Confluence INVESTMENT MANAGEMENT

# Weekly Geopolitical Report

*By Patrick Fearon-Hernandez, CFA*

*February 10, 2020*

## Investment Implications of Changing Demographics: Part I

***(Note: Due to the President's Day holiday, our next report will be published on February 24.)***

In the 1960s and 1970s, people worried a lot about rapid population growth. According to the United Nations, the world's population was growing at an average annual rate of more than 1.9% during those decades, jumping from 3.0 billion in 1960 to 4.5 billion in 1980. That created a lot of concern about the implications for the environment, social stability, and the economy. However, many people don't realize that population growth has slowed dramatically since then. The global population is expected to grow only about 1.05% in 2020, and growth is projected to slow all the way to zero by 2200. This dramatic slowing and the associated aging of the population are already having a big impact on society.

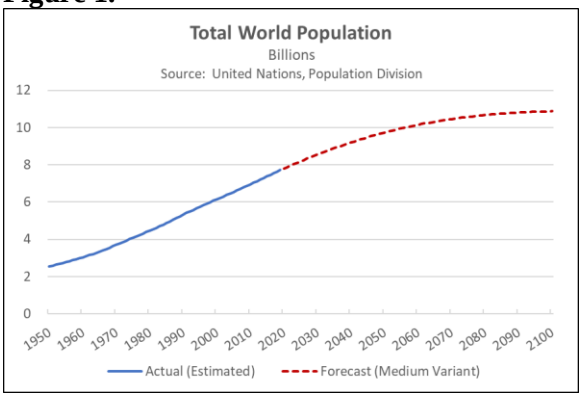
In theory and practice, population trends should affect investment returns, even if it's hard to separate their impact from other, shorter-term economic and financial factors. This three-part series aims to lay out the broad contours of today's global population story, with a focus on last year's updated forecasts from the UN Population Division.

Part I of the report will focus on the broad contours of today's global population trends and what they mean for relative geopolitical power in the coming decades. In two weeks, Part II will focus on specific demographic trends in the United States. The following week, Part III will examine the economic impact of these trends. Many other forces will have a greater impact on investments in the short run, but Part III will conclude with a discussion of how these demographic trends are likely to affect the financial markets in the long run.

### The Global Landscape

According to the latest UN estimates, the world's total human population stood at 7.713 billion as of July 2019 (see Figure 1). The world's most populous country was China, with an estimated 1.434 billion people. India was only slightly behind at 1.366 billion. The world's third-most populous country was the United States with 329.1 million people. Meanwhile, the fourth-most populous country, Indonesia, had 270.6 million residents. The biggest developed country after the United States, Japan, had a population of 126.9 million.

**Figure 1.**



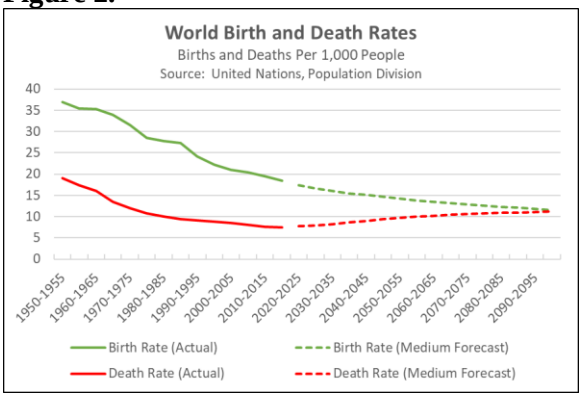

In theory, large human populations should be split equally between males and females. In reality, there can be modest fluctuations. Before 1960, for example, the UN data shows there were slightly more females than

males, partly because of military activity and the physically risky occupations typically undertaken by younger men. Since 1960, the world's population has gradually become more heavily weighted toward males, perhaps reflecting cultural differences and the availability of technologies that allow parents to choose the sex of their children. Whatever the reason, females now make up only about 49.6% of the world's population. In China, females make up 48.7% of the population, and in India they make up 48.0%. Since only women can bear children, that alone would point to slower population growth going forward.

A key determinant of population growth is the rate of births versus the rate of deaths. Factors such as improved sanitation and better medical technologies have cut the average death rate for the last several centuries, but especially over recent decades. The UN data show that the world's "crude death rate" (the number of deaths over a given period divided by the person-years lived in that period) fell steadily in the years after World War II, from 19.1 deaths per 1,000 people in 1950-1955 to just 7.7 in 2010-2015, and it is projected to be 7.5 per 1,000 people in the five years ending in 2020. (Throughout this report, the projected figures refer to the UN's medium forecast, which lies between its high and low variants.)

What few people have focused on is how the world's birth rates have changed. Social, cultural, and economic habits initially changed slowly in the postwar years, and the birth rate fell only slightly. The big drop in the death rate coupled with the continued high birth rates was a key reason for the population growth spurt in the 1960s and 1970s. Finally, however, people did begin to put off having children. The world's "crude birth rate" stood at 36.9 per 1,000 people in 1950-1955, and it was still above 30.0 in 1970-1975. It then started to fall sharply in the 1980s, 1990s, and into the 2000s. The birth rate was 19.5 per 1,000 in 2010-2015 and is expected to fall further to 18.5 in the five years ending in 2020 (see Figure 2).

**Figure 2.**

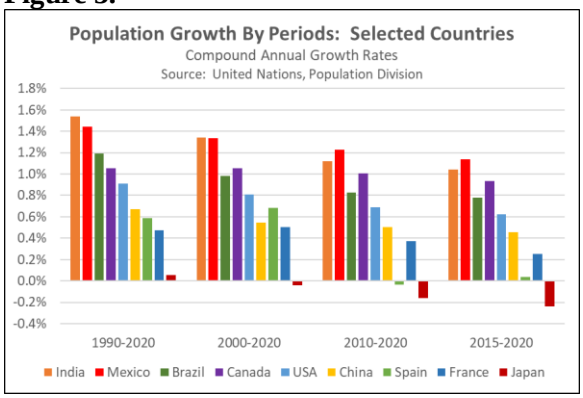



The difference between the global birth rate and death rate – currently 11.0 per 1,000 people – approximates the population growth rate. In fact, the updated UN forecasts call for the world's population to reach 7.795 billion in 2020, for a rise of 1.05% from 2019. Primarily due to the ongoing decline in birth rates, this growth is less robust than the average annual increases of 1.14% over the last 10 years, 1.20% over the last 20 years, and 1.30% over the last 50 years. The UN predicts that global population growth will average just 0.93% in the decade to 2030, and even less in the years after that.

Not a single major country is expected to grow faster in 2020 than its average rate over the last five years. On the contrary, the UN forecasts show that 31 countries with a combined population of 421.0 million will be in outright population decline in 2020, up from 30 countries in 2019. Some of the countries losing population are highly developed, industrialized nations such as

Japan, Italy, and Portugal. In addition, the list of depopulating countries includes many of the so-called emerging markets, such as Poland, Venezuela, and Lebanon. Of course, the rate of population change in any particular country can fluctuate over time. For example, if not for the influx of Middle Eastern refugees in recent years, Germany would also be losing population and Italy would be losing people even faster than it currently is. All the same, the general pattern of slowing growth is quite clear (see Figure 3).

**Figure 3.**




## Implications for Geopolitical Power

Since people are such an important resource, it should be no surprise that the diverging population trends in different countries will likely have a big impact on relative geopolitical power over time. Traditionally, a key demographic variable for geopolitical analysis is the size of a country's conscription-age population. For example, in order to measure a country's potential military manpower and its ability to sustain high-intensity, mass-mobilization warfare, the Central Intelligence Agency tracks each country's total military-age population (males and females aged 16-49).

As shown in Table 1, the UN data suggests that at recent growth rates the major country with the biggest annual increase in potential military manpower in 2020 will be India. One of its key geopolitical rivals, China, will be the major country suffering the biggest annual decline in potential troops. The U.S., Canada, and Australia are the only major developed countries with an expanding pool of potential military manpower. Although the Trump administration is focused on boosting the Europeans' financial commitment to defense, a bigger issue may be the long-term decline in their ability to commit human resources to defense.

**Table 1.**

Potential Military Manpower: Selected Countries
Source: United Nations Population Division

| Country | Gross Military Age Population (16-49), Millions | Share of Total Population | 2015-2020 CAGR | Annual Change, Millions |
|---|---|---|---|---|
| India | 725.9 | 39.3% | 1.3% | 9.5 |
| Mexico | 66.1 | 52.6% | 1.0% | 0.7 |
| United States | 148.1 | 52.3% | 0.4% | 0.6 |
| Turkey | 42.9 | 40.4% | 1.2% | 0.5 |
| Brazil | 111.1 | 40.4% | 0.4% | 0.5 |
| Saudi Arabia | 20.5 | 44.7% | 1.6% | 0.3 |
| Iran | 45.1 | 44.6% | 0.2% | 0.1 |
| Canada | 16.8 | 41.1% | 0.5% | 0.1 |
| Australia | 11.6 | 43.3% | 0.6% | 0.1 |
| Israel | 3.9 | 48.4% | 1.4% | 0.1 |
| UK | 29.4 | 45.3% | -0.1% | (0.0) |
| France | 26.8 | 46.9% | -0.4% | (0.1) |
| Germany | 33.8 | 43.3% | -0.5% | (0.2) |
| Spain | 20.2 | 53.7% | -1.3% | (0.3) |
| Venezuela | 13.7 | 48.2% | -2.1% | (0.3) |
| Italy | 24.4 | 58.9% | -1.2% | (0.3) |
| Korea | 24.0 | 44.9% | -1.4% | (0.3) |
| Russia | 66.0 | 45.5% | -0.7% | (0.5) |
| Japan | 49.7 | 51.3% | -1.1% | (0.6) |
| China | 695.9 | 50.8% | -1.3% | (9.0) |

Another key metric for a country is the size of its potential labor force, given the impact it can have on the country's economy and financial markets, not to mention its capacity for military innovation and defense production. The slowdown in overall population growth in most countries is being matched by weaker labor force expansion, which we expect will be a continuing drag on world economic growth and inflation in 2020. Table 2 shows that the U.S. and its English-speaking allies will be nearly the

only developed countries whose workforces are still growing. All else being the same, we think these countries will have geopolitical, economic, and financial advantages over most of the other developed countries, and even some of the emerging markets.

**Table 2.**

Working Age Population: Selected Countries

Source: United Nations Population Division

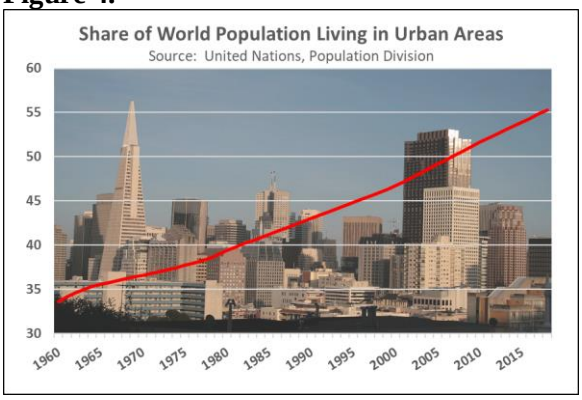
| Country | Working Age Population (16-64), Millions | Share of Total Population | 2015-2020 CAGR | Annual Change, Millions |
|---|---|---|---|---|
| India | 902.9 | 58.3% | 1.5% | 13.4 |
| Brazil | 145.0 | 60.4% | 0.9% | 1.3 |
| Mexico | 83.6 | 63.4% | 1.4% | 1.2 |
| Turkey | 55.2 | 69.2% | 1.6% | 0.9 |
| United States | 210.9 | 65.1% | 0.3% | 0.6 |
| Saudi Arabia | 24.5 | 63.7% | 2.1% | 0.5 |
| Iran | 56.5 | 62.6% | 0.9% | 0.5 |
| UK | 42.5 | 65.1% | 0.4% | 0.2 |
| Australia | 16.1 | 62.8% | 0.7% | 0.1 |
| Canada | 24.6 | 68.2% | 0.4% | 0.1 |
| Germany | 53.1 | 70.8% | 0.1% | 0.1 |
| Israel | 5.0 | 65.4% | 1.2% | 0.1 |
| France | 39.4 | 64.6% | -0.1% | (0.1) |
| Spain | 30.2 | 70.5% | -0.2% | (0.1) |
| Korea | 36.3 | 64.8% | -0.2% | (0.1) |
| Italy | 37.9 | 65.5% | -0.2% | (0.1) |
| Venezuela | 17.9 | 62.9% | -1.3% | (0.2) |
| Japan | 73.7 | 67.3% | -0.8% | (0.6) |
| Russia | 95.0 | 58.2% | -0.9% | (0.9) |
| China | 995.6 | 63.3% | -0.2% | (1.8) |

## Other Key Demographic Trends

Of course, the sheer number of people in various countries doesn't tell the whole story. Many other issues touch on a country's economy and geopolitical position. Are the country's people located close to where they are needed for industry or the military, or are they mobile enough to get there? Do they have the education and skills necessary to compete and innovate? Are they healthy enough to come to work and stay focused on their tasks without being distracted by health problems or medical appointments? It would be impossible to delve deeply into these issues in this introductory article. All the same, we think it's important to highlight two demographic sub-trends that are likely to have a big impact on geopolitics, global and national economies, the financial markets, and investment opportunities.

***Urbanization.*** In 1800, near the dawn of the Industrial Revolution, the UN estimates that only about 3% of the world's population lived in cities. Despite localized surges, global migration to urban areas proceeded so gradually that the share of city dwellers reached 50% only in 2007 (see Figure 4).

**Figure 4.**



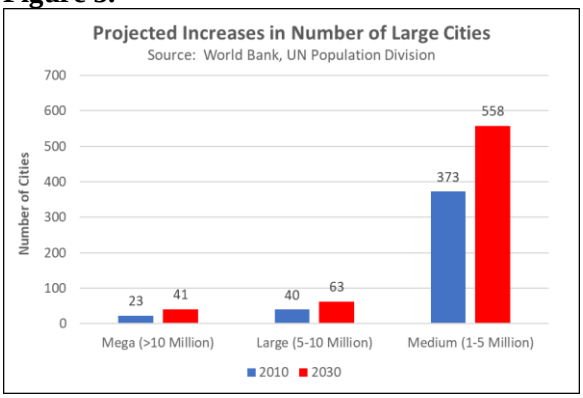

Now, the UN foresees a temporary acceleration that will lift their share to more than 65% by 2050. According to projections by Paul Romer and Brandon Fuller of New York University, some 60 to 70 million people will be added to the world's urban population each year for the next 30 years, and the number of cities with 10 million or more inhabitants is expected to top 40 within the next decade (see Figure 5). By 2110, the world's total urban population is expected to increase by 5.4 billion people, while the rural population is expected to contract by 1.3 billion. In other words, even as global population growth slows, we will see a temporary countertrend of accelerating population growth in cities. Some of the potential implications of this trend may be:

- **Worsening Urban/Rural Divide.** The magnetism of cities comes in large part from the greater economic and social opportunities they offer. Factors like

deep, diverse labor pools and the concentrated availability of financial capital provide entrepreneurs with the key inputs they need to launch new ventures. Wealth creation can be especially strong in urban areas with healthy, well-developed industrial "clusters," i.e., concentrations of a particular industry's leading companies and their suppliers. Such powerful, urbanized wealth creation has left many rural areas far behind economically, which helps explain why today's political populism in many countries has been spawned mostly in lagging, angry rural areas. On the other hand, if populist policies go too far, they may generate pushback from urban elites.

- **Growth of Knowledge Industries.** The industrial clusters mentioned above are powerful because the geographical proximity of so many companies and suppliers in the same industry helps produce greater competition and easier knowledge transfer, which in turn boost innovation. Examples are Silicon Valley for information technology and London for international finance. The growth in global manufacturing productivity continues apace, but much of it has moved to the so-called emerging markets, and populist trade policies against globalization threaten to reduce that growth. Meanwhile, it remains notoriously difficult to boost productivity in high-touch services like restaurants and styling salons. In contrast, well-managed cities could spur massive growth in the creation of knowledge that can be readily disseminated and exploited throughout the world, especially given the positive "network effects" available to knowledge firms.
- **Importance of Urban Policy.** Since urbanization has its downsides – like congestion or the social tensions arising from housing shortages – investors hoping to capitalize on the growth of cities will need to evaluate how well countries manage their urban growth. With more and more people concentrated in the cities, it may also pay to keep tabs on successful mayors. Those who manage their cities well might be able to leverage their success to climb to higher office, such as the new mayor of Istanbul, Turkey.

**Figure 5.**




***Stagnating Intellectual Capital.*** Another key demographic sub-trend that we can only introduce here is related to the knowledge and skills of a country's population. As mentioned above, those qualities are especially important for a country's economic and military power. They help determine whether the country's workers and fighters are sufficiently skilled to be effective. These qualities can be measured in many different ways, but we focus especially on global standardized tests, such as those administered to 15-year-olds around the world by the OECD's Program for International Student Assessment (PISA). The research finds that a country's per-capita GDP growth is highly correlated with such test scores. That helps explain the strong economic performance in Asia and the lagging performance in Latin America in recent decades (see Table 3). Sadly, the data

show that test scores have been largely stagnant in recent years, which suggests the slowdown in population growth and the world's aging population are not yet being offset by improved intellectual capacity.

**Table 3.**

**Years of Schooling**
**And Average PISA Scores, 2019**

Source: OECD

| Country | Average Years of Schooling | Reading Score | Math Score | Science Score |
|---|---|---|---|---|
| China | 7.6 | 555 | 591 | 590 |
| Singapore | 10.2 | 549 | 569 | 551 |
| Hong Kong | 10.1 | 524 | 551 | 517 |
| Estonia | 12.0 | 523 | 523 | 530 |
| Japan | 11.5 | 504 | 527 | 529 |
| South Korea | 11.8 | 514 | 526 | 519 |
| Canada | 12.3 | 520 | 512 | 518 |
| Finland | 10.3 | 520 | 507 | 522 |
| Poland | 11.8 | 512 | 516 | 511 |
| Ireland | 11.6 | 518 | 500 | 496 |
| UK | 12.3 | 504 | 502 | 505 |
| Germany | 13.0 | 498 | 500 | 503 |
| Australia | 12.8 | 503 | 491 | 503 |
| Switzerland | 12.3 | 484 | 515 | 495 |
| USA | 13.0 | 505 | 478 | 502 |
| France | 11.2 | 493 | 495 | 493 |
| Spain | 9.6 | NA | 481 | 483 |
| Russia | 11.8 | 479 | 488 | 478 |
| Italy | 10.2 | 476 | 487 | 468 |
| Mexico | 8.5 | 420 | 409 | 419 |
| Colombia | 7.1 | 412 | 391 | 413 |
| Brazil | 7.3 | 413 | 384 | 404 |
| India | 4.4 | NA | NA | NA |
| Average | 8.0 | 453 | 459 | 458 |

** Note: China scores are only for a subset of relatively urban, affluent provinces.*

**Part II**

In two weeks, Part II of this report will take a deeper dive into recent demographic trends in the United States. The following week, in Part III, we'll examine their implications for the economy and the financial markets. To reiterate, many other forces ranging from geopolitics to monetary policy will probably have a larger impact on the financial markets in the short run. Nevertheless, as always, we'll conclude our study with a discussion of how the various demographic trends are likely to affect investors over the longer term.

Patrick Fearon-Hernandez, CFA
February 10, 2020