The End of International Migration? The Case of North America

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Abstract

Although there are exceptions (forced migration and retirement migration, for example), international migration is largely driven by people of working age. Population forecasts to the year 2100 show that the numbers of people of working age (20-64) will diminish in North America (Canada, Mexico, and the United States) and dramatically diminish among those of the younger working ages (20-34 and 35-44). Underlying this expectation is the fact that North America, like the world as a whole, will have completed the demographic transition or be very close to completing it within 75 years, which means this region of the world will have an aged population. This process will diminish the number of people prone to migrate across national borders. Given expected population ageing trends and no dramatic reversals in fertility levels, the continued diminishment of the age-related sources of migration may well lead to the result that international migration will not play much of a role as a component of national population change after the year 2100. This paper examines this possible outcome in the form of a case study of North America that examines data (population projections by age from 2025 to 2050 and 2100) and graphs (population pyramids for 2025, 2050, and 2100) in terms of the expected changes in the working age population in the years 2050 and 2100 relative to 2025. We conclude with a discussion and suggest that the effect of population ageing on international migration flows deserves more than the scant attention it has received.

I. Introduction

Although there are exceptions (forced migration and retirement migration, for example), international migration largely occurs among those of working age (International Organization for Migration, 2019), an observation consistent with models developed by Raymer et al. (2023). Given the expectation that national populations worldwide will have

completed the demographic transition or be very close to completing it within 75 years (Dao and Vasilakis, 2025; Gu, Andreev and Dupre, 2021; Suzuki and Pirlea. 2025; U. S. Census Bureau, 2020) they will have aged populations. This process will diminish the number of people prone to migrate across national borders. Given expected ageing trends, once beyond 2100, the diminishment of the age-related sources of migration may lead to the result that international migration will not play much, if any, role as a component of national population change (Swanson and Tayman, 2025). We examine this possibility in the form of a case study of North America (Canada, Mexico, and the United States). We start with a brief overview of population ageing and age-structured international migration patterns, followed by a description of the data and methods we use in a case study of North America that examines data (population projections by age from 2025 to 2050 and 2100) and graphs (population pyramids for 2025, 2050, and 2100) in terms of the expected changes in the working age population in the years 2050 and 2100 relative to 2025. We discuss the results and conclude with observations on the economic, policy, social, and health/welfare implications of the end of migration with the context of "sending" and "receiving" countries.

II. Population Ageing and Age-Structured International Migration Patterns

Ageing is largely due to increased longevity coupled with low fertility (Siegel, 1980), a result of completing the demographic transition. In the initial stage of the transition, the control of epidemic and contagious diseases lowers the death rate, which leads to rapid population growth because fertility rates remained high until the modernization process pushed up the cost of children and led to cultural changes that empowered women to make their own reproductive decisions (Arnold, Bulatao, Buripakdi, Chung, Fawcett, Iritani, Lee, Wu, & Albores, 1975; Bongaarts, 2009; Bulatao, 1979; Kirk, 1996; U.S. Census Bureau, 2020a). At this stage, a population is characterized by relatively high numbers in the younger ages and relatively low numbers in the older ages – the classic population graph in the shape of a "pyramid." These changes lead to smaller families and reduced fertility and the second stage of the transition, which features rapid population ageing (United Nations, 2023). At this stage, the population is characterized by relatively low numbers in the younger ages and relatively high numbers in the older ages – a population graph in the shape of an "ice cream cone." The final stage is completed when rapid ageing subsides and the population is

characterized by relatively equal numbers across the age ranges – a population graph in the shape of a "silo." This is generalization can be illustrated by the example of Andorra as shown in Figure 1.

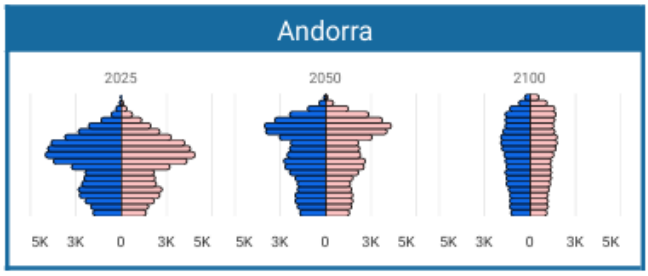

FIGURE 1. ANDORRA POPULATION PYRAMIDS, 2025, 2050, and 2100

In terms of age-structed international migration patterns, Raymer et al. (2023: 7) observe that the "most prominent regularity in age-specific profiles of migration flows is the high concentration of migration among young adults." They go on to note that levels of migration among young children can be high, an observation that is consistent with the propensity of young adults (who are likely to be their parents) to migrate since young children do not migrate independently. An investigation by Yiliz and Abel (2024) of international migration for purposes of educational purposes shows results that fit in the "prominent regularity." Zaiceva (2014)

III. Data and Methods

This paper uses data for 2025, 2050 and 2100 found at the U.S. Census Bureau's (no date) International Data Base site. The projections for 2050 and 2100 are done using the "CCM," the Cohort-Component Method (U.S. Census Bureau, 2020b). The IDB projections may and often do differ from those produced by other sources (United, Nations, 2022, 2024; World Bank, 2024) and like all forecasts are subject to varying levels of error. In addition to unknown levels of error, unknown levels of stochastic uncertainty exist in all projections that, like the IDB projections, are not explicitly generated using a probabilistic mechanism (See, Alkema, Garland,, Raftery, and Wilmoth, 2015; Swanson and Tayman, 2024). However, even in the face of unknown levels of error and stochastic uncertainty, barring unforeseeable catastrophes and other "Black Swan" events that have very low probabilities of occurring (Taleb, 2010), population ageing is inevitable.

IV. Results

Figure 2 shows the 2025, 2050, and 2100 population pyramids for North America found at the IDB site; Figure 3 shows them for Canda, Figure 4 for Mexico, and Figure 5 shows the pyramids for the United States.

Table 1 shows the 2025, 2050, and 2100 working age populations for North America found at the IDB site along with changes between 2025 and 2050, and 2100, respectively. Table 2 shows these same data for Canada, Mexico, and the United States.

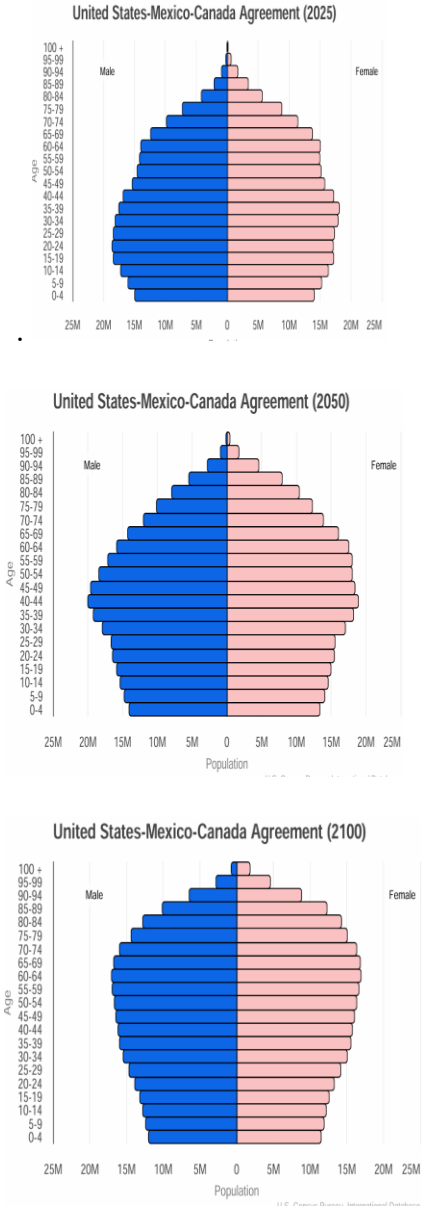

FIGURE 2. NORTH AMERICA POPULATION PYRAMIDS, 2025, 2050, and 2100

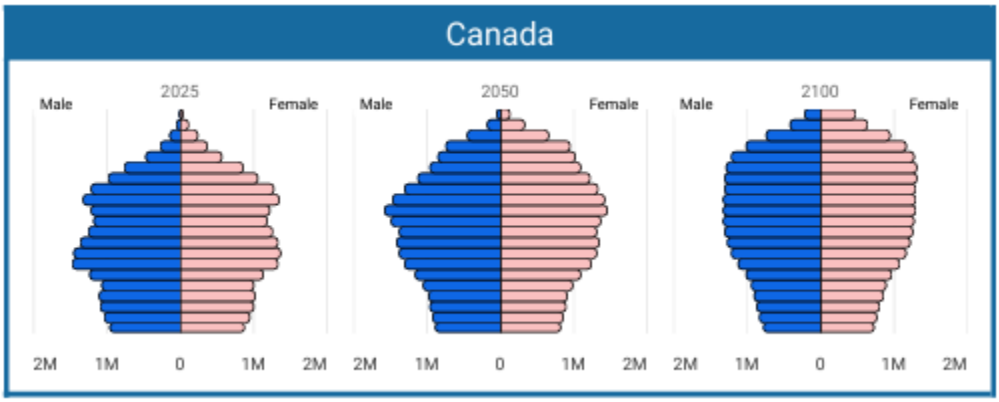

FIGURE 3. CANADA POPULATION PYRAMIDS, 2025, 2050, and 2100

As shown in Figure 2 and described in Table 1, between 2025 and 2100, the working age population of North America is expected to decline by 4.5 percent, with the majority of this relative change coming in he youngest working age group, 20-23, showing a relative decline of 20 percent from 2025. Per Figure 3 and Table 2, Canada can expect a relative decline in its working age population of 6 percent between 2025 and 2100 while Mexico (Figure 4 and Table 3) experiences the steepest decline, (-12 percent) and the U.S., the least relative decline (-1.4 percent) per figure 5 and Table 4. Numerically, North America will experience a decline of 14 million persons of working age, Canada a decline of 1.4 million, Mexico 9.3 million, and the U.S. a decline of 2.7 million people of working age.

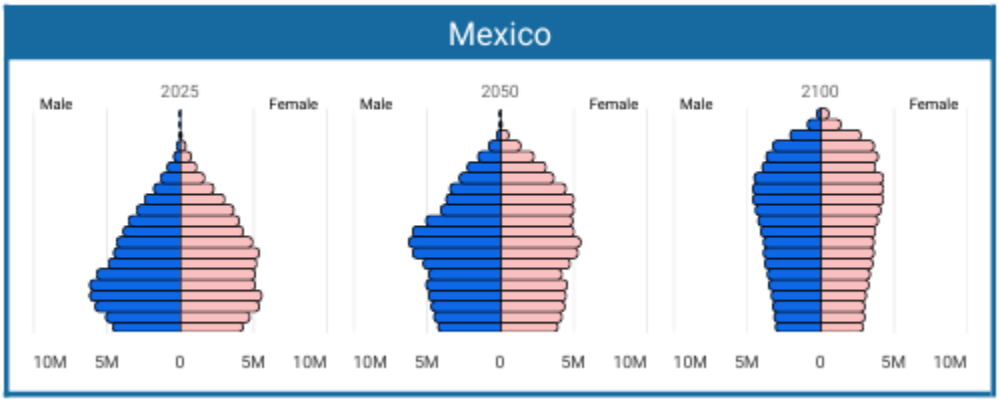

FIGURE 4. MEXICO POPULATION PYRAMIDS, 2025, 2050, and 2100

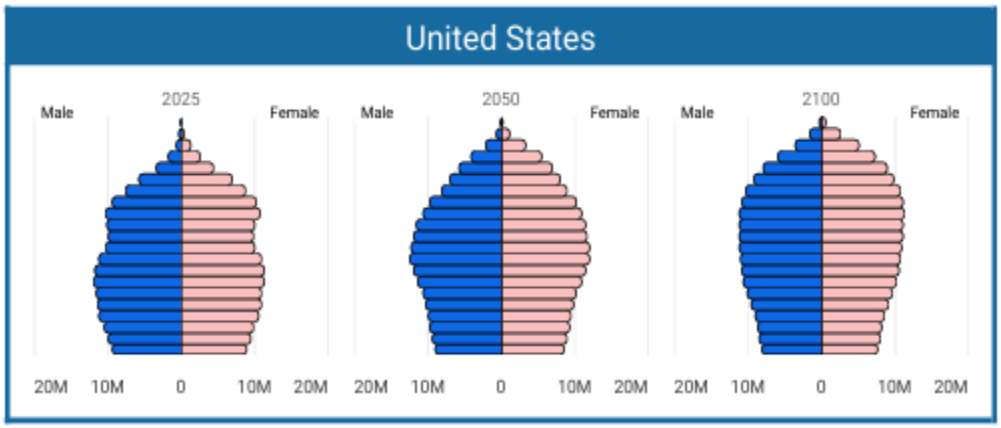

FIGURE 5. UNITED STATES POPULATION PYRAMIDS, 2025, 2050, and 2100.

Table 1. North American Working Age Population, 2025, 2050, 2100

	Population			Numeric change		Percentage change	
Age Group	2025	2050	2100	2025-2050	2025-2100	2025-2050	2025-2100
20-64	**296,561,451**	**318,532,858**	**283,110,366**	**21,971,407**	**-13,451,085**	**7.4%**	**-4.5%**
20-34	107,723,693	99,050,726	86,565,232	-8,672,967	-21,158,461	-8.1%	-19.6%
35-44	69,698,235	76,392,444	63,440,274	6,694,209	-6,257,961	9.6%	-9.0%
45-64	119,139,523	143,089,688	133,104,860	23,950,165	13,965,337	20.1%	11.7%

Table 2. Working Age Population, North America Countries, 2025, 2050, 2100

Canada

	Population			Numeric change		Percentage change	
Age Group	2025	2050	2100	2025-2050	2025-2100	2025-2050	2025-2100
20-64	**22,705,149**	**23,741,295**	**21,302,868**	**1,036,146**	**-1,402,281**	**4.6%**	**-6.2%**
20-34	7,231,105	6,802,072	6,035,673	-429,033	-1,195,432	-5.9%	-16.5%
35-44	5,494,364	5,483,015	4,859,507	-11,349	-634,857	-0.2%	-11.6%
45-64	9,979,680	11,456,208	10,407,688	1,476,528	428,008	14.8%	4.3%

Mexico

	Population			Numeric change		Percentage change	
Age Group	2025	2050	2100	2025-2050	2025-2100	2025-2050	2025-2100
20-64	**78,941,069**	**90,673,106**	**69,626,676**	**11,732,037**	**-9,314,393**	**14.9%**	**-11.8%**
20-34	32,165,763	28,745,806	21,115,380	-3,419,957	-11,050,383	-10.6%	-34.4%
35-44	19,104,423	23,009,775	15,095,191	3,905,352	-4,009,232	20.4%	-21.0%
45-64	27,670,883	38,917,525	33,416,105	11,246,642	5,745,222	40.6%	20.8%

United States

	Population			Numeric change		Percentage change	
Age Group	2025	2050	2100	2025-2050	2025-2100	2025-2050	2025-2100
20-64	**194,915,233**	**204,118,457**	**192,180,822**	**9,203,224**	**-2,734,411**	**4.7%**	**-1.4%**
20-34	68,326,825	63,502,848	59,414,179	-4,823,977	-8,912,646	-7.1%	-13.0%
35-44	45,099,448	47,899,654	43,485,576	2,800,206	-1,613,872	6.2%	-3.6%
45-64	81,488,960	92,715,955	89,281,067	11,226,995	7,792,107	13.8%	9.6%

V. Discussion

When it comes to population ageing and migration, most work is focused on the effect that immigration has on a ageing population (see, e.g., Reina et al. 2024) while very little is done on the effect that population ageing is likely to have on migration outflows (See, e.g., Zaiceva, 2014). Clearly, a decline of 9.3 million persons of working age, as is the case expected for Mexico, will have an impact on the number who will move out of the country. While it may not be constant over time, a relationship between the number of persons who are

of working age working age and the number in this group who migrate exists and if the pool is diminished, the flow from it will be as well.

Zaiceva (2014) speculated that while there is a substantial volume of research that concludes migration declines with age, there may be reasons for increases in mobility following retirement, including multi-generation family migration, family reunification, and amenity considerations for retirees.

Charles-Edwards et al. (2025) found that in the five year-year period prior to 2020, international migration redistributed only 0.39 percent of the world's population, a decline from 0.56 percent of the global population in the preceding five-year period. However, they argue that international migration is set to be an important driver of global population distribution far into the 21st century. This argument is neither consistent with our finding in regard to North America nor with the finding by Swanson and Tayman (2025) that given current fertility trends, the human race will be extinct by the year 2394.

While the age-related patterns of international migration are likely to stay the same for the reasons discussed by Raymer et al. (2023), North America's overall volume is clearly going to change over the next 75 years as well the volume in each of the three countries that make it up, Canada, Mexico, and The United States. Given that the trends found in the IDB forecasts to 2100 continue - and there is no evidence that its basic cause, low fertility rates, will experience a turnaround (Goldin, 2021; and Hellstrand et al., 2021; Hwang, 2023; and Wolf, et al. 2011) and that the rates in countries with above replacement fertility levels will not continue to decline (OECD, 2024) - in less than three generations, North America will experience a dramatic decrease in the number of migrants who cross its countries' borders. Given that population ageing is occurring worldwide as found by Swanson and Tayman (2025) these effects will occur elsewhere, in some places probably sooner (i.e., Europe and East Asia) and in others, later (i.e., Africa, the Middle East, and South Asia).

Although Massey's (2003) observation that immigrant flows do not last forever was in the context of social, political, and economic considerations, he may have hit the nail on the head in regard to the effect of population ageing on international migration flows – they may come to an end at some point after the year 2100. Clearly, the effect of population ageing on

international migration needs to be given far more attention than it has received. More refined- and particularly quantitative - work is urgently needed.

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