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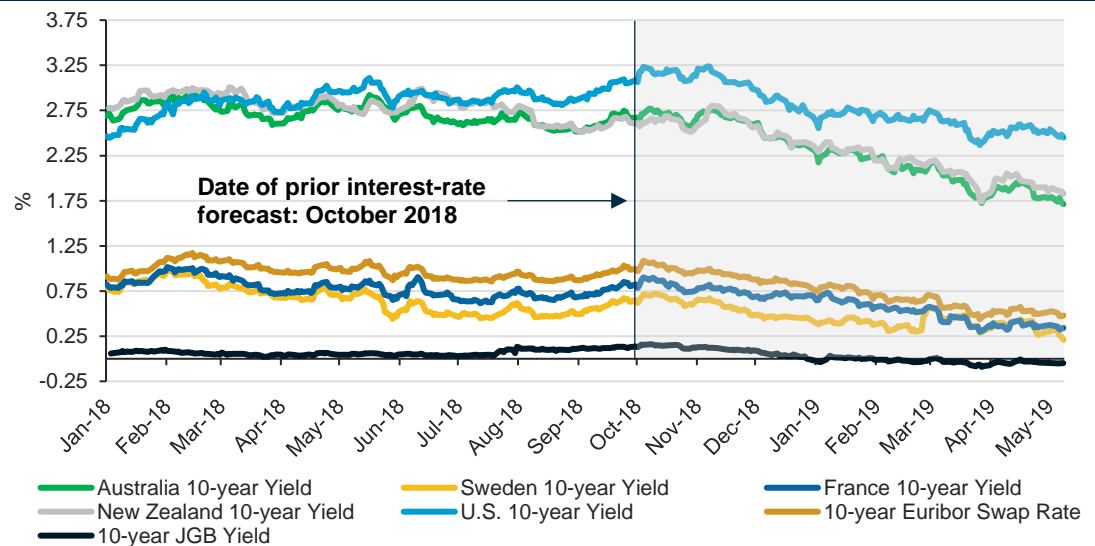
## Countdown to Zero—The Final Chapters

The Question Remains: Zero Real or Zero Nominal Yields?

*In our last interest-rate focused paper (Fall 2018), we hypothesized that G3 rates were temporarily boosted by fears of an acceleration in growth and an associated normalization of central bank monetary policy—a euphemism for less quantitative easing and higher short-term interest rates. Our bottom line was that once the growth bulge passed, long-term rates would continue to inch lower. This thesis wasn't based on pessimism regarding the world's growth outlook. Rather, we suspected that given aging demographic profiles across developed markets (and much of the emerging markets as well) and elevated debt levels relative to past decades, that the equilibrium interest-rate level had dropped and was likely to continue falling slowly. But the reduction in global growth, inflation, and long-term rates occurred faster than we expected (the shaded area in Figure 1 shows the decline in global DM rates).*

*Therefore, our prior, already-below consensus forecast for a long-term central tendency of 2.5% on the 10-year Treasury, less than 1.0% on the 10-year Bund, and less than 0.5% on the 10-year JGB appears too high. As the countdown to zero across the developed markets progresses (more in real terms in the U.S. and more in nominal terms in core Europe and Japan, for example), this paper looks at the factors that have continued to push the interest-rate equilibrium lower and the market implications of an even lower-for-longer rate environment.*

**Figure 1: The Uniform Decline in Long-Term Developed Market Rates—The Direction Has Not Surprised Us, But the Speed and Magnitude Suggests Equilibrium Rates May be Even Lower than Our Prior, Already-Below-Consensus Forecast.**



Source: Bloomberg as of May 2019

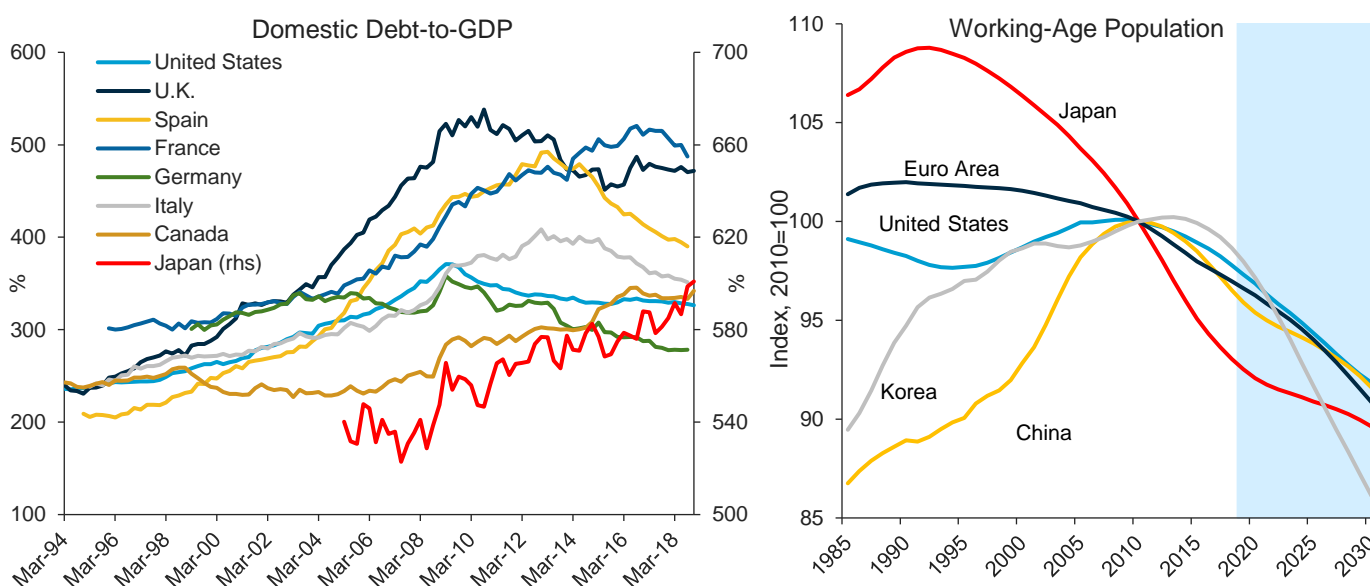
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## Secular Factors: The Overarching Bullish Bond Backdrop

We previously hypothesized that the equilibrium level of interest rates was falling as a result of long-term secular factors, including high debt levels, an aging demographic, and rising inequality.<sup>1</sup> The broad increase in developed market debt-to-GDP ratios over the past several decades (Figure 2) contributed to what were buoyant growth rates globally. The boost to growth more than offset the contractionary effect of aging global demographics (Figure 3). If nothing else, the global financial crisis ended an era in which debt levels grew faster than GDP rates. Therefore, the post-GFC era is one without the artificial boost of debt-financed growth and the associated upward pressure on interest rates.

**Figures 2 and 3: Rising Debt Levels Artificially Boosted Growth, Masking the Headwinds of Aging Demographics. Therefore, Interest Rates May Continue to Fall as Debt Creation has Slowed Substantially, While the Dynamic of Aging Demographics Intensifies.**



Source: Bloomberg and Haver Analytics as of May 2019

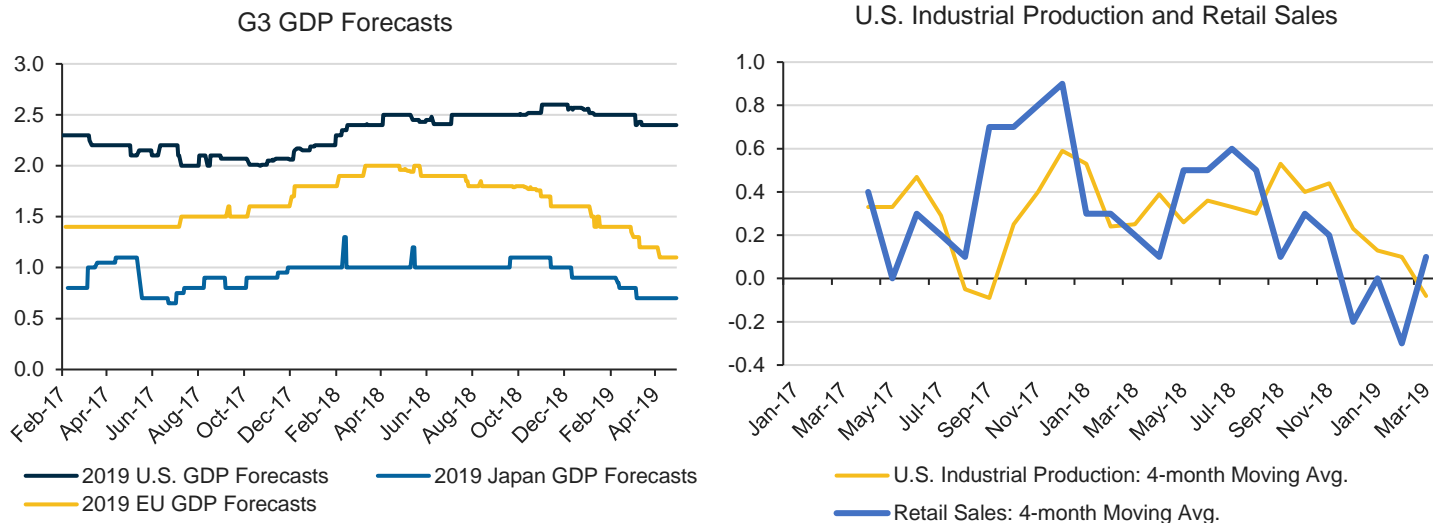
Capital concentration may also be dampening the need to borrow as the individual and corporate actors who collectively drive economic activity and rising inequality are awash in funds, consequently reducing the upward pressure on rates. In short, the players driving economic growth are more concerned with deploying their assets than borrowing, which may have been their primary concern in decades past. When combined with the less-favorable corporate tax treatment for interest payments, the markets continue to gradually adjust to a secular backdrop that warrants an evolving, lower-equilibrium level of interest rates.

## A Two-fold Surprise in the Interim

From a more recent perspective, we experienced a two-fold surprise since we previously theorized on rates. First, the decline in DM rates was faster and deeper than we expected (again, Figure 1). Second, despite the drop-in rates, both growth and inflation have also turned out softer than we expected. Indeed, the general moderation in global growth has been reflected in declining GDP forecasts across the G3 (Figure 4). Even in the U.S. where this year's growth expectations have only declined slightly, underlying economic measures, such as industrial production and retail sales, show a conspicuous, recent decline (Figure 5).

<sup>1</sup> For prior perspectives, see the following: "Economic Recovery Creates Opportunities in Bonds," December 2003; "The Low Ranger," September 2013; "Europe into the Void," October 2014; "The Totally Mad World of Low Rates," December 2015, and "Lower Range to Drive Stealth Bull Market in Bonds," October 2018.

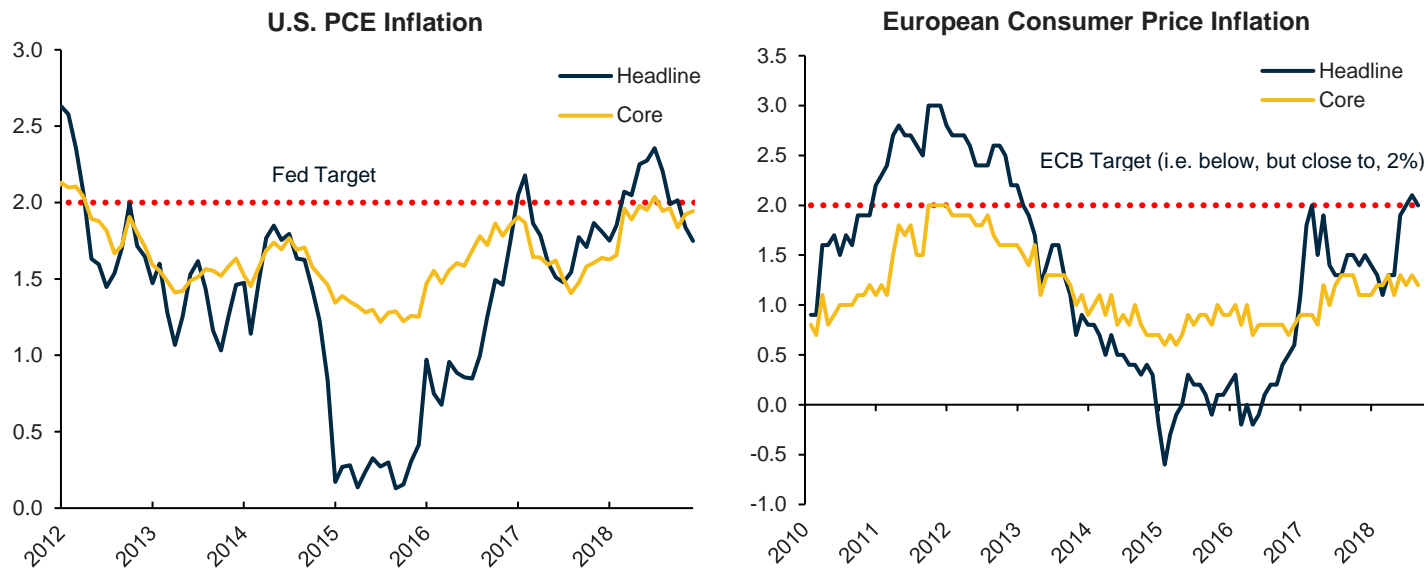
**Figures 4 and 5: Expectations for Growth Have Dropped Across the G3. While Less Apparent in U.S. GDP, Underlying Data, Such as Industrial Production and Retail Sales, Have Also Backed Off Recently.**



Source: Bloomberg as of May 2019

Meanwhile, core inflation rates continue to run below the targets of major central banks, significantly so in the case of the euro area and the European Central Bank (Figures 6 and 7).

**Figures 6 and 7: It's a Backdrop of Subdued Inflation Pressure Across the Developed Markets.**



Source: Bloomberg as of May 2019

In our last paper, we explained that our bullish bond market outlook was not predicated on a bearish economic outlook, but rather was based on a falling equilibrium rate as a result of secular factors like debt and demographics. The subsequent drop in rates and slowing of economic activity, however, may suggest the equilibrium level of rates is even lower than we suspected. Why?

## Despite the Drop in Rates, the Moderation in Activity and Inflation Supports the “Falling Equilibrium” Hypothesis

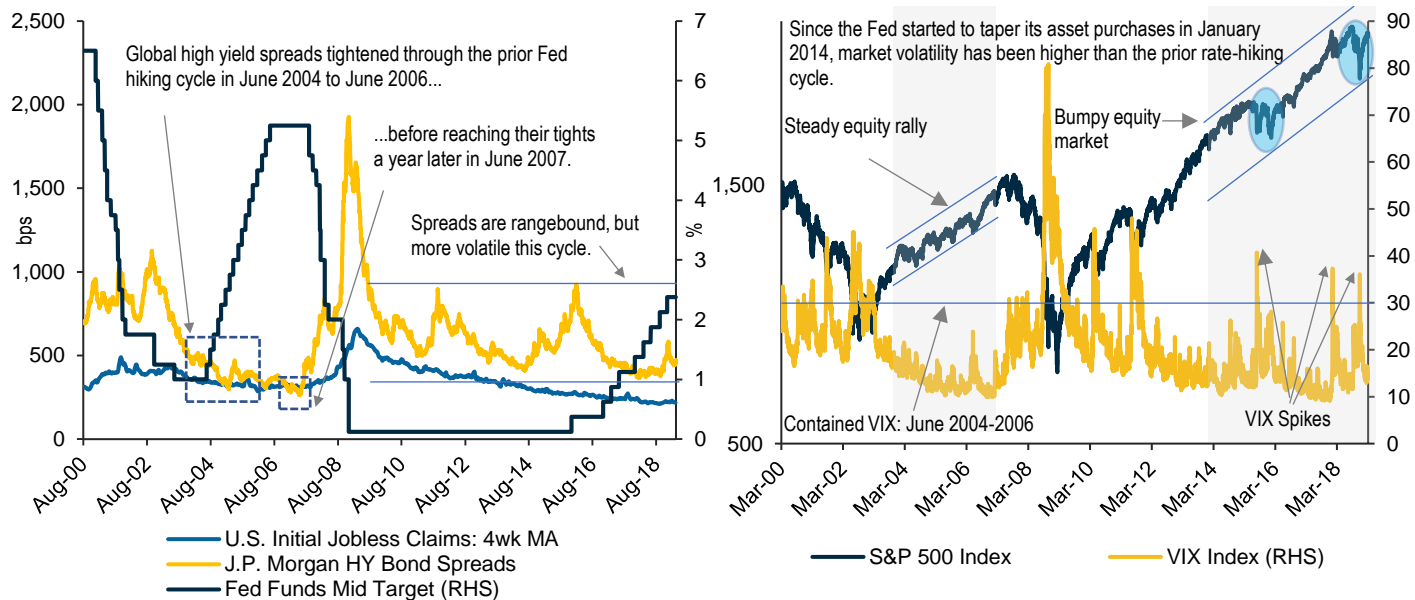
In some respects, we see interest rates as an “input” into the economy, and, hence, the course of the economy may give us an indication as to whether rates are too high or too low. That is, if rates are at below-neutral levels, presumably borrowing and growth would accelerate. Conversely, if rates are at above-neutral levels, borrowing would recede and economic growth would moderate. Granted, there are a lot of moving parts to an economy, and looking only at interest rates over a relatively short interval may give false signals. **Nonetheless, seeing both growth and inflation fall despite the decline in rates suggests that interest rates may still be above whatever equilibrium level is required to stabilize the economy. Therefore, whether the downshift in growth is occurring endogenously, as a result of fading fiscal stimulus, or as a result of still-elevated interest rates, the equilibrium level of rates may still be falling.**

## The Market Impact of Lower Rates: The Good and The Bad

While low rates—particularly as it pertains to the proximity to the zero lower bound (ZLB) or effective lower bound (ELB)—certainly create problems, they aren’t necessarily all bad. In terms of asset prices, all else being equal, **a lower equilibrium level of rates may bring higher valuations (e.g., higher price/earnings multiples) on investments, such as stocks and non-government spread products, as the low yields on government bonds inspire investors to take more risk in search of higher returns.**

However, a potential negative of the combination of high debt levels, slow nominal growth, and ultra-low interest rates is the limited scope for downside policy protection—especially the potential for aggressive rate cuts—in the event of an adverse shock or cyclical slowdown. As a result, investors may be quicker to sell when they become concerned about potential fundamental problems on the horizon. Indeed, spreads over the last several years have traversed a much wider range than was the case at a similar point in the last cycle (Figure 8), and equity prices have been more volatile (Figure 9). **The good news with regards to low rates is that valuations may be higher on average. The bad news is that markets may be more subject to violent fluctuations.**

**Figures 8 and 9: In the Current Cycle, Credit Spreads and Equity Prices Have Traded in Wider Ranges**



Source: Bloomberg as of May 2019

## Risks to the Low-Rates Outlook

What are the risks to the “lower-for-longer” rate scenario? **Anything that dramatically boosts borrowing for investment or spending, or crimps demand for bonds, would be a threat.** For example, if it turns out that the slowdown over the last several months was only temporary—perhaps driven by anxiety regarding Brexit or the deceleration in China, aka the world’s growth engine—a re-acceleration of growth could boost demand for credit, which would push rates higher. Alternatively, a positive growth shock that could occur as a result of a wave of innovation that drives up the need for capital investment—like a rapid and large acceleration in public and or private spending to react to climate change—or major long-term increase in government spending for either a fiscal stimulus program or a massive military conflict could similarly boost growth, demand for capital, and interest-rate levels. While none of these scenarios appear to be immediately in the cards, we will, nonetheless, need to stay tuned.

## Conclusion: Rates are Likely to Stay Lower Than Expected for the Foreseeable Future

To summarize, the global economic environment appears softer than expected and the equilibrium level of rates correspondingly lower than we thought. Otherwise, wouldn’t the lower level of rates have already stimulated growth and stabilized or boosted inflation? We’ll watch to see if this is all the result of temporary factors, but **our hypothesis is that these factors are more structural than cyclical, and, therefore, the equilibrium level of rates is continuing to shift to lower and lower ranges. Indeed, it may shortly culminate in a countdown to zero—i.e., given our expectations that the long-term central tendency for the 10-year Treasury yield is probably declining toward 2.00%-2.25%, real rates will be close to zero. In Europe and Japan, given our expectation for sub-1.0% 10-year Euribor swap rates (sub-0.50% 10-year Bund yield) and a sub-0.25% 10-year JGB yield, nominal yields for the highest-quality bonds may spend much of the foreseeable future clustered around zero.**

Additionally, while the drop in equilibrium rates, all else equal, may boost valuations across asset classes, the high levels of debt and limited policy options in a downturn may be already be contributing to a substantial secular increase in volatility levels.

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