Market Bulletin

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The Demographic Challenge to Above 2% Growth

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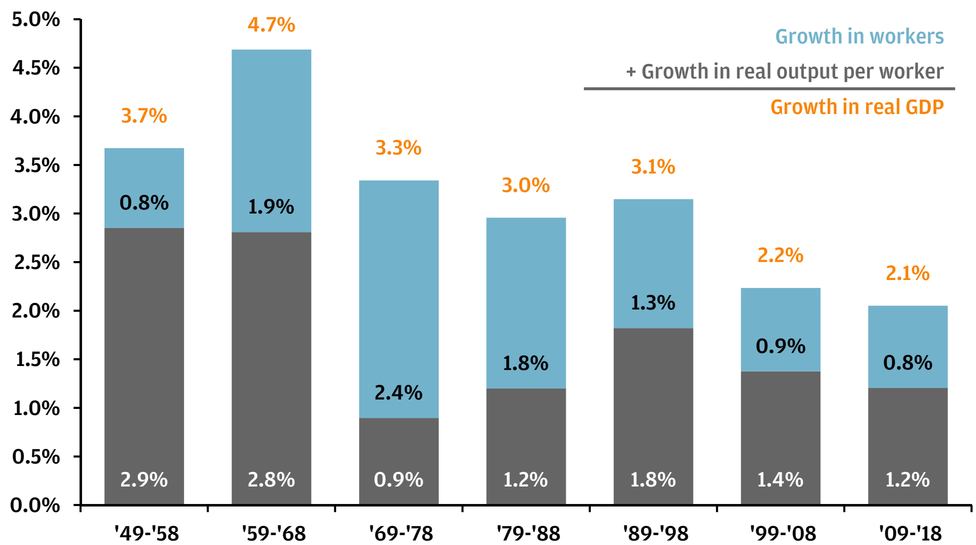
In a record 11th year of the economic expansion, U.S. economic growth has slowed to a roughly 2% pace, as positive effects from tax cuts have largely faded and trade tensions foment an environment of uncertainty that threatens economic activity. Although these short-term dynamics impact the pace of growth of the current economic expansion, ultimately, for long-term investors, long-term growth matters most. Given current and projected productivity and labor supply dynamics, productivity is unlikely to provide a significant lift to future growth, while constrained labor supply is likely to be the limiting reagent to growth in the absence of policy change.

When we think about short-term growth, we consider a variety of factors that impact demand. However, when we think about long-term growth, it's all about supply and, in particular, productivity and labor **(EXHIBIT 1)**. Essentially, economic growth is a function of the growth in workers plus the growth in output per worker.

EXHIBIT 1: Long-term growth is all about supply
Real GDP growth, average year-over-year % change



Source: Bureau of Economic Analysis, Bureau of Labor Statistics, J.P. Morgan Asset Management. GDP drivers are calculated as the average annualized growth in the 10 years ending in the fourth quarter of the last year of each decade. Data are as of November 20, 2019.

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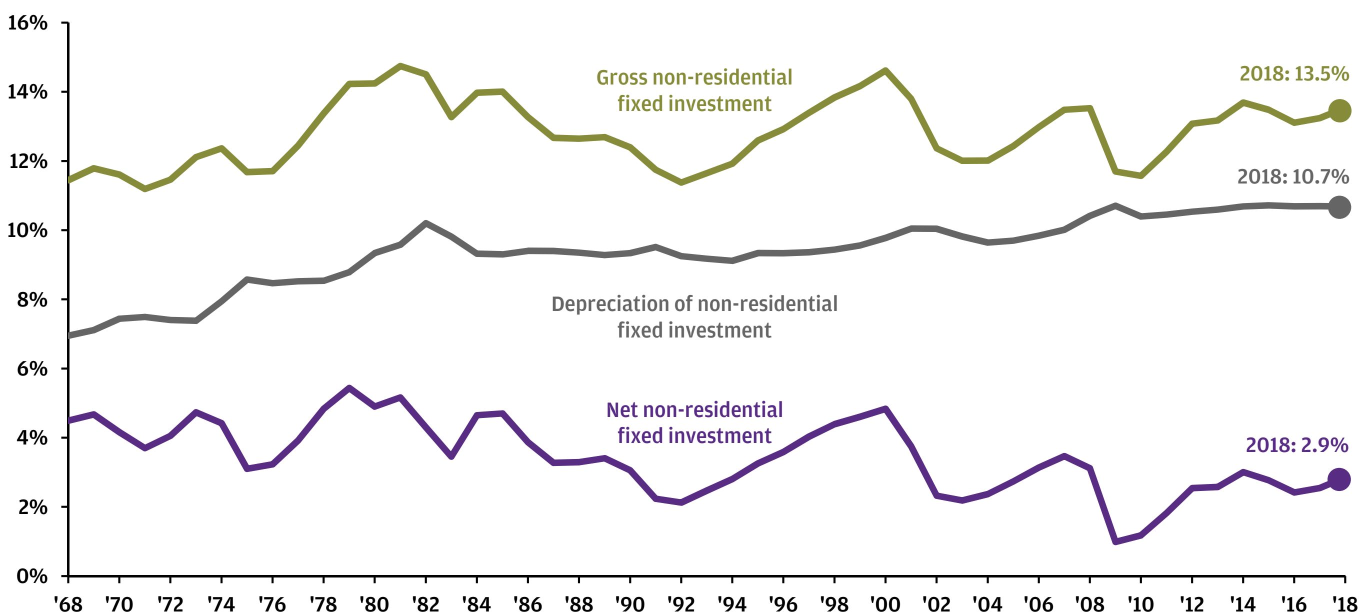
The output per worker can be improved by giving workers better tools and more of them. While there have been significant technological advances in the last 20 years and the "tools" have gotten much better, not all of these advances have made the workplace more efficient, amounting instead to a benefit to the consumer rather than the worker, and at competitive prices. Additionally, while investment spending as a share of GDP has oscillated with the business cycle, at the same time, the depreciation of capital stock has risen steadily over the same period, as the technological innovations of the 1980s and 1990s have gradually become obsolete **(EXHIBIT 2)**. Therefore, the value of the capital stock, which includes equipment, software, machinery, structures and intellectual property, has grown more slowly at an average pace of 2.2% in the last 20 years vs. 3.1% over the last nearly 70 years, and will likely continue to do so. This has contributed to lackluster productivity growth in recent years. Therefore, we do not expect productivity to be the driving force of growth going forward.

That leaves us with the growth in workers. The unemployment rate now sits at 3.6%, just off the 50-year low. With fewer workers unemployed, fewer people joining the labor force and payroll growth slowing by approximately 60,000 jobs per month this year vs. last year, the labor market is tight and we should not expect significant increases in workers this cycle.

Thinking beyond this cycle, U.S. demographics do not structurally favor a dramatic or even healthy increase in workers over time. The U.S. population will continue to grow at an average annual rate of 0.6% over the next 20 years, according to U.S. Census Bureau projections, although the growth rate decelerates over the period. Moreover, the population is aging. Breaking the population into cohorts, for those aged 16-24, the pace of growth annually is roughly flat at 0.1%. So-called "prime-aged" adults ages 25-54 are set to grow at a modest 0.5%. As aging Baby Boomers[1] shift out of the 55-64 category and into the 65+ camp, the former

EXHIBIT 2: As capital spending rises, so does the depreciation of capital stock
Non-residential fixed investment and depreciation as share of nominal GDP, annual, % of GDP

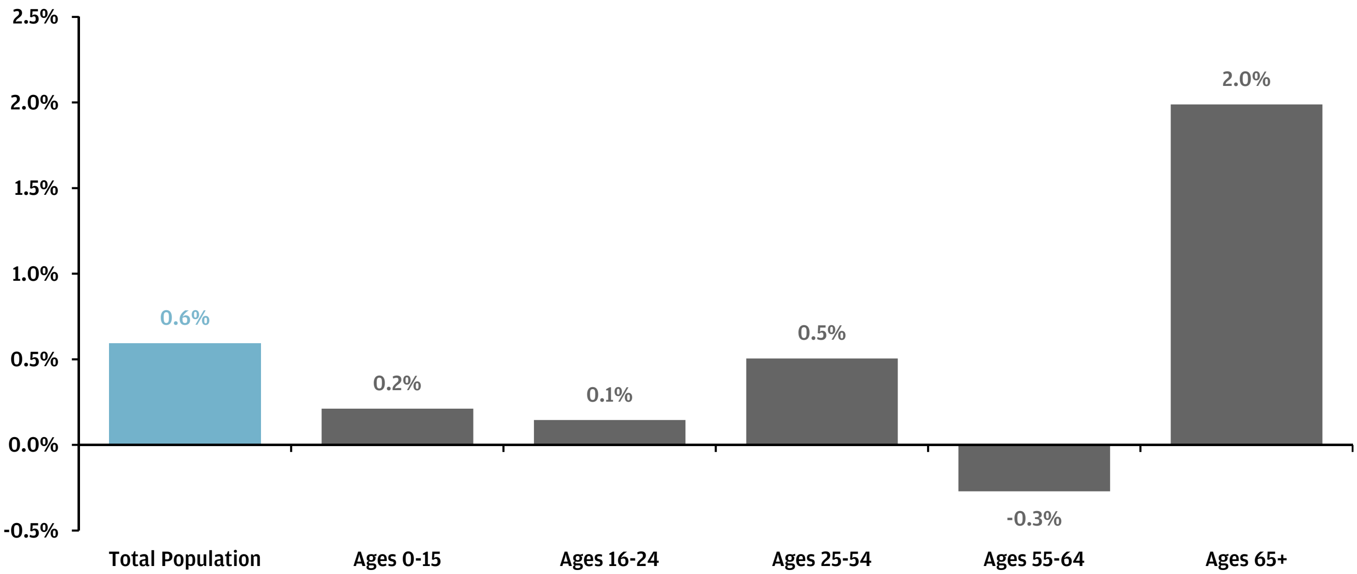


Source: Bureau of Economic Analysis, J.P. Morgan Asset Management. Data are as of November 20, 2019.

[1] The Baby Boomer generation spanned 1946-1964 according to the Pew Research Center.

declines while the latter has the fastest increase, as seen in **Exhibit 3**.

EXHIBIT 3: Population growth is projected to be the fastest among the elderly
Average annualized population growth rates by cohort, 2020-2039

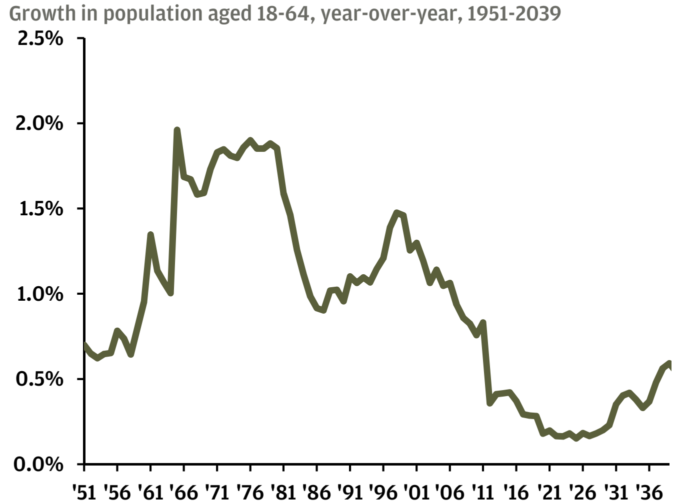


Source: U.S. Census Bureau, J.P. Morgan Asset Management. Data are as of November 20, 2019.

This has material implications on the future labor force. Looking specifically at the working age population, the population aged 18-64[2] jumped by 2.0% in 1965 as Baby Boomers began to enter the workforce, oscillating between 1.6%-1.9% in the 15 years that followed as more continued to join the workforce **(EXHIBIT 4)**. However, this should slow to just 0.3% in the next 20 years, as Baby Boomers retire. This is a critical shift. It is true, however, that many Baby Boomers are working beyond the typical retirement age of 65 either out of choice or necessity; we have seen the growth in the working-age population of the 65+ category rise. This will be supportive for the labor force participation rate, but only to a certain point, as we see this boost begin to fade in the 2030s.

A popular misconception is that as the Baby Boomers (the generation born from 1946-1964) move on, the Millennial generation (born from 1981-1996) will readily fill the gap. In fact, at the end of 1964, there were 76 million Boomers, but at the end of 1996, just 63 million Millennials.

Exhibit 4: As Baby Boomers retire, the growth in the working-age population sharply decelerates
Growth in population aged 18-64, year-over-year, 1951-2039



Source: U.S. Census Bureau, J.P. Morgan Asset Management. 2019-2040 represents U.S. Census projection estimates. Resident population includes armed forces overseas from 1950-2000, and only the resident population after 2000. Data are as of November 20, 2019.

[2] Typically, the working-age population is aged 16-64, but we isolate 18-64 here to control for some of the effects of the increase in education over time. The Baby Boomer generation spanned 1946-1964. We estimate the first Baby Boomers entered the workforce in 1964. We estimate the first Boomers retired in 2011, and the last in 2029.

The Boomers continued to grow due to immigration, as have Millennials. However, projected forward, the Millennial generation will still be slightly smaller at its peak than the Boomers were at their peak, under current assumptions. This is a crucial point, because those assumptions likely include overly generous immigration estimates that the U.S. has undershot in recent years.

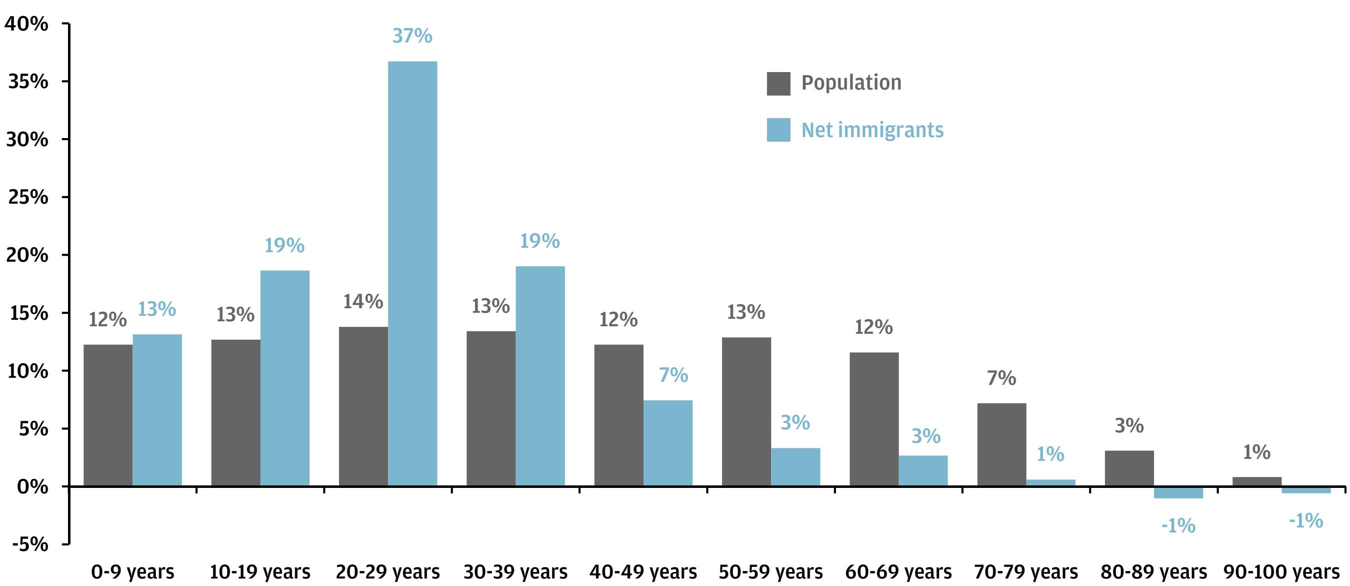
If the growth in workers is a critical piece of our overall growth equation, then the demographic dynamics are decidedly a headwind. However, if population growth is not projected to accelerate organically through increased births, immigration characteristics indicate that the non-native population could supplement growth. **Exhibit 5** illustrates that as of 2019, the distribution of the current total population by age is fairly even until age 70, but the distribution of net immigration is concentrated in prime working age, precisely where the U.S. is likely to see slowing growth in the next 20 years. Not only that but the age concentration is also in prime family formation age, so their children too can eventually join the workforce in subsequent decades, replenishing the pipeline.

As it is, the growth in the working-age population has been supported over the last several decades by the immigrant population supplementing the native-born population. Although immigration is a heavily politicized issue, alternative policies to boost labor supply could prove to be more controversial, such as raising the age to receive Medicare benefits to keep people in the workforce longer, or less practical, such as trying to boost the birth rate.

Near-term growth may be a more immediate concern for investors, but the structural dynamics of long-term growth will have serious implications on long-term returns. With productivity relatively subdued, the implication is that labor supply would have to drive growth. However, demographics reveal that the U.S. labor supply could, in fact, be a headwind to growth, with immigration being the critical swing factor. As a result, the economy is likely to experience structurally lower growth and, therefore, lower returns going forward than investors had enjoyed in the past.

EXHIBIT 5: Net immigration age distribution can plug the gap in the future working-age population

Share of population and net immigrants by age decile, 2019 estimates



Source: U.S. Census Bureau, J.P. Morgan Asset Management. Net immigration equals all foreign-born people who came to the U.S. minus those who left and those who died. This represents the projected flow of incoming immigrants in 2019, not the total immigrant population present in the United States. Total population uses 2019 forecast data, which makes adjustments to July 1, 2016 baseline actual population data. Data are as of November 20, 2019.

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