mortality implies an aging population. While this is more common in developed countries, it is also now apparent in the developing world. According to the UN, the number of people over 60 years old has been growing rapidly and is projected to grow further: from 810 million in 2012 to more than 2 billion by 2050. The number of older people is due to surpass children for the first time in history. At the same time, the number of international migrants has increased from 2.8% of the world's population in 2000 to 3.2% in 2013. It is now reaching 232 million in total. Importantly, the share of elderly individuals among international migrants is substantial, with the number of those over 65 reaching 26 million, or 11.1%.

The share is higher in the developed regions (13%) than in developing regions (8%), with Europe and Oceania reporting the highest shares. Moreover, labor-market activity rates and retirement schemes vary across countries, but show a higher labor-force participation rate of those aged 65-plus in the less-developed regions (around 31% in 2010) than in the more-developed ones (around 8% in 2010).

Whether migration is increasing or decreasing has fundamental implications for labor markets. Apart from satisfying the local demand that is not met by native workers and generating benefits for the overall economy, migration acts as an adjustment mechanism during periods of macroeconomic shocks (such as the recent global financial crisis). Thus, apart from the direct effects of a shrinking working-age population, demographic aging may have an additional adverse effect on labor markets via reduced migration.

In addition, population aging puts a strain on public budgets and it is sometimes suggested that migration may alleviate this burden. Nevertheless, research suggests that migration alone cannot compensate for the declining population and that it is highly unlikely to offset the demographic burden for public budgets. See review of the studies in [2].

DISCUSSION OF PROS AND CONS

Links between aging and the scale of migration

Theory suggests that migration is an investment in human capital. As in any investment decision, an individual calculates the present discounted value of the expected lifetime earnings stream, i.e., the returns to her human capital, in both the sending and receiving regions, and migrates only if the returns "net of migration costs" are higher in the destination. Accordingly, the lifetime value of the returns to this investment is larger the younger an individual is and the larger the time horizon is over which to collect these returns. Thus, older individuals tend to migrate less, not only because the costs of migrating are higher at older ages (including the psychological costs of separating with family and friends, larger social capital, and more origin- or firm-specific human capital, etc.), but also because the gain in terms of the expected earnings is smaller.

The proportion of elderly individuals has increased to unprecedented levels in many countries. *The old-age support ratio* is higher in less-developed countries than more-

developed regions, and is projected to further decline in the latter by 2050. By contrast, *the old-age dependency ratio* in the EU is projected to double by 2050 (see **Demographic indicators of population aging**). The aging problem is particularly acute in Europe and Japan and less so in the US, where both fertility and immigration are higher. Owing to the low fertility rate in most developed regions, net migration has become the main factor of population growth in such countries, and if these trends persist, net migration will solely account for the entire population growth in the developed world by 2050.

Demographic indicators of population aging

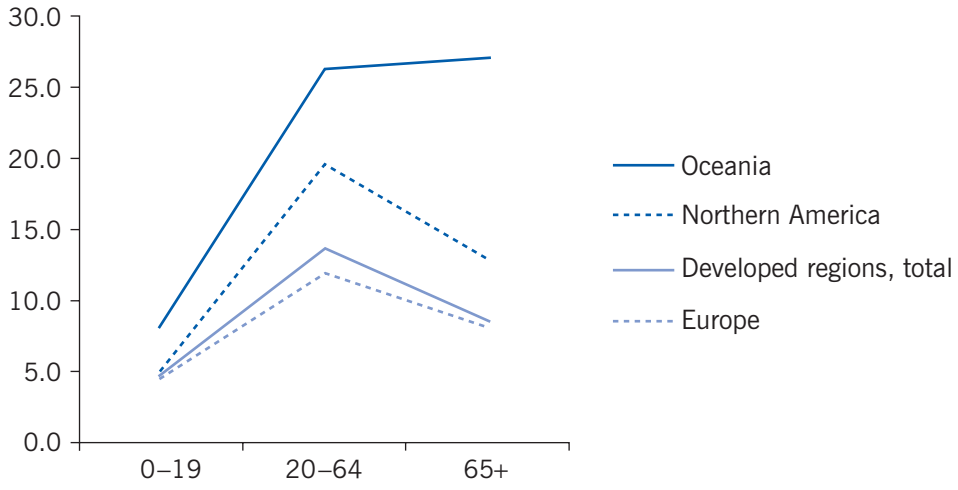
The *old-age support ratio* measures how many people there are of working age (20–64) relative to the number of retirement age (65+).

The *old-age dependency ratio* is a ratio between older people (65+) and the number of people of working age (generally 15–64).

The majority of international migrants move from less- to more-developed countries, with the largest shares of migrants being working-age individuals. However, the proportion of elderly migrants is also non-negligible (see Figure 1), and is already close to the working-age migrants in Canada, Australia, and New Zealand. These countries, together with Switzerland, represent regions with the largest shares of migrants over 65 in the overall population, reflecting historical migration patterns and earlier migrations, as well as smaller shares of native elderly.

According to the UN, in proportion to the total world population, international migrants over 65 years old represent 4.5% (while those between 20 and 64 years old represent 4.1%), constituting 8.5% in the developed regions and 2.1% in the developing regions (i.e. 13.7% and 2%, respectively).

Figure 1. International migrants as a percentage of the population by age, 2013



Source: UN Department of Economic and Social Affairs, Population Division. *The Age and Sex of Migrants 2013 Wallchart*. New York: United Nations, 2013. Online at: http://www.un.org/en/development/desa/population/publications/pdf/migration/migrationwallchart2013.pdf

What are the potential implications of aging for the scale of migration?

Since people are most likely to migrate when they are young, an increasing share of older-age individuals in the population may lead to a decrease in migration. Since migration overall is beneficial for the economy, it acts as an adjustment mechanism over the periods of asymmetric macroeconomic shocks. And, since migrants fill in the available vacancies and satisfy the local labor demand, reduced migration in turn may have adverse effects for the labor markets and the overall economy.

On the other hand, elderly migration is on the rise and different indirect effects of aging may contribute to an increase in migration. These indirect effects include, for example, increased demand for particular products and services, such as health care and health-care workers, much of which can be met by immigrants.

Finally, firms may also prefer to hire or retain local elderly workers with adequate productivity who have accumulated country or industry-specific human capital and who may agree to work for lower wages. While this increases the profitability of the firms and reduces the pension burden, it also reduces potential migration. In addition, there may be important implications of migration decisions within the family, as a result of a decreasing share of younger individuals and an increasing proportion of the elderly, which could have potential poverty effects and health-care requirements for those elderly who are left behind.

Empirical evidence on the relation between age(ing) and migration

There have been numerous empirical studies undertaken, including both individual micro-level perspectives and studies using aggregate data, which have investigated the role of age in migration decision-making and analyzed whether the demographic age structure matters for migration.

Studies using *individual data* overwhelmingly conclude that the relation with age is negative, i.e., that the likelihood of migration decreases with age. Moreover, many studies show that the highest probability for migrating is between the ages of 20 and 30 years old. However, research also suggests that, after a decline at the age of 30 there might be another peak of migration at the older age and, in particular, following retirement, reflecting return migration. This in turn suggests important implications for the receiving and sending countries' labor markets and welfare systems.

When young migrants move to a receiving country in order to work there, the sending country loses its youngest and often most productive workers, while the receiving country benefits from the additional taxpayers. If these migrants age in the receiving country and retire there, they will be subject to the social security coverage of that country, but they will also become additional consumers. The social security system in the receiving country is still affected if migrants return with fully portable pensions to their home country. However, they would now consume at home.

A larger literature in sociology and other social sciences looks at retirement migration [3] and later-life migration [1].

Two recent studies that employed econometric techniques have focused, in particular, on elderly migrants' return migration.

Australia

A 2013 study employs data on emigration rates matched to individual-level data in Australia [4]. The research consistently estimates a negative relationship between immigrants' retirement status and the return migration rate of their fellow countrymen. This means that immigrants from countries with higher return migration rates are less likely to be observed as retired in Australia compared to immigrants from countries with lower return migration rates, which confirms the higher likelihood of a return to the home country following retirement.

Germany

Another study that employs individual-level data shows that elderly male migrants in Germany are more likely to return to their home country when aged between 62 and 74 years old, relative to those aged between 51 and 55 years old. In addition, among elderly men who are naturalized German migrants, those with vocational education and who are employed full-time, who have German-born children and are homeowners, and also those who receive subsidized housing, are less likely to move abroad. Whereas those who are married and receive unemployment benefits are more likely to emigrate abroad (i.e. to return to their home country) [5].

Studies using *aggregate data and macro-level analysis* examine migration flows between different countries (international migration) or regions in a particular country (internal migration) and often include the demographic structure in the sending or receiving regions as a factor that affects migration. The predictions from these models are, however, less clear-cut with respect to age.

Some studies find that the share of young individuals in a sending country acts as a push factor and stimulates out-migration, while the share of the young population in a receiving country has the opposite effect. In contrast, one study estimating immigration to the US from 81 countries over the period 1971–1998 finds no significant impact of the origin countries' share of population aged 15–29 on the migration rate [6].

Another study, which analyzes migration to the US, Canada, the UK, and Spain from 25 Latin American countries over the period 1980–2005, does not find an unambiguous effect on migration with respect to the relative birth cohort size (i.e. birth rates in the country of origin's cohort relative to that of the destination country) [7].

Two studies from 2014 focus specifically on the role of aging for migration, analyzing internal migration in the US and China:

US

In the US, an increase in the share of the older age population was accompanied by a decline in interstate migration. A 2014 study investigating the effect of aging on interstate migration, using state-level macro data, finds that an increase in the share of workers older than 40 in the working-age population in one state causes a reduction of both inflows into and outflows from this state for workers *of all ages*.

Thus, apart for the direct effect of aging through lower mobility of older workers, there are also important indirect effects for *all* workers via the labor market. The research suggests that an increase in the share of older workers with higher moving costs prompts firms to hire more local workers. Since older workers have lower outside opportunities and thus can accept lower wages when their share increases, firms find it relatively more profitable to create jobs for local workers. This in turn reduces both in- and out-migration in this state. The study shows that 60% of the decline in interstate migration is due to population aging. Importantly, almost 80% of this effect is attributable to the indirect effect of aging.

China

In China, both population aging and internal rural–urban migration have reached an unprecedented scale [8].

A study discussing the implications of aging for rural–urban migration in China maintains that apart from economic and demographic developments and health-care improvements, which are also common to other countries, the Chinese "one-child" policy has contributed significantly to population aging. The research maintains that since older migrants have a shorter time horizon within which to reap the returns to migration, but larger human capital to transfer, age is ambiguously related to migration. The study concludes that in a Chinese case the relation between age and migration propensity has an inverted U-shape.

Suggested explanations for this include worse health and lower motivation to migrate at older ages, as well as specific institutional factors, such as the "Hukou" restrictions on migration, which may be higher for the youngest and the oldest, and lack of free health care for unauthorized migrants, which may be more relevant for older individuals with greater health risks.

In China, the groups that are given priority in granting a new registration/Hukou include students admitted to a university, marriage partners, and military conscripts. Consequently, older individuals face a lower likelihood of receiving a new local registration and thus a higher likelihood of being unauthorized migrants. Such registration is also required to gain access to free medical assistance at a new destination. As a result of these institutional restrictions, older migrants face higher costs of moving [8].

The research results using individual-level data confirm a declining migration propensity at older age. However, using province-level data and employing three measures of age distribution (mean age of province population and share of youth and age dependency ratio) the research concludes that migration is positively related to age measures in the beginning of the period and negatively at the end of the period. The study interprets this as evidence that migration declines with aging.

Nevertheless, another study suggests that with aging international retirement migration will increase in Asia due to an increasing share of those over the age of 65 in richer Asian countries, reliance on income support that cannot meet their expectations after retirement, a decreasing proportion of the elderly who live with their children (or spouses), as well as increasing familiarity with other countries [9]. In addition, the mobility of elderly-care workers is also likely to increase in this region.

Factors affecting migration of the elderly

Factors that affect migration at older age are different from the standard determinants of migration at a younger age (which are primarily work-related, such as employment or increased salary prospects). Good infrastructure, environmental amenities, and lower costs of living and housing become important in older age and act as pull-factors for migration of the elderly and retirement migration, including return migration.

Proximity to family members and health-care providers also represent another important motive for migration at older ages, also the price and quality of health care. In contrast, there may also be an increase in the mobility of health specialists and elderly-care providers, in parallel with an increasing share of the older-age population [10].

Population aging represents a longer-term motive for the migration of health-care workers, although it is likely to change the composition of these migrants toward, for example, more ophthalmologists or chronic-disease specialists and even more so towards low-skilled health-care providers [10].

Finally, immigration policies are also important and can shape the structure of migration. For example, the US family unification policy turned out to be an important factor determining an increase in old-age immigration to the US. A 2013 study shows that as a result of the 1965 Amendments to the Immigration and Nationality Act, there was an increase in late-age immigration to the US for migrants from all regions. However, the largest increase was for Asian migrants, who now constitute the largest share of late-age immigrants. This suggests that sponsoring parents is significantly higher among Asians than among other immigrants; see also [11]. Alternatively, a country may choose to attract retirement migrants (who may bring in their funds and savings) by granting them specific retirement visas, as in, for example, the Philippines, Thailand, Indonesia, or Malaysia [9].

Migration and aging in a family context

In addition to the effects of one's own age on migration, it is also important to consider individual migration within a family context, particularly with respect to older family members. It is less common to live independently and more common to rely on other household members' help for older people living in less-developed countries than in more-developed ones. In the less-developed countries, the declining share of the young population—as a result of a declining fertility rate combined with out-migration of children—has posed questions of whether the "left-behind" older parents are at a greater risk of poverty and a need for care.

In China, for example, the "one-child" policy, restrictions on the mobility of rural elderly, and incomplete public provision of medical assistance and pensions, lead older rural individuals with migrant children to face higher uncertainty in their financial resources and thus a higher risk of falling into poverty [12].

Even if migrant children provide financial transfers (remittances) to their parents (resulting in a similar level of financial resources in households with and without migrant children), the research finds a larger predicted variance of these transfers for the elderly with migrant children.

Also, as migrants often face high employment risks and may be employed in the informal sector, their income is less certain, which translates into greater uncertainty in transfers to their parents. In addition, there may be an increasing need for elderly care in such households [12].

LIMITATIONS AND GAPS

An increasing number of studies investigate the implications of population aging for the scale of migration. However, more research is still needed for different countries and, in particular, for migration at older ages.

With regard to individual-level data, examining factors that affect migration of the elderly in different countries is clearly very important. Moreover, research on migrant-sending countries is crucial, as many of them experience population aging together with substantial out-migration (as is the case, for example, for several new EU member states). Both of these phenomena may have significant implications for countries' labor markets and public finances.

Another important and under-researched area concerns migration and aging within the family. In this context, the migration (as well as return migration) decisions of younger family members are affected by the age composition of other family members and by the health of elderly parents. In particular, in less-developed countries, where reliance on adult children's support (both financial and elderly care) is common, more research is needed on the effects of emigration of children on elderly parents who are left behind.

Moreover, evaluating the impact of institutional impediments and restrictions (such as the Chinese Hukou registration system) and incomplete access to health care and pensions, is also very important.

Finally, migration data are far from being perfect. At the individual level, migrants usually disappear from surveys when they move to another country, thus making it impossible to analyze the determinants and consequences of an international move at the micro level, including for older ages. At the macro level, migration data for many countries is incomplete and complicated by different definitions of an immigrant in different countries (e.g. according to country of birth versus nationality, first or second generation, etc.).

SUMMARY AND POLICY ADVICE

Implications of population aging for migration and the links and interrelation between the two have attracted increasing attention, both in academia and in policy making. Aging has reached an unprecedented scale and will continue to increase in the future, both in developed and developing countries.

A substantial body of research concludes that migration declines with age, yet it might still be the case that there is a further increase in mobility following retirement. Factors that affect migration at older age are different from those determining migration of young individuals, primarily due to work-related reasons. These include both economic factors, such as lower costs of living, as well as access to amenities, ease and availability of transport and infrastructure, and access to health care.

Emerging evidence suggests that aging may reduce migration via both direct effects—as older people migrate less—and indirect effects that manifest in the labor markets. As

is suggested for the US, firms may prefer to hire local elderly workers with adequate productivity and accumulated specific human capital but who may agree to receive lower wages, thus generating more local jobs for all local workers and thereby reducing migration. These results, however, may not hold for Europe, where institutions such as minimum wages or collective bargaining are important, and wages may well not be lower at older ages.

On the other hand, as a result of improved health, migration of the elderly is likely to increase following retirement. Furthermore, migration of certain specialists, such as health and long-term care workers, may also increase in order to meet the increasing demand for them. Immigration policies also play an important role, as evidence from the US documents, where immigration of older-age individuals, particularly from Asia, has increased significantly as a result of the US family unification policy. Alternatively, countries may choose to attract retirement migrants by granting them specific visas as some Asian countries do. Finally, immigration policies targeted at specific specialists, such as elderly-care workers, are also important.

Even within a single country there may be substantial room for policy initiatives, as evidence from China suggests. Both health care and pension availability in this country depend on local registration status (Hukou), making it particularly difficult for the elderly to move from rural to urban regions, or to follow their migrant children.

Combined with incomplete social security coverage and traditional reliance on children's support, a decreasing proportion of young people relative to the total population, and the emigration of children, may lead to a higher risk of poverty for the elderly parents who are left behind. These phenomena are gaining increasing importance with aging and call for relevant policies, including reform of the Hukou system in China, which could ease the mobility of the rural elderly as well as ensure their access to health care and public pensions.

In sum, the evidence suggests many important implications for policy, not only in terms of migration and citizenship policies, but also for policies that aim to increase productivity of the elderly, as well as relevant health and retirement policies. Portability of pensions and securing access to medical assistance and health care in new destinations are also crucial considerations.

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Competing interests

The IZA World of Labor project is committed to the *IZA Guiding Principles of Research Integrity*. The author declares to have observed these principles.

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