Perspective

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In This Issue . . .

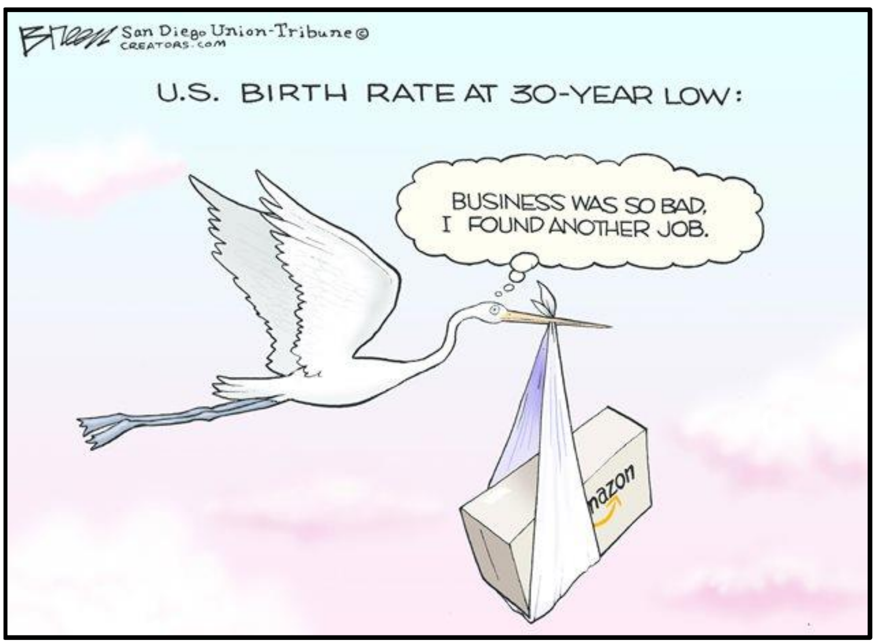
- ✓ Demographic and innovation trends continue to reshape the economy.
- ✓ The baby boom created a multi-decade demand shock to world economies.
- ✓ Now (or soon) many countries may well experience declining populations.
- ✓ China is no exception.
- ✓ Inflation is likely to remain subdued.
- ✓ Negative interest rates and bond yields are signs of troubled economies.
- ✓ “Bottom up” innovation is the key.
- ✓ The world may be growth starved, but there’s never a lack of problems to be solved by human ingenuity.
- ✓ Companies helping solve problems present durable investment opportunities.

Sub 2.1 = Running on Empty?

China trade policy, Federal Reserve Policy, the timing of the next recession.

The latest headline, news story, or tweet about these three topics has been whipping stock markets to and fro for many months now.

In light of such hyper-focus, one might be tempted to think that these are the factors that will determine the future for investors.



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We're not about to suggest the China/Fed/recession issues are unimportant. But we think investors should view them within the framework of a broader context. A wider-lens perspective suggests that these factors are largely being shaped by other, very powerful, trends with profound investment implications.

Just as tectonic plates beneath the earth's crust are believed to be slowly, incessantly molding the planet's surface in ways that only time reveals, *demographic* forces and technological *innovation* continue to reshape the structure of the world economy.

Long-standing relationships between many economic and business variables are likely being altered in important ways by the demographic and innovation trends.

The investment world that's unfolding before all of us is like a giant jigsaw puzzle with lots of missing pieces. Let's see if we can find some missing pieces.

Sub 2.1

No doubt we all have heard of the population bomb and the stresses related to an ever-growing world population. Perhaps, however, population fundamentals are shifting in a manner very different than many believe.

Demographic researcher Darrell Bricker, and his coauthor John Ibbitson, recently made the following provocative statements[1]:

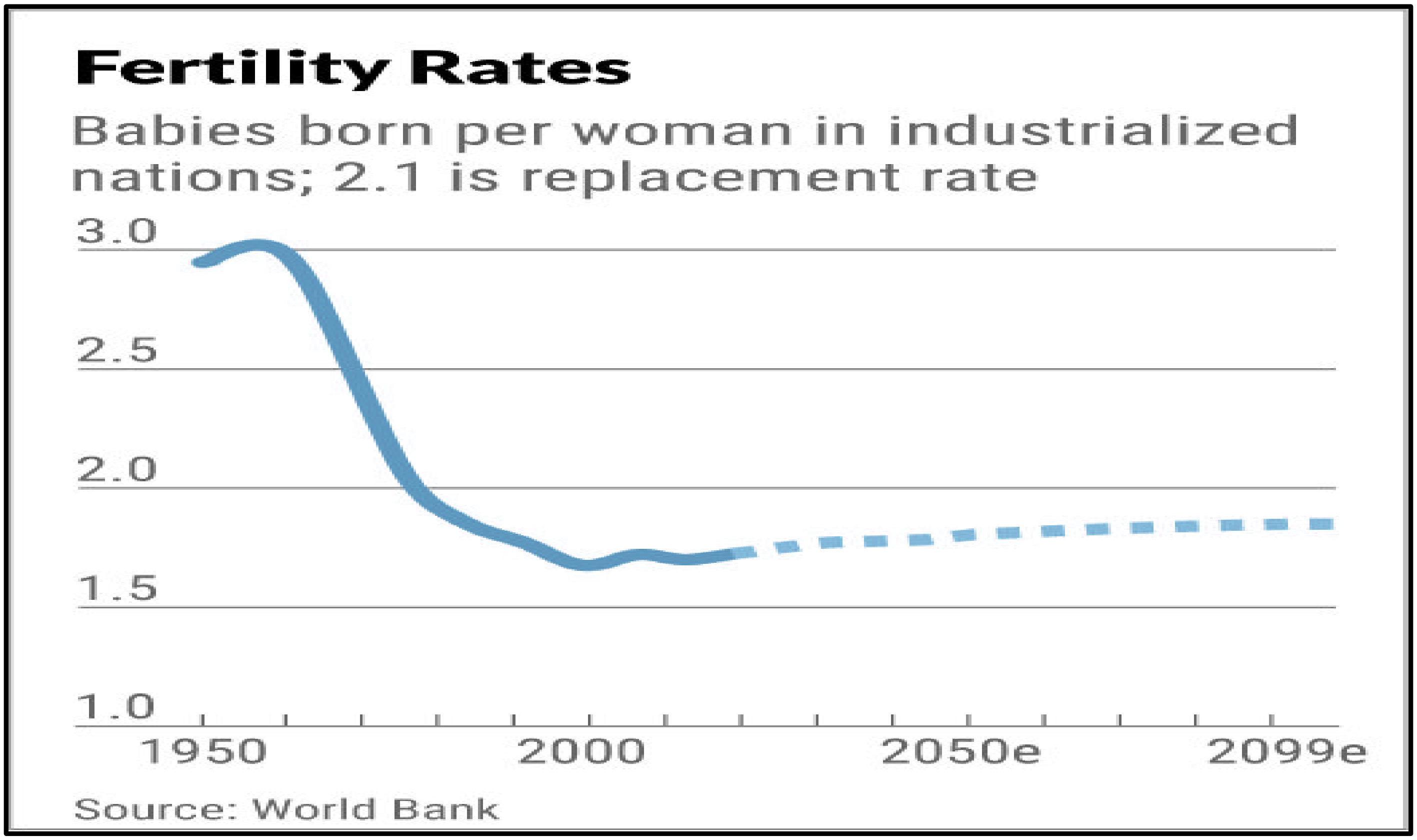
> "*We do not face the challenge of a population bomb, but of a population bust—a relentless, generation-after-generation culling of the human herd. Nothing like this has ever happened before.*
>
> *The great defining event of the twenty-first century—one of the great defining events in human history—will occur in three decades, give or take, when the global population starts to decline."*

"The Great defining event of the twenty-first century—one of the great defining events in human history"…statements like that certainly demand investor attention!

[1] Darrell Bricker and John Ibbitson, Empty Planet, 2019 Crown/Archetype

A way to grasp the salient demographic trends is reflected within **Chart A** below. The number ***2.1*** is deemed by demographers as the replacement fertility rate within the industrialized nations. It represents the estimated number of children that need to be born to women during their reproductive years if a population is to sustain itself.

Chart A



Birthrates that persist below this threshold within a country will result in a declining population unless immigration fills the fertility gap. (Importantly, unlike many other industrialized nations, immigration in the U.S. ***is*** filling the gap, so the domestic population is growing, albeit slowly).

Chart A also reflects that the industrialized world—responsible for the vast majority of the world's economic activity—has been well below replacement for *several* decades.

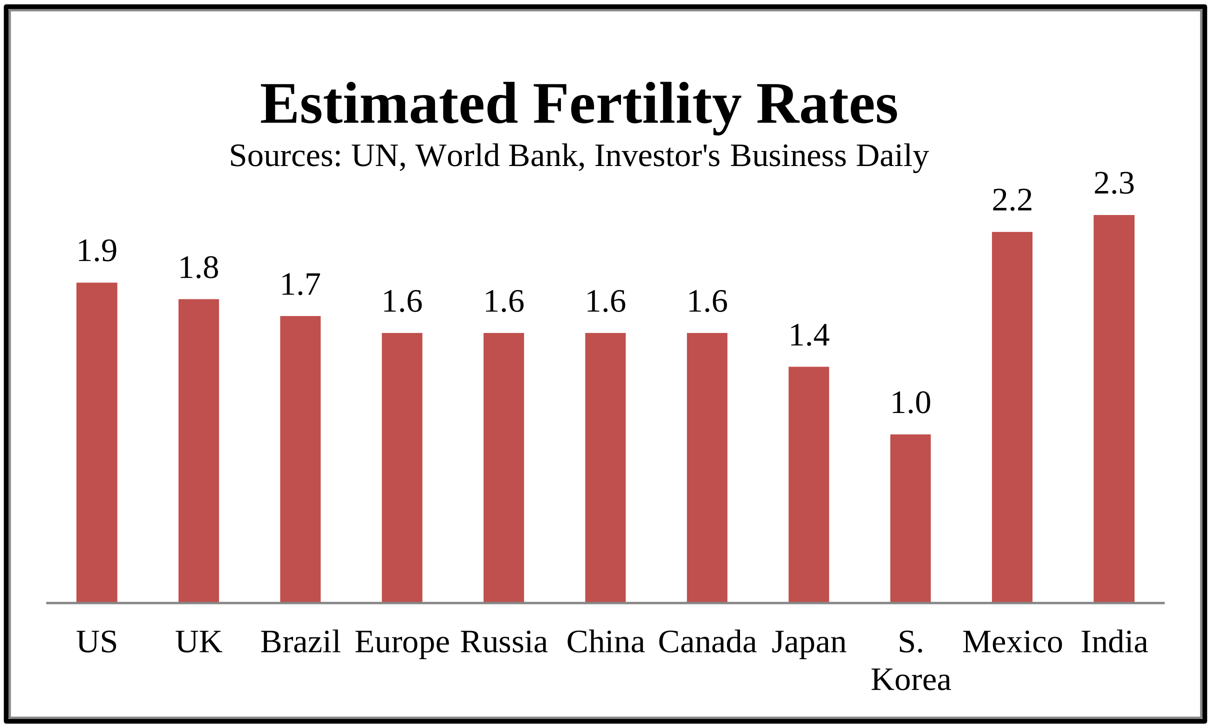
Chart B on the following page provides some regional data for additional context.

A couple of things to note about **Chart B**. First, thanks to its "one child" policy that prevailed for decades, China is well below its estimated fertility replacement level. As a result, it faces the very real prospect of a substantial decline in its population over the next several decades.

Second, because infant mortality rates outside of the industrialized nations are higher, the replacement fertility rates are higher in developing countries.

Chart B

Before we go much further, we must point out that Bricker's provocative statement about world population decline differs in degree from one of the generally accepted "go to" sources for demographic info and projections — the U.N.



As **Chart C** on the following page suggests, the U.N. forecasts that the significant slowdown in population *growth* that's underway across the world will continue. But it does not forecast an outright decline in the world's population level by century's end.

What accounts for the different forecasts of Bricker and the U.N.?

The "answer" lies in the assumed fertility rates of the so-called developing countries. Bricker makes the case that developing country fertility rates are mimicking the "industrialized" world's pattern of rapid fertility rate decline and will also crash below key replacement levels in the decades ahead. The U.N. assumes developing country fertility rates will remain above replacement levels.

Bricker makes the case that the U.N. forecast underestimates the importance of a couple of key drivers of declining fertility rates. He points out that as people migrate from rural to urban areas—as is occurring within developing nations—the number of children per family tends to nosedive. The same trend occurs as the education level of women rises, which is also happening across the globe.

Which forecast is correct?

Only time will tell.

What does seem pretty clear is that most of the "industrialized" nations are facing either stagnant or declining populations (and that includes China, remember). And as noted earlier, the vast majority of the world's economic activity occurs within these countries.

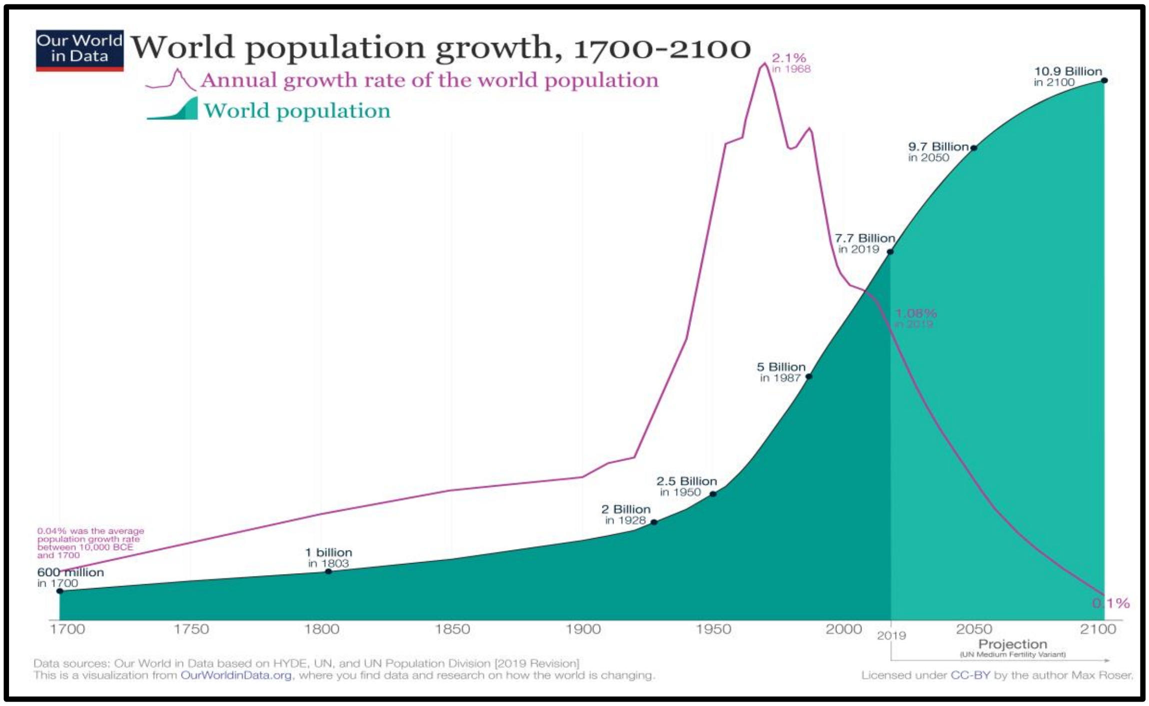
From investment and economic perspectives, this is a very different situation than the baby boom-influenced economic conditions that have dominated recent history.

Take another look at **Chart C**. Focus on the annual population growth (in purple). The historic impact on world population of the baby boomers after World War II is hard to miss!

As the baby boom came of age, the impact on the world economy was massive. Demand for nearly everything surged: clothes, personal care products, food, education, autos, shelter, appliances—the list goes on and on.

Loan demand in the "industrialized" world surged as mortgages and consumer debt increased in concert with exploding demand for goods. The supply-side of the economy was stressed to meet the demand shock. Corporate borrowing also rose as physical capacity was expanded to meet ever growing demand.

Chart C



The demand shock helped set inflation in motion. Central banks struggled to contain the upward pressure on price levels. Recessions were relatively frequent events in the U.S. across the 1950-1980 period as the Fed did its best to impersonate what economist Milton Friedman called "the fool in the shower"—repeatedly turning the monetary spigots from one extreme (too hot—too much inflation) to the other (too cold—recession).

Contrast all this with the situation of recent years. The purple "line" of population growth rates in **Chart C** continues to reverse its baby boom spike.

In the face of stagnant or declining populations, traditional manufacturing in most all industries across the world has abundant (excessive?) capacity.

Meanwhile, technology-enabled asset-light/capital-light business models continue to evolve. At the same time, the service sector has ascended as has the digital economy (think Amazon vs Sears) and both are dominating much of today's commerce. "New" and very different shock waves are hitting the world economy.

Relationships between key economic variables that were previously stable, are no longer so. Central banks used to struggle to contain inflation, now a decade of unprecedented monetary stimulus has failed to stoke inflation in industrialized countries. Deflation, rather than inflation, has become a primary worry to many.

Whether one thinks economic growth is "good" or "bad" for our species (we are in the "it's good" camp, we believe history clearly demonstrates that the mass flourishing of people occurs more readily within growth environments), it is hard for a country's economy to grow when its population is declining.

Economists generally agree that organic economic growth is largely dependent upon the rising productivity of a growing number of workers.

With population challenges, and sluggish productivity growth, many countries' economic engines appear to be *running on empty*.

Policymakers continue to grope for stimulus solutions. Voters continue to grope for leaders with solutions. Politicians continue to grope…(well, we'll leave it at that!).

Japan is furthest down the demographically challenged path. Its economic "stimulus" policy playbook has gone something like this:

- *Amp up government spending to "prime" the economic "pump".*
- *In the name of "federal budget austerity",* ***raise*** *tax rates.*
- *Have their central bank pursue unconventional "stimulus" polices like* ***negative*** *interest rates.*
- *Get inflation up to prevent a deflationary mindset from taking hold.*
- *To preserve social order, protect "zombies" from going under (i.e. banks packed with bad loans and companies that no longer are viable).*
- *Repeat, repeat, repeat.*

The results, after three decades?

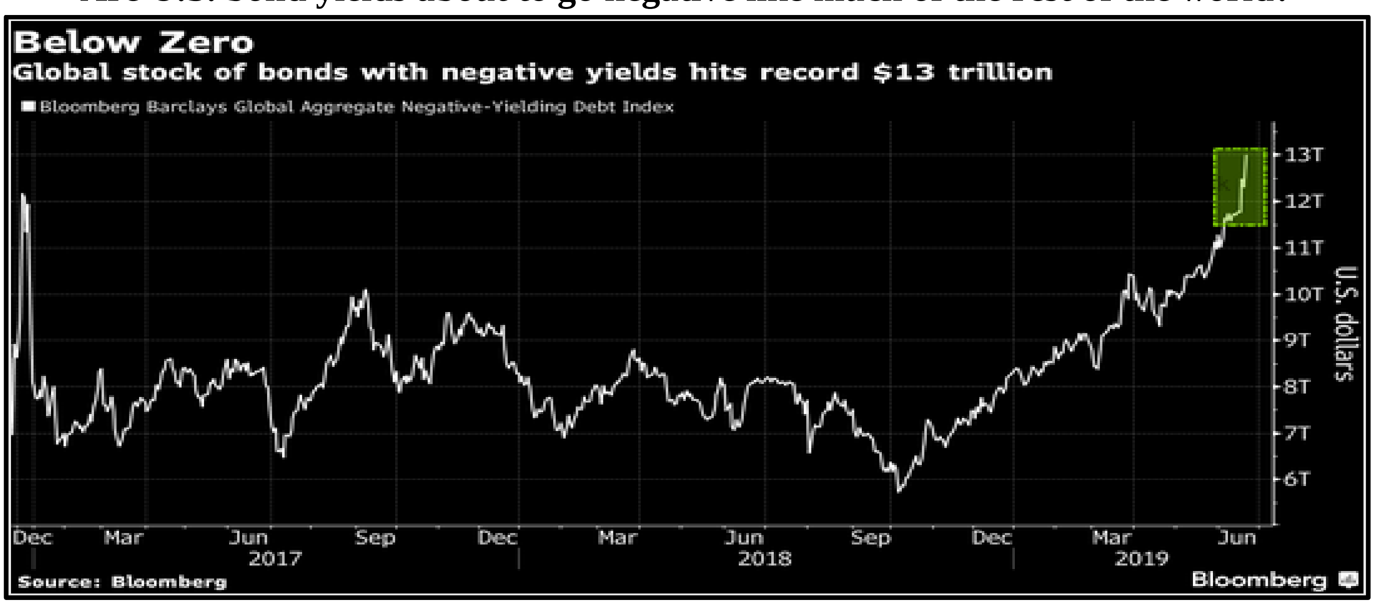
- *Economic stagnation marked by recessions along the way.*
- *Mild deflation.*
- *A massive budget deficit approaching "banana republic" levels.*
- *Higher tax rates.*
- *Massive intervention by the government into its economy and financial markets.*

Meanwhile, the Euro-Zone seems bent on following this same playbook!

As **Chart D** reflects, over $13 trillion of mind-boggling, *negative yielding* bonds now exist across the world.

Chart D

Are U.S. bond yields about to go negative like much of the rest of the world?



Are negative interest rates headed to the U.S.?

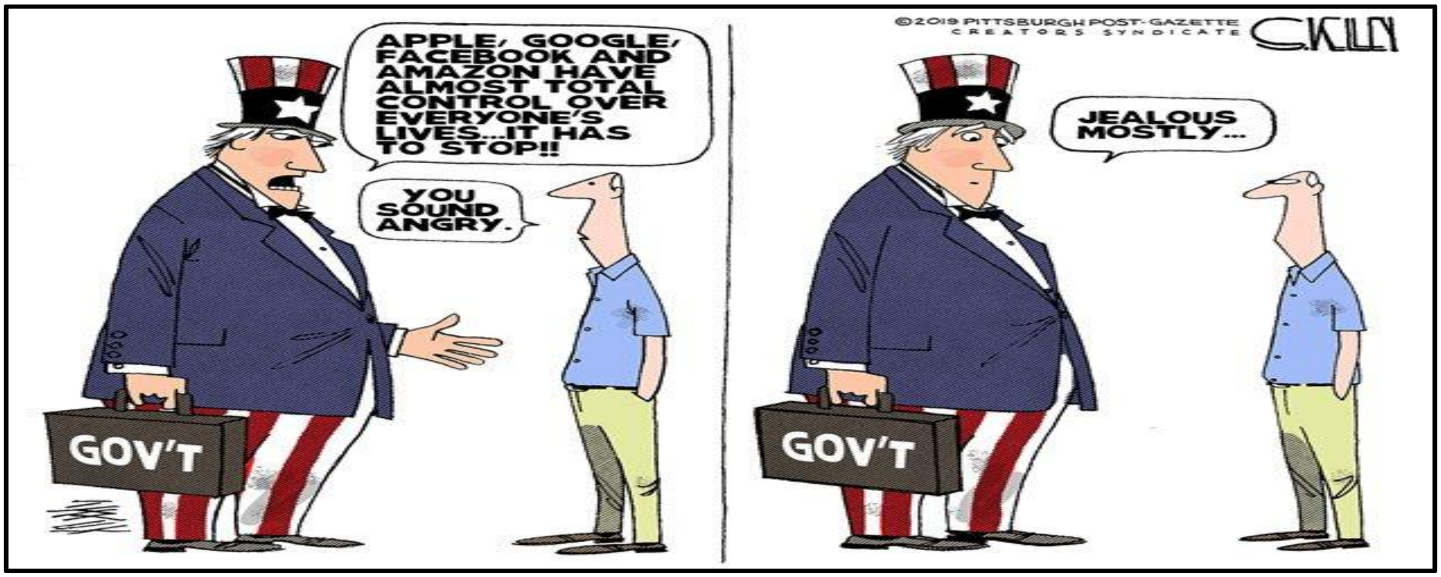
The U.S. economy is not running on empty.

We review our business cycle dashboard of leading indicators in **Appendix 1**. The pace of economic growth has slowed due to supply chain uncertainty related to China trade issues and the threatened Mexican tariffs, but recession still doesn't appear in the cards.

The economy doesn't look all that inflation-prone either, given the demographic backdrop we discussed earlier. This suggests the Fed does not need to hike rates to battle inflation and has room to reverse course and cut rates if it deems necessary.

In a world with many negative yielding bonds, U.S. bond yields have likely been pushed lower as global funds seek return. But as far as negative yields happening here— it's not likely, as domestic economic growth proves resilient.

Remember, the U.S. has a number of things going for it that separates it from most other industrialized nations.



As noted earlier, the U.S. demographic situation is much more favorable (see **Appendix 2** for more details). Very importantly, there is a significant amount of innovation activity underway with promising productivity potential.

And while the 2020 elections could change things, the U.S. is not following the world's economic policy playbook. U.S. tax rates have been *cut* and the growth-sapping wet-blanket regulatory thicket has been reduced.

But ***most important of all***, compared to much of the rest of world, the U.S. is more willing to tolerate the *creative-destruction* dynamic that underlies the innovation process. Innovation *creates* a new and more desired good or service, typically *destroying/disrupting* the "old way" of doing things. Once again, think Amazon vs Sears.

The economic playbook that's being followed in many countries misses the intended mark of stimulating growth because it fails to account for the nature and latent power of **human action** in an economy. Applied innovation, which pushes an economy (and the standard of living) forward is, essentially, a human process of ingenuity, risk taking, experimentation and discovery.

Governments cannot create wealth. Economies are not a machine where the growth "pump" can be "primed" via government spending. What policymakers can do is help create an environment supportive of the human, organic growth dynamic. "Top down" plans that hike taxes and protect zombie companies is likely to lead to more of the outcomes experienced in Japan.

In this regard, recently announced U.S. anti-trust "investigations" into several of the more innovative tech platform companies are worrisome. Turning companies into "punching bags" domestically on top of frequent assaults by global regulators runs the risk that innovation is stifled rather than stimulated.

Still, while the earnings potential of *individual* companies may be impacted by the investigations (company earnings prospects must be constantly assessed—as always), we suspect innovation will flow like a river around the "rocks" dropped by the government into the current.

A world where growth is hard to find

We remain encouraged as our ear-to-the-ground investment research approach continues to "hear" sounds that suggest the innovation river is flowing strongly.

Many companies are working on a host of innovation initiatives that hold significant promise.

A partial list of these initiatives includes:

- *The internet-of-things*
- *5 G*
- *Artificial intelligence*
- *Software as a service*
- *The "subscription economy" and conversion of products into services*
- *Simulation software*
- *Cloud computing*
- *New computing and programming tools*
- *Democratization of innovation*
- *Work flow optimization*
- *Mass customization*

We've been discussing much of this list for some time now. But it is still "early innings" in terms of the companies positioned to benefit from the new products and services that are expected (and those that are unexpected!) to flow from these innovations.

World leaders and policymakers may be struggling to find growth levers to push and pull for their economies, but some corporate leaders are figuring out how to position their companies to benefit from the growth opportunities created within the transforming world economy.

There is no shortage of problems humans wish to see solved. It's our job to continue to find and invest in those companies helping solve problems. Those that continue to do so will have business prospects sufficiently durable to overcome the ebbs and flows of the business cycle and market worries.

Some countries and companies may well be running on empty. Others are not. Investing in the difference-makers matters!

Appendix 1—U.S. demographics

As we discuss within the main text, long-standing relationships between some economic variables have been altered as the demographic and innovation trends have shifted. That's one of the reasons we have adopted a "dashboard" approach, using three Federal Reserve of Chicago's broad-based indicators, to assess current business cycle dynamics. The dashboard approach reduces the reliance on a single, or a few, select indicators that may have lost their leading indicator properties within the shifting economy.

Here is an updated assessment.

1. **Fed policy that's "too tight" usually kills an expansion. Financial conditions remain supportive of economic growth.**

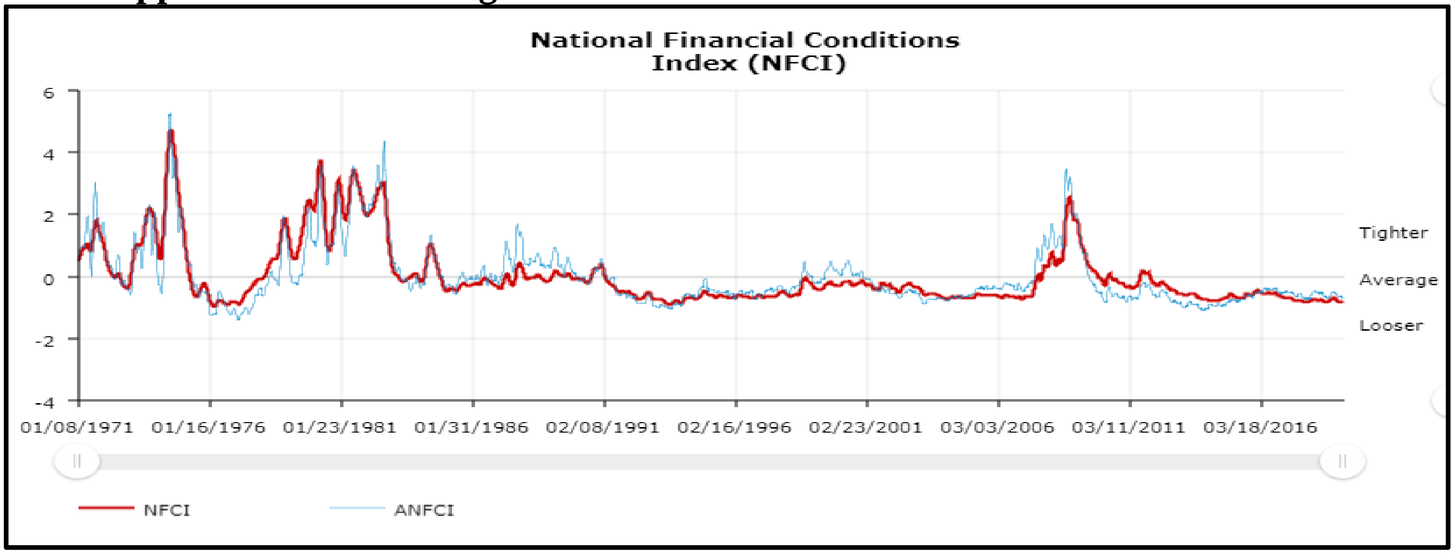


Chart interpretation (provided by Fed of Chicago): The National Financial Conditions Index (NFCI) and adjusted NFCI (ANFCI) are each constructed to have an average value of zero and a standard deviation of one over a sample period extending back to 1971. Positive values of the NFCI and ANFCI have been historically associated with tighter-than-average financial conditions, while negative values have been historically associated with looser-than-average financial conditions.

2. **The pace of economic activity has slowed, but recession alarms not flashing.**

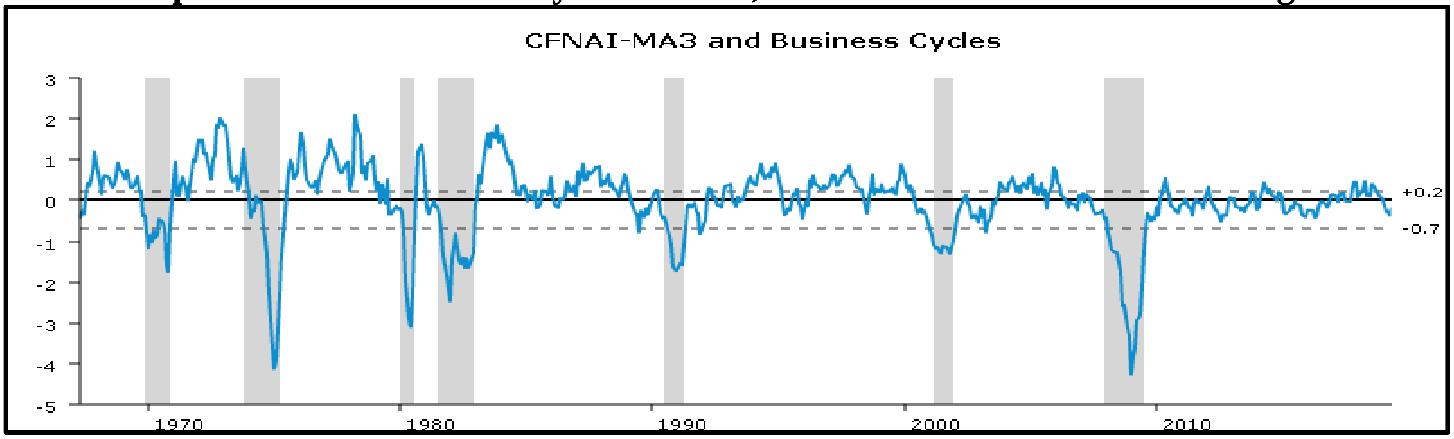
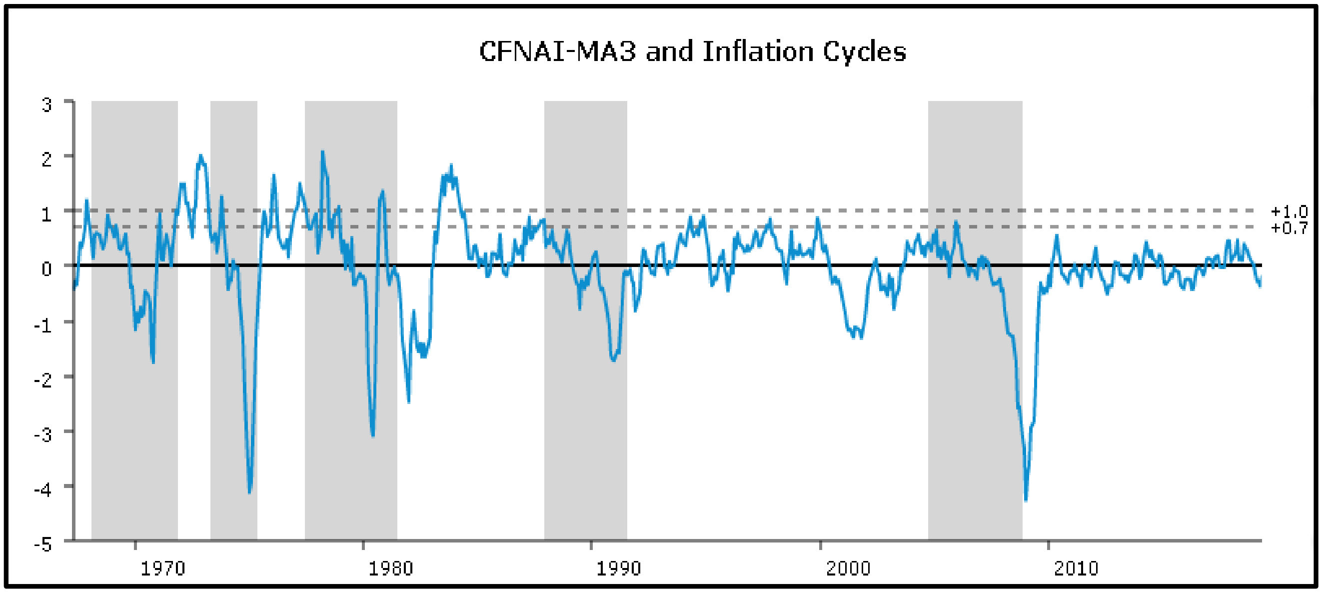


Chart interpretation (provided by Fed of Chicago): Shading indicates official periods of recession as identified by the National Bureau of Economic Research. Following a period of economic expansion, an increasing likelihood of a recession has historically been associated with a CFNAI-MA3 value below –0.70. Conversely, following a period of economic contraction, an increasing likelihood of an expansion has historically been associated with a CFNAI-MA3 value above –0.70 and a significant likelihood of an expansion has historically been associated with a CFNAI-MA3 value above +0.20.

3. Economy does not appear inflation-prone.



Notes: Shading represents periods of sustained increasing inflation. An increasing likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above +0.70 more than two years into an economic expansion. Similarly, a substantial likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above +1.00 more than two years into an economic expansion.

Appendix 2

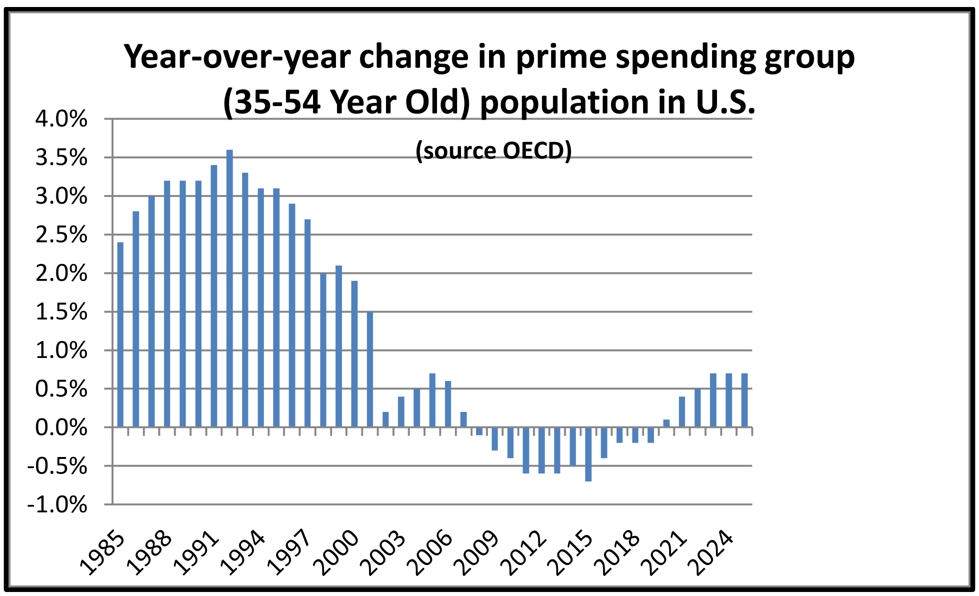
1. Millennials, defined as those born roughly between 1980-2000, are about to see the oldest of this age group turn 40, with the youngest closing in on 20 years old.

   This generation, numbering approximately 90 million, has overtaken the Baby Boomers as not only the largest generation in the U.S., but also the largest share of the labor force and the most educated. Representing 35% of the labor force today, around 40% have a bachelor's degree or greater, compared to 25% for Baby Boomers, when they were the same age.

   In addition, Millennials are set to inherit an estimated $30 trillion in wealth from the Baby Boomer generation.

   In short, the combination of their size, youth, education, and inheritance, set up Millennials to become the driving consumer force for the U.S. economy for many years to come. (Source: Jay Jacobs, CFA, Global X).

2. The group in their prime spending years is once again rising:



3. "Millennials are no longer as rooted as they were after the economic downturn. Many are belatedly getting married and heading to the suburbs, just as their parents and grandparents did." (Wall Street Journal, *American Suburbs Swell Again as a New Generation Escapes the City*, July 1, 2019).

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