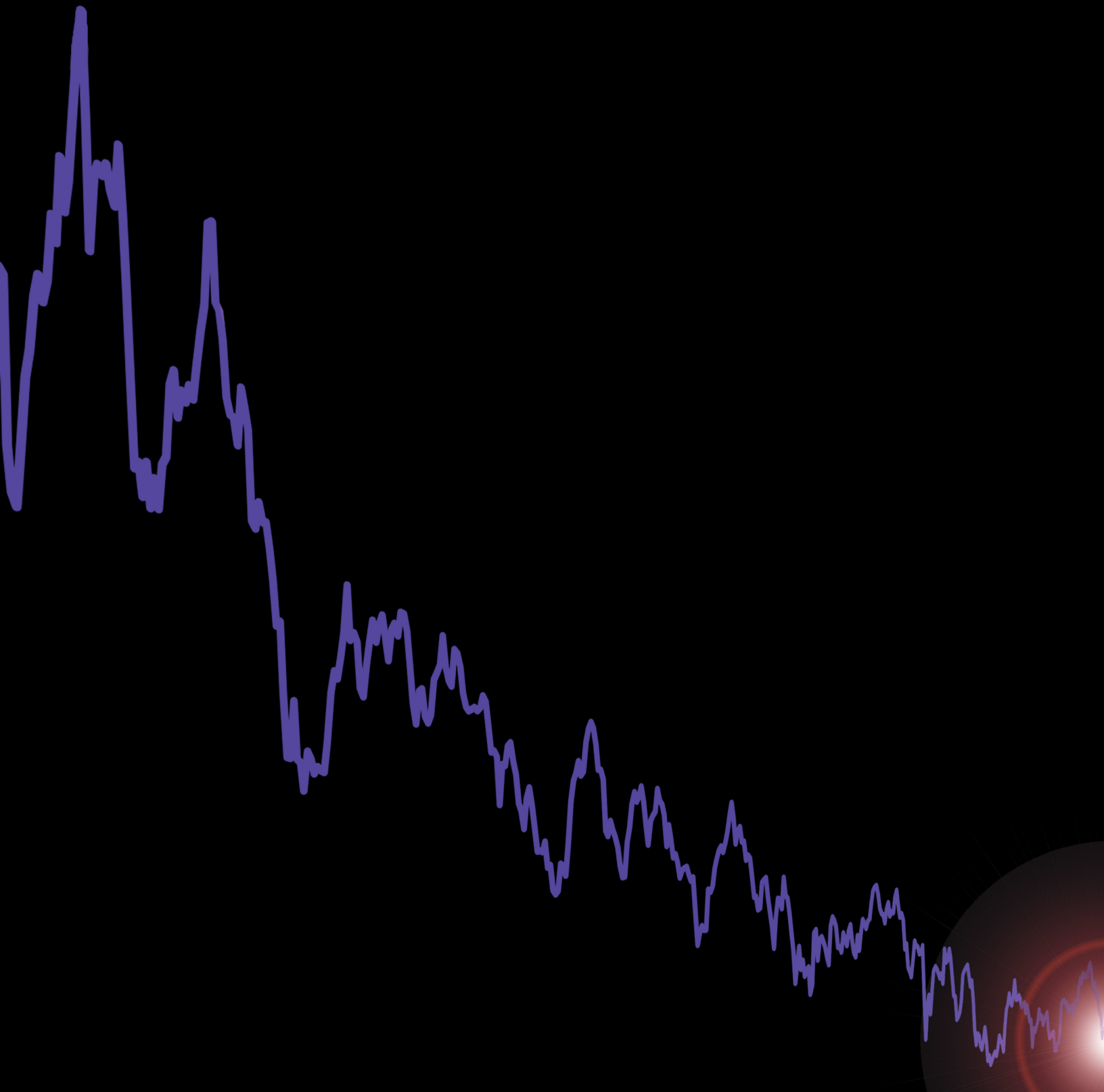
BERNSTEIN

2019

INTERESTING TIMES

A Discussion of the Future Path of Interest Rates



EXECUTIVE SUMMARY

Interest rates are a central force in the economy, shaping major financial decisions for households, corporations, and countries. Over the past several decades, they've fallen to the lowest levels in human history, even turning negative in some of the world's major economies in recent years.

Some worry it's a bubble, some blame central banks for manipulating the bond markets, and others worry we're entering a period of secular stagnation. We look at multiple factors that, we believe, have driven interest rates to such low levels and in turn use that framework to examine where they're likely to go in the future. Admittedly, no one knows for certain what has driven interest rates historically. Even the factors we use in our framework are debatable. But based on extensive research we believe they serve as a useful guide to the future.

Our objective in writing this paper is not to produce a pinpoint forecast for interest rates. It would be misguided to attempt to be that precise. Rather, we discuss the drivers of interest rates and identify the directional path they may take from here over the near, medium, and long term.

We focus on major secular drivers including the budget deficit, US demographic variables, global economic and demographic pressures, income inequality, and monopoly power. We also account for cyclical drivers including inflation, economic output relative to its potential, and the links between global rates.

Specifically, we see relatively neutral effects from the US budget deficit in the coming decade, with upward pressures on rates as the deficit rises relative to GDP after that. We see the downward pressure from US demographics that prevailed in recent decades evening out in the coming years before reversing in the longer run. Likewise, we see similar demographic forces abroad, with Europe, Japan, and China exacerbating US demographic effects and India's relatively young population potentially offsetting them. We believe it's possible that income inequality and monopoly power continue their recent trends and keep pressuring rates downward but recognize that political forces may finally reverse those trends and have an upward impact on rates.

In the near to medium term, we expect rates will remain anchored by weak inflation in the US and low rates outside the US. With international interest rates themselves under pressure from weak international growth, we don't expect that gravitational force to reverse soon.

Further out, we see some downward pressures on rates continuing while others ease and eventually turn positive, suggesting that US rates may remain low for years to come before ultimately reverting higher.

> Each generation tends to consider as normal the range of interest rates with which it grew up; rates much higher suggest a crisis or seem extortionate, while rates much lower seem artificial or inadequate. Almost every generation is eventually shocked by the behavior of interest rates because, in fact, market rates of interest in modern times rarely have been stable for long."
>
> -Sidney Homer, *A History of Interest Rates*, first printed in 1963

With around $12 trillion in debt around the world offering negative yields, interest rates have once again risen to the top of people's minds. They matter not only to investors searching for income but also to those looking to refinance their home, buy a new car, or make countless other financial decisions.

Central banks slashed rates during the Global Financial Crisis and pursued unconventional monetary policies in order to ease financial conditions further than interest rates alone would allow. A decade later, growth and inflation have remained weak around the world and rates have remained low. The US economy proved more resilient than others, allowing the Fed to slowly raise rates in the past few years. But with ongoing global weakness exacerbated by worsening trade tensions, even the Fed is now in cutting mode, joining central banks around the world in easing monetary policy.

While interest rates have attracted a lot of attention in this economic cycle, they have been declining for decades, on both a nominal and real (net of inflation) basis. The US 10-year Treasury yield, one of the key global financial benchmarks, fell from over 15% in 1981 to less than 2% today. But what can we expect from interest rates going forward?

The key to answering this question is to understand the drivers of interest rates. Based on the secular and cyclical drivers, we expect low interest rates to persist, with upward pressures building over time. While we don't expect those pressures to drive rates higher in the coming years, when we look out a decade or more, we do see rates eventually rising.

As discussed in this paper, we expect a prolonged period of low rates in the US over the next decade due to the offsetting forces from:

- A stable budget deficit relative to GDP over the coming decade
- Rising life expectancies and lower population growth rates in the US and overseas
- Longer working lives and a higher proportion of retirees
- Central banks' desire to stimulate inflation in the US and growth in Europe
- The self-reinforcing drag from low and negative global rates

WHAT DRIVES US INTEREST RATES?

A Dribble of History, a Dabble of Theory

To consider what may happen to interest rates in the future, we should first understand what has driven them in the past—again, these factors are debatable. We lay out our framework for thinking about the key secular and cyclical drivers in **Display 1**.

DISPLAY 1: OUR FRAMEWORK FOR UNDERSTANDING INTERNATIONAL RATES

		Historical Impact	Medium to Long Term Expected Impact	Near to Medium Term Expected Impact
SECULAR DRIVERS				
	Budget Deficit	▲	Neutral / ▲	
US Demographics	▪ Life expectancy	▼	▼	
US Demographics	▪ Fertility	▼	Neutral	
US Demographics	▪ Population growth	▼	▼	
US Demographics	▪ Length of working life	▼	▲	
US Demographics	▪ Length of retirement	▼	Neutral	
US Demographics	▪ Employment-to-population ratio	▼	▲	
	International Demographics and Economic Growth	▼	Neutral / ▲	
	Income Inequality	▼	Neutral	
	Market (Monopoly) Power	▼	Neutral	
	Self-Reinforcing Low Rates	▼	▼	
CYCLICAL DRIVERS				
Policy Rate Drivers	▪ Inflation and inflation expectations			▼
Policy Rate Drivers	▪ Economic output vs. potential			▲
	International Interest Rates			▼

Source: Bernstein analysis

As we dive into interest rates, it helps to focus initially on real rates rather than nominal rates. First, since real rates are net of inflation, they matter to anyone depending on fixed income for some or all of their spending needs. Second, in grounding our analysis, real rates are the focus of most academic research and economic models. Third, by stripping out inflation, it's easier to think about how different factors affect rates. And fourth, thanks to the hard (and sometimes unpopular) work of the Fed over the past several decades, inflation expectations in the US are well anchored (and arguably anchored too low), raising the hurdle for breakout inflation.

At a high level, you can think of interest rates as the rental price for capital. In modern society, capital is translated into monetary terms, so rates are usually thought of as the (rental) price of money. But interest actually preceded money in human history. Traveling back through time, cattle were the asset behind one of the earliest forms of credit. In some cases, cattle were lent for no interest. In others, the borrower was expected to return a percentage of offspring or a multiple of the original number of cattle, setting the stage for modern finance in which borrowers return more than the original amount and lenders expect a positive return.[1]

In the modern economy, interest rates connect savers (who supply funds) with investors (who borrow funds in order to pursue productive projects). Increases in savings increase supply and lower interest rates. Increases in capital investment increase the demand for funds and raise interest rates (**Display 2**).

As in all markets, the interest rate may deviate from equilibrium at any given point in time. But over time, market pressures should push it down when it is too high and push it up when it is too low. Over the past several decades, an excess of savings relative to investment has pushed that rate, which we call the equilibrium real policy rate, lower.[2]

So to understand interest rate movements over time, we have to ask: what drives savings and investment?

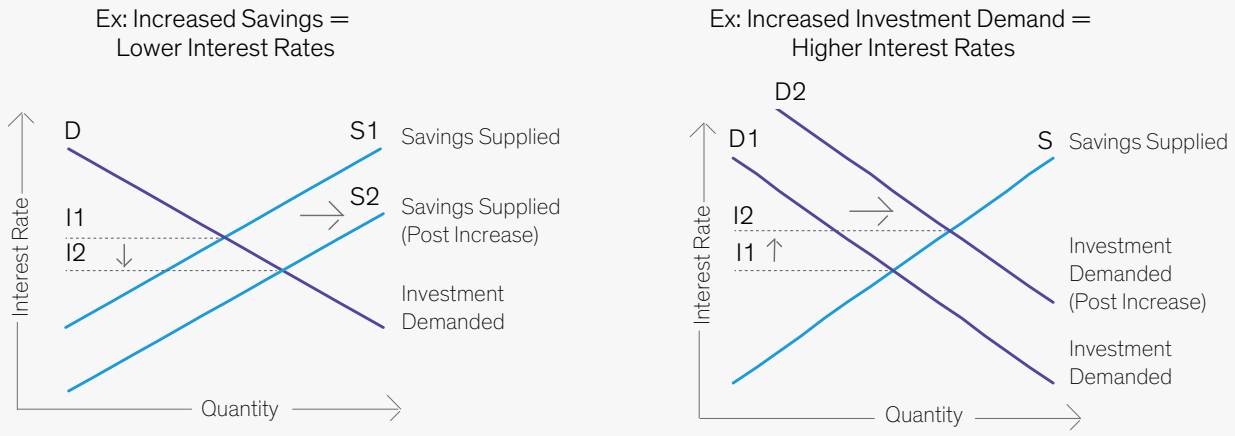
SECULAR DRIVERS

The Budget Deficit

National savings are the part of national income (GDP) left after government expenditures and household consumption. In effect, they're broken into two pieces, the private savings of households (income minus taxes and consumption) and the public savings of the government (tax revenues minus government spending). When the government runs a budget deficit like the US has for most of the past several decades, public savings are negative and national savings are lower.

Growing discretionary spending, along with increased mandatory spending for Social Security and healthcare expenses, have increased outlays. Meanwhile, tax cuts have reduced government revenues, leading to wider deficits. As a result, the deficit has grown relative to GDP over time.

DISPLAY 2: SAVINGS AND INVESTMENT ARE SUPPLY AND DEMAND FOR FUNDS



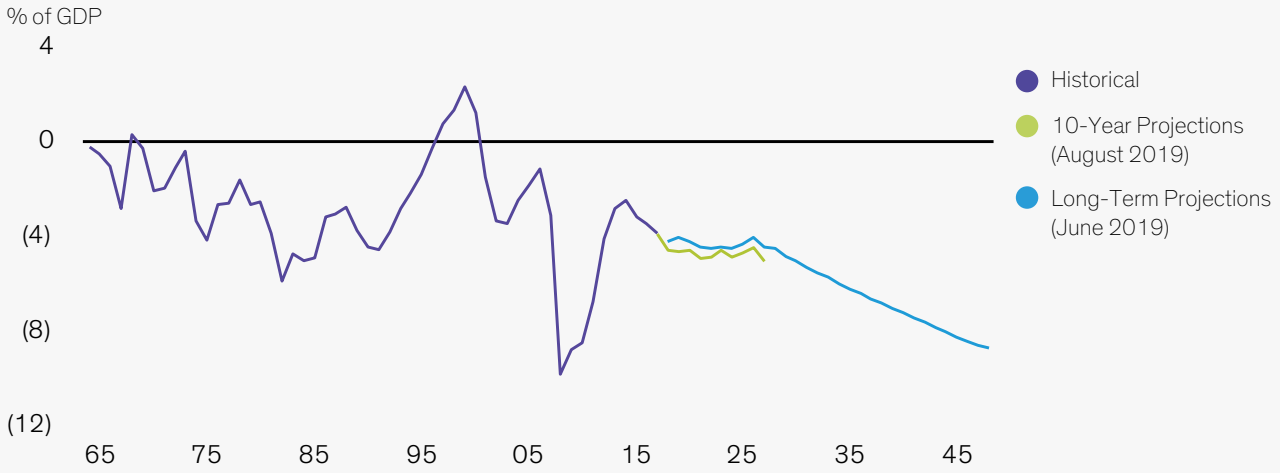
Source: Bernstein analysis

[1] In ancient societies (and some more recent ones), cattle served some functions of money. "Capital" is rooted in capitalis, Latin for "head of cattle." Similarly, "pecuniary" comes from pecus, for herding animals.

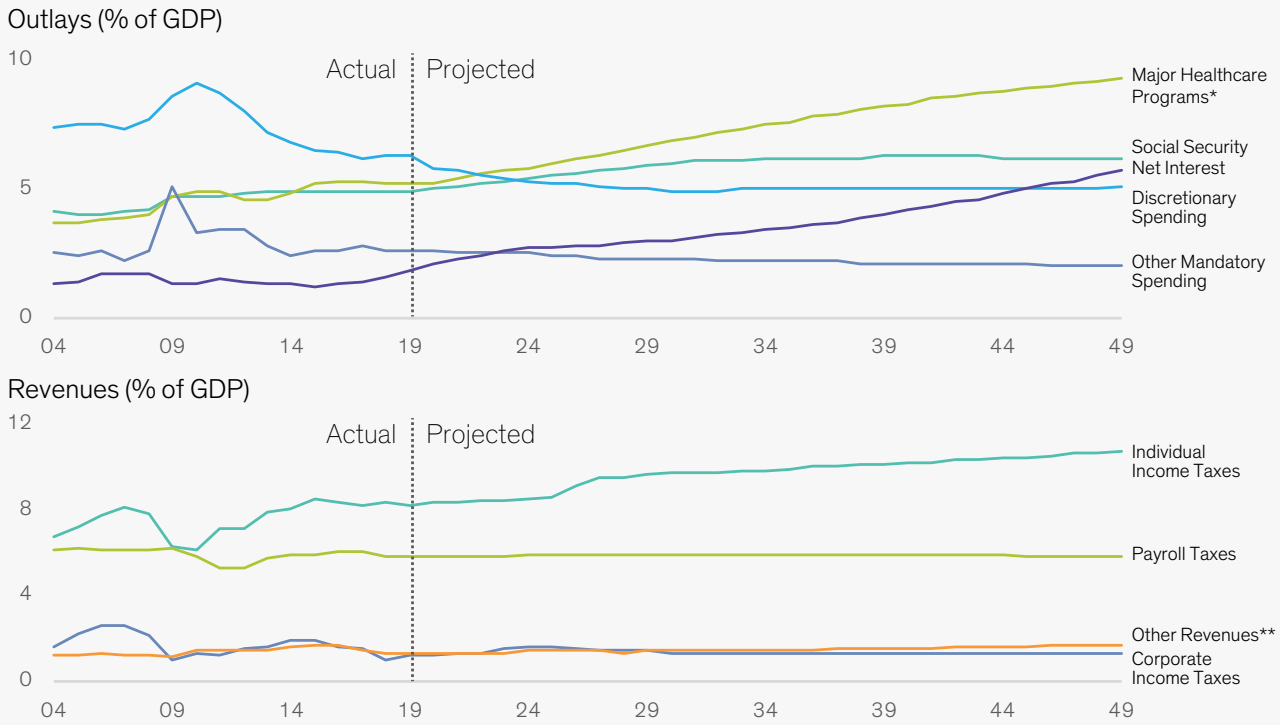
[2] This rate goes by a variety of names including the natural rate of interest, the neutral rate, or r*, but we follow the lead of former Fed Vice Chairman Roger Ferguson and Hamilton et al., 2015, in calling it the equilibrium rate to emphasize that this is "a concept related to the clearing of markets."

As shown in **Display 3**, the 2017 Tax Cuts and Jobs Act, in part, increased the budget deficit from 3.5% of GDP in 2017 to 4.5% in 2019. This is the first major deficit expansion outside of a recession or a military buildup and it's also notable for how long it's expected to continue. From here, the Congressional Budget Office (CBO) expects the deficit to remain at the same percentage of GDP over the next decade. Things begin to get more worrisome from 2030—2049, though, as they project the deficit rising to just under 9% of GDP, due to a doubling of the federal debt held by the public and the CBO's estimates of interest rate increases.

DISPLAY 3: THE US BUDGET DEFICIT



COMPONENTS OF THE US BUDGET DEFICIT



GDP = gross domestic product.
*Consists of spending for Medicare (net of premiums and other offsetting receipts), Medicaid, and the Children's Health Insurance Program, as well as outlays to subsidize health insurance purchased through the marketplaces established under the Affordable Care Act and related spending.
**Consists of excise taxes, remittances to the Treasury from the Federal Reserve System, customs duties, estate and gift taxes, and miscellaneous fees and fines.
Source: Congressional Budget Office and Bernstein analysis

As part of the 2017 tax cuts, individual income taxes are set to increase again in the mid-2020s. We expect that fiscal policy will have a limited impact on interest rates over the next decade, as discretionary spending falls relative to GDP in the coming years and individual income taxes rise relative to GDP in those later years, offsetting rising costs elsewhere. However, in the more distant future, healthcare spending will continue to grow even as other spending relative to GDP levels off, driving up the deficit as a percentage of GDP and in turn increasing the national debt and interest payments.

There's an inherent feedback loop from higher deficits to higher debt levels and interest rates and then back to higher deficits. That leads to questions of debt sustainability over time. By 2049, the CBO projects that the combination of higher debt levels and higher interest rates will increase interest payments to 5.7% of GDP. Without interest payments, the deficit would be only 3% of GDP.

The pressure from higher deficits has been the main upward force on interest rates over the past several decades. However, that upward force has been overwhelmed by other drivers which have pushed rates lower. If the deficit's impact is relatively neutral from here, at least for the next decade, are the other drivers which historically pushed rates lower going to turn around and start pushing rates upward? If not, will rates fall further?

The Mixed Bag of Demographics

That brings us to the other most critical driver of interest rates—demographics.

Over recent decades, every single element of demographics has pushed rates lower. That uniform pattern is now changing.

Life Expectancy, Fertility, and Population Growth

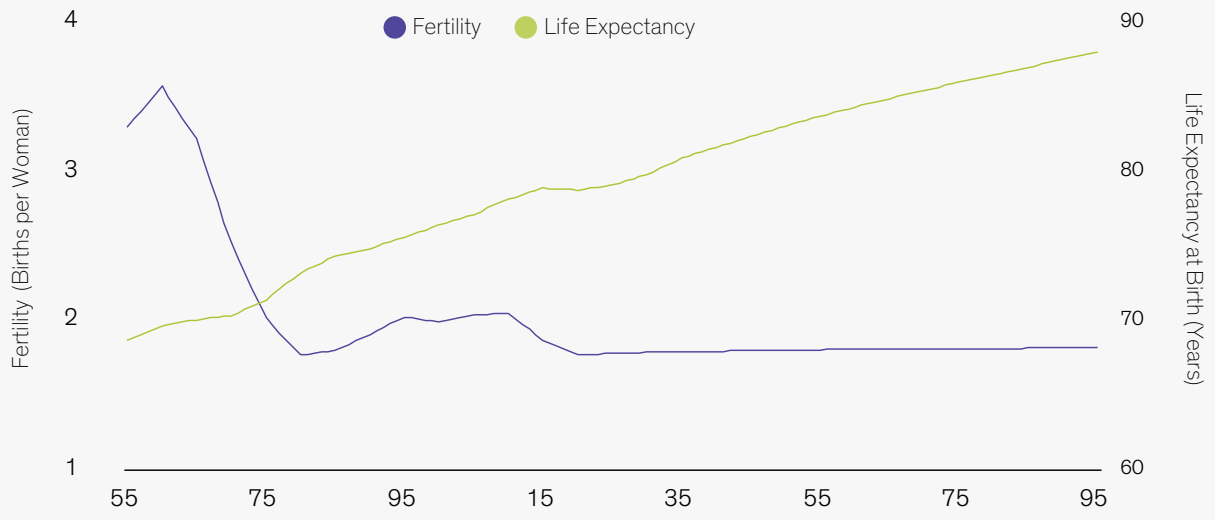
Two of the most important demographic drivers are life expectancy and fertility rates. In the past several decades, life expectancies have increased and fertility rates have fallen. Going forward, fertility rates should remain stable as life expectancies continue to rise (**Display 4**).

Rising life expectancies have pushed interest rates lower in recent decades. In general, as life expectancies rise, people choose to save more throughout their working lives to fund longer retirements. Those higher savings rates, in turn, put downward pressure on interest rates.

Falling fertility rates have also pushed rates lower in recent decades, but they work differently than rising life expectancies. Lower fertility rates increase the capital-to-labor ratio in the economy. This lowers the value of incremental capital, in turn reducing the demand for funds and pressuring interest rates lower.

To understand how this works, imagine you operate a bakery in a small town and you're the only employee. You have five ovens and are producing at full capacity. There's plenty of demand for your bread and if only you had another oven, you'd be able to sell more. But unfortunately, there's no additional labor in your town and nobody else to knead more dough and operate another oven. As a result, there's no value to you in having another oven and you won't go out and borrow money from the bank to buy one. Your lack of

DISPLAY 4: US FERTILITY AND LIFE EXPECTANCY



Source: United Nations, Haver Analytics, and Bernstein analysis

demand for funds makes interest rates slightly lower than they'd otherwise be. That's the effect of lower fertility rates on the cost of capital.

Changes in life expectancy and fertility in turn lead to changes in the population growth rate.[3] In the US, the population growth rate has mostly slowed since the 1950s and it's expected to continue to slow over the coming decades (**Display 5**).

Falling population growth rates have two opposite effects. Initially, like lower fertility rates, they reduce the value of incremental capital and push interest rates down. But over a longer time period, they eventually result in a higher number of retirees relative to the rest of the population. Because retirees spend money out of savings, this larger pool of retirees drives down national savings and drives up interest rates. But that effect takes time to come to pass.

Overall, higher life expectancy, lower fertility, and by extension, lower population growth have all been negative drivers of interest rates in recent decades. But, looking forward, some latent upward pressure on rates has been building too, as a result of the larger pool of retirees who are now upon us.

Working Years vs. Retirement Years

While life expectancies have risen, people's working lives and retirement lengths haven't stayed constant. Just because you're going to live longer doesn't necessarily mean you're going to plan for a longer retirement (although that would be nice).

The traditional assumption is that people in retirement dissave, spending from their accumulated assets and pushing rates up. With the baby boomers now retiring in full force and with long life spans ahead of them, this has been a topic of much discussion which we detail in the next section. Our view is that there are two forces that moderate that effect.

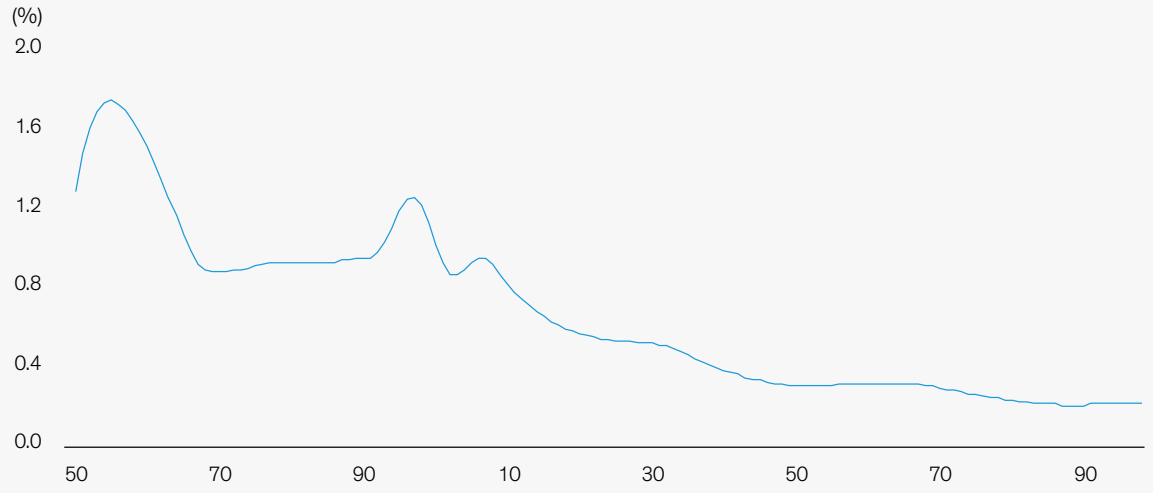
The first is retirement age. In recent decades, people in the US and other advanced economies spent fewer years working, retired earlier, and nearly doubled their years in retirement from around 10 years to over 18 years (**Display 6, next page**). However, those trends are now exhausted or reversing. Retirement ages and the number of years working in 2030 are expected to return to the higher levels that prevailed in 1970. In some cases, it's because people have to work longer; in others because they want to work longer. This means years in retirement are expected to hold steady around their current levels even though people are living longer.

Second is the distribution of wealth. Top quintile income households own over 80% of US financial assets. They tend to fund retirement from diverse sources of income, including deferred compensation and investment income. In aggregate, lower portfolio withdrawals from higher-income households dwarf the impact of portfolio withdrawals from lower-income retirees. As a result of this wealth distribution effect, as well as expectations of a slight increase in working life over the next 10–20 years, we don't expect the aging of the population to have as significant a net impact on the direction of rates as some believe.

The Employment-to-Population Ratio

The final element of the demographic puzzle is the employment-to-population ratio (or when inverted and formulated slightly differently,

DISPLAY 5: US POPULATION GROWTH



Source: United Nations, Haver Analytics, and Bernstein analysis

[3] Immigration also plays a role here, which we'll discuss separately.

DISPLAY 6: KEY DEMOGRAPHIC DRIVERS IN THE US AND OTHER ADVANCED ECONOMIES

Source: United Nations, OECD, and Bernstein analysis

the dependency ratio), driven by a combination of population growth, the length of working life, and the length of retirement.

This is the lagged effect of population growth which we discussed earlier. A higher proportion of workers in the economy translates into a higher national savings rate and pushes interest rates down. The demographic dividends of the baby boomer generation had precisely that effect over the past several decades. However, this trend is reversing now that baby boomers are retiring, putting upward pressure on interest rates.

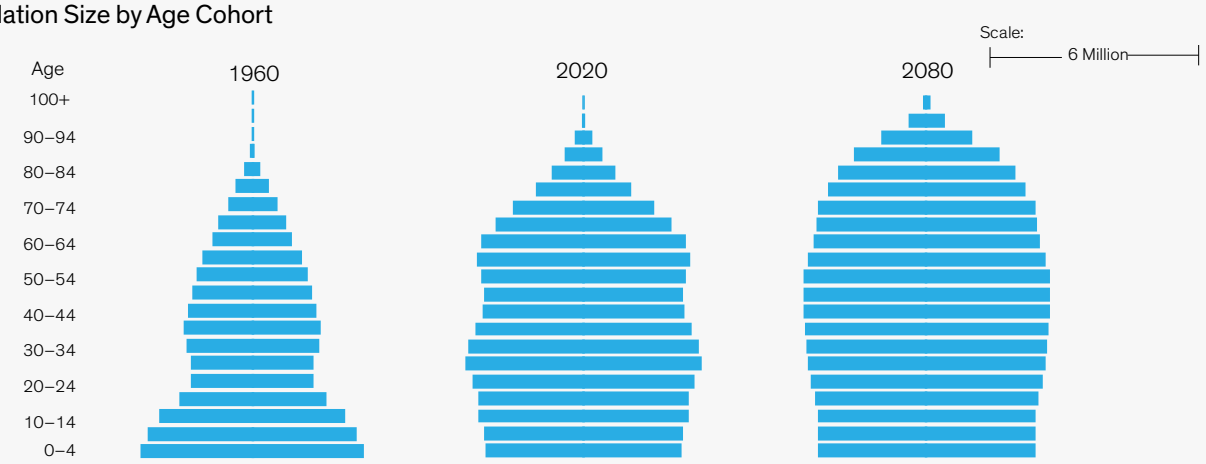
You can think of this like a pig eaten by a python—as the baby boomer generation has aged and life expectancies have risen, that population bulge has moved through the snake (**Display 7**). With that bulge now shifting to retirement, a falling employment-to-population ratio will decrease the proportion of savings in the economy.

Since the employment-to-population ratio is the cumulative result of all past changes in other demographic variables, it's frequently used as a shorthand way of communicating demographic effects. However, it doesn't capture all the pushes and pulls on rates. The effects of the other drivers matter in their own right; they don't simply net out to the effects of the employment-to-population ratio.

For instance, if we assumed that fertility, life expectancy, working years, and retirement years didn't change from here, the employment-to-population ratio would still change in the coming period based on their past effects. The pig would still move through the python and that would still have its effect in the later period.

DISPLAY 7: THE PIG IN THE PYTHON—BABY BOOMERS AND LONGER LIFE EXPECTANCIES

Population Size by Age Cohort



Source: United Nations and Bernstein analysis

DEPENDENCY RATIOS VS. OUR FRAMEWORK

Some economists and strategists boil demographics down to one number and one number only: the ratio of dependents to workers. In principle, this parallels part of our analysis. However, it can also be misleading. Some analyses include children as dependents, others ignore them. The cutoff for working age and retirement age are usually held constant in any given analysis, but vary depending on whose definition is being used. When you hold those constant, you miss out on the effects of changing working ages and retirement ages.

The ratio also can't handle some other important facets of demographics. Dependency ratios have a difficult time capturing the effects of inequality on overall savings, the fact that the bulk of the nation's saving is done by people in the later stages of their career, the fact that young dependents and elderly dependents have different spending needs, the traditional evolution in portfolio allocation toward bonds as people age, the fact that rich people who account for more of national savings can remain in riskier assets longer, as well as the impacts of economic growth, demographic changes, and cultural differences from international savers and investors.

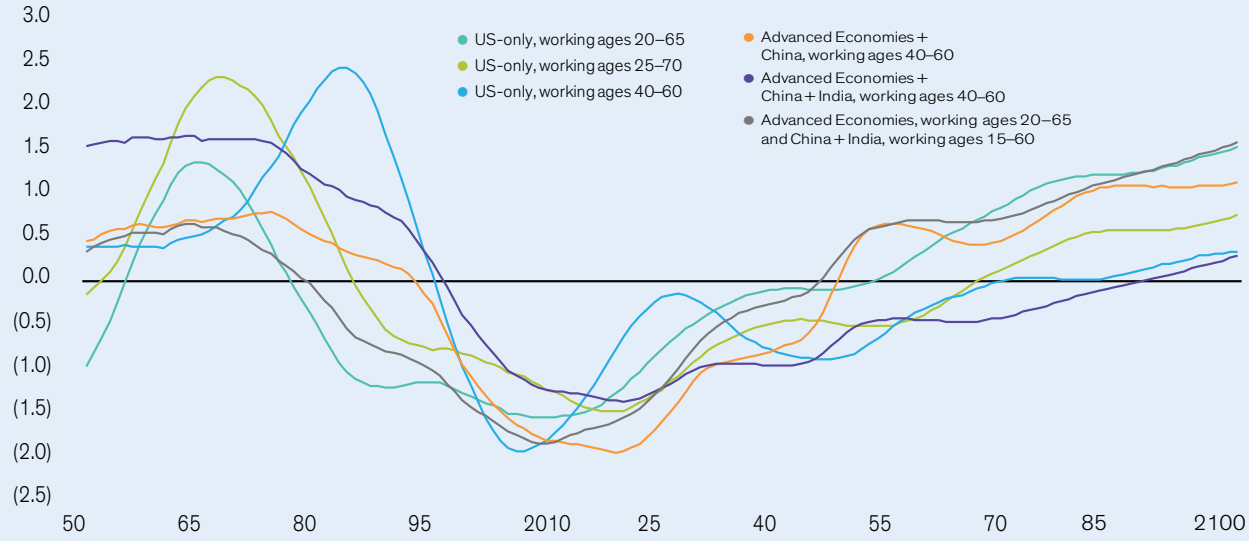
As a result, if you're going to make a case based on dependency ratios, you need to adjust for all of those factors. And you're still going to leave out other factors like fiscal policy which we know are important too.

Unfortunately, the data and all the ways to slice and combine it make it possible to generate a wide variety of projections for the dependency ratio, allowing people to "choose their own adventure" and support whatever narrative they prefer (**Display 8**).

Because of this, we prefer to think about rates using our framework, which allows us to lay out the secular drivers and consider how they might change going forward.

DISPLAY 8: CHOOSE YOUR OWN ADVENTURE—SO MANY WAYS TO DEFINE AND SLICE DEPENDENCY RATIOS

Z-Score



Source: United Nations and Bernstein analysis

International Demographics and Economic Growth

US interest rates aren't set in a vacuum. Global rates are also a key influence.

Historically, demographic trends in advanced economies have paralleled those in the US, exerting similar influences on rates around the world. In addition, Japan and China are the two top foreign holders of US Treasury bonds. Their demand for Treasuries in recent decades has been a key driver of lower rates. Over a decade ago, former Fed chairman Ben Bernanke suggested that this abundance of savings overseas was driving down rates in the US, which he termed a "savings glut."

Looking forward, though, demographics in Japan have gone over a cliff—not only are they aging, but the population is also shrinking. As a result of their previous one-child policy, China's population is also aging and is expected to begin shrinking around 2030. The euro area is expected to begin shrinking even sooner—the UN projects it will peak in 2022. Returning to our demographic framework, these shrinking and increasingly elderly populations should begin exerting a positive impact on global rates over the coming decades (**Display 9**).

Immigration

In contrast to those shrinking populations, population growth in the US has been more robust in recent decades due to immigration. Without immigration (and without the innovation it brings), economic growth would be lower—and this is at risk now due to changing immigration policy. But, admittedly, the effect of any changes in immigration policy on interest rates is less clear and has not been studied as much as other drivers.

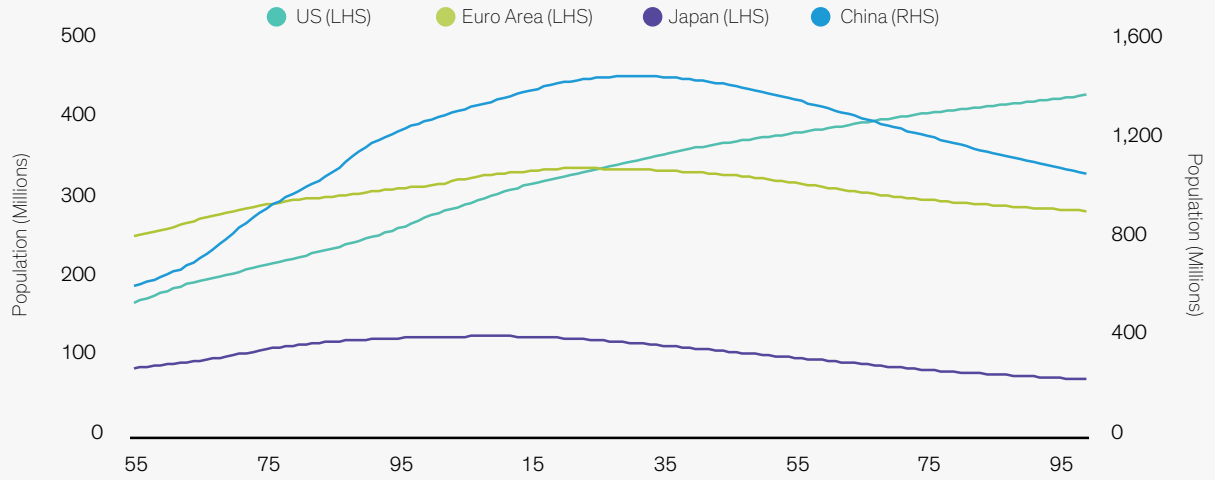
Theoretically, a more restrictive immigration policy could work through two channels we've discussed already and two we haven't. It could raise the capital-to-labor ratio, in turn decreasing the value of capital as well as interest rates. Alternatively, if immigrants are of working age and have a higher propensity to save than the existing population, reducing immigration could result in a lower savings rate and higher interest rates than would otherwise prevail. And yet, by driving GDP growth lower, it could potentially raise the relative amount that people choose to save and thus lower interest rates. Or finally, by decreasing GDP growth compared to other countries, it could push away foreign capital and increase domestic interest rates. All of these are likely true to an extent, leaving the net effect unclear.

Income Inequality

The effects of income inequality on US and international politics are easy to see and have the potential to change the political and economic landscape more than just about any other factor in the coming decades (**Display 10, next page**). Less obvious, though, are the effects inequality has on interest rates. Since the rich have a higher propensity to save each incremental dollar of income, as incomes have skewed more toward them, it's put upward pressure on savings and downward pressure on rates. But that's not all—the effect is magnified because the rich, by definition, have more money and so their higher savings rate is applied to a larger dollar value, which gives it a disproportionate impact on national savings.

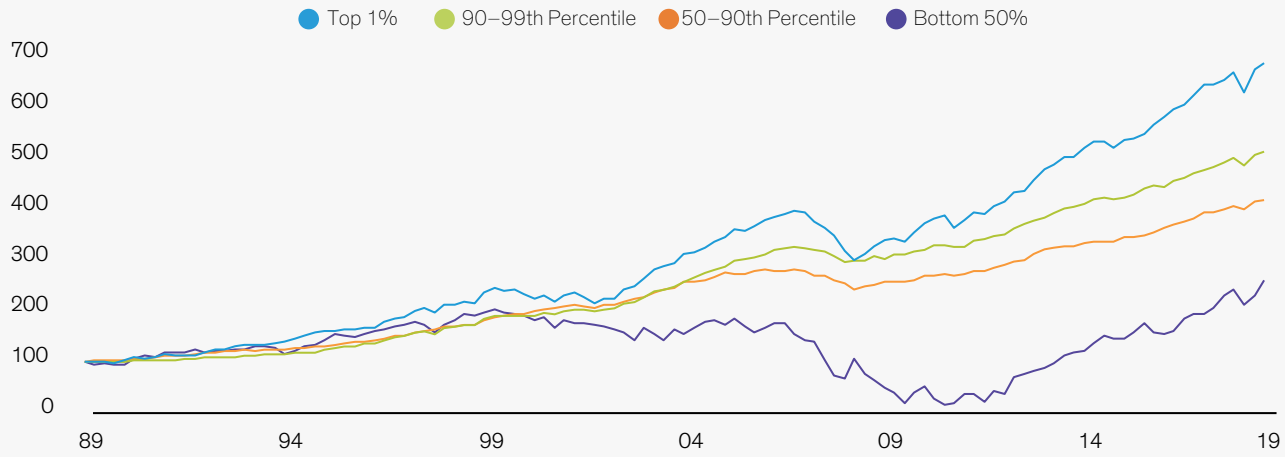
Inequality is likely to be one of the pivotal issues of our current age. It will drive economic variables like interest rates, but even more importantly, it will drive our politics and the economic rules of the game. The growth in inequality ties closely to the rise of populism, not just in the US but around the world. To the extent that inequality worsens from here, we expect it to continue boosting savings and pushing interest rates down. On the other hand, should our politics change and new taxes or other redistributive policies be implemented, those would reverse the downward impact on rates.

DISPLAY 9: GLOBAL POPULATION GROWTH AND SHRINKAGE



Source: United Nations, Haver Analytics, and Bernstein analysis

DISPLAY 10: GROWING INCOME INEQUALITY IN THE US
Net Worth, Indexed to 100 in Q4 1989



Source: Federal Reserve Board, Haver Analytics, and Bernstein analysis

Some policy options have been floated to address economic inequality, including universal basic income, wealth taxes, and Modern Monetary Theory. Each has its own consequences for real interest rates and inflation, with universal basic income and Modern Monetary Theory increasing the deficit and potentially putting upward pressure on real interest rates and (depending on future tax policy) creating inflationary pressures. Wealth taxes would cut the deficit and put downward pressure on real rates if enacted on their own. However, we think it's more likely that if they were passed, the incremental tax revenue would immediately be spent, resulting in no net change in the deficit.

Market Power

Similarly, increasing market power and the rise of monopolistic or oligopolistic competition have lowered interest rates in recent decades. One benefit of increased market power is that it allows a company to grow faster given the same level of investment (or alternatively, to invest less to generate the same growth). Economy-wide, though, that has capped demand for funds to invest relative to what would likely have been required under a more competitive landscape and pushed interest rates lower.

We trace the increase in market power in the US to three ongoing trends.

First, the rise of software companies and similar businesses has contributed significantly to economy-wide market concentration. Many types of software benefit from industry dynamics that lead to a limited number of dominant firms. Microsoft is a classic example. Everyone knows how to use its software, firms have had to rely on it because everyone knows how to use it, and in turn future generations have had to learn it, creating a positive feedback loop. As a result of that entrenched user base, the company has been able to spread its ongoing development and marketing costs over a larger number of users than competitors, allowing it to be more efficient. But given the importance of its software, it can also charge much more than its costs, generating excess profits.

Second, larger firms have been able to more effectively harness technology, putting their competitors at a disadvantage. Admittedly, this dynamic has not been felt in all areas, as technology has also reduced concentration in some markets by demolishing longstanding barriers to entry. But its effect in reducing competition has been notable.

Third, regulators have tolerated increasingly high degrees of market concentration and price increases.

In aggregate, increased market power has reduced investment and with it, the demand for funds. As a result, it's pushed rates lower over the past few decades.

We see limited options to reverse the two structural elements of this growth—software's increasing importance in US output and the technological advantages it conveys to larger firms. The regulatory element, however, is well within the power of politicians. We take a neutral view on the future of market power—recent trends could continue (albeit in more moderate form) or politicians could work to rein in large companies. If the political winds begin to shift toward more aggressive antitrust regulation and policies to increase competition, we would expect that to put upward pressure on rates. Like inequality, only time will tell.

Do Low Rates Spur Low Rates?

A final secular driver of low rates may be low rates themselves.

As mentioned earlier, rising budget deficits and higher rates can be self-reinforcing. There's reason to believe that low rates and increased savings may do the same. After all, when faced with the prospect of lower real rates and the desire for a long retirement, what do people do? Save more. In turn, that additional saving may push rates lower and create a feedback loop.

Rates for the Long Run

Pulling all of this together, we see some slight continued downward pressures on rates from US and international demographics, but with upward pressures increasing over time. In the medium term, our outlook is for continued low rates to remain.

As time goes by, we could eventually see rates pushed up by a combination of fiscal policy and global demographics.

There is plenty of uncertainty about how governments, businesses, and households will navigate the future. There is also still much more of a limit to our understanding of the world than economists sometimes want to admit. Nonetheless, with what we know today, we believe this general trend of low rates for longer is justified.

CYCLICAL DRIVERS

Rates for the Short Run

We focused on secular drivers first because, over time, we expect that interest rates should follow a trajectory tied to the equilibrium rate set by savings and investment. However, rates can and do deviate from that equilibrium for extended periods of time.

The most important driver of US rates in the near to medium term is the Fed. And the key to understanding Fed policy is to look where interest rates are relative to that equilibrium rate. The Fed's dual mandate is to achieve stable prices and maximize sustainable employment—by setting their policy rate to the equilibrium rate, they should theoretically be able to do just that.

But here's the thing. The equilibrium policy rate can't be observed in the real world. All we can do is estimate it (with a wide margin of error) based on a combination of theory and data and test it by seeing the impact of raising or lowering rates.

The real world is messy. And the Fed and other central banks frequently undershoot and then overcorrect as the economic cycle unfolds.

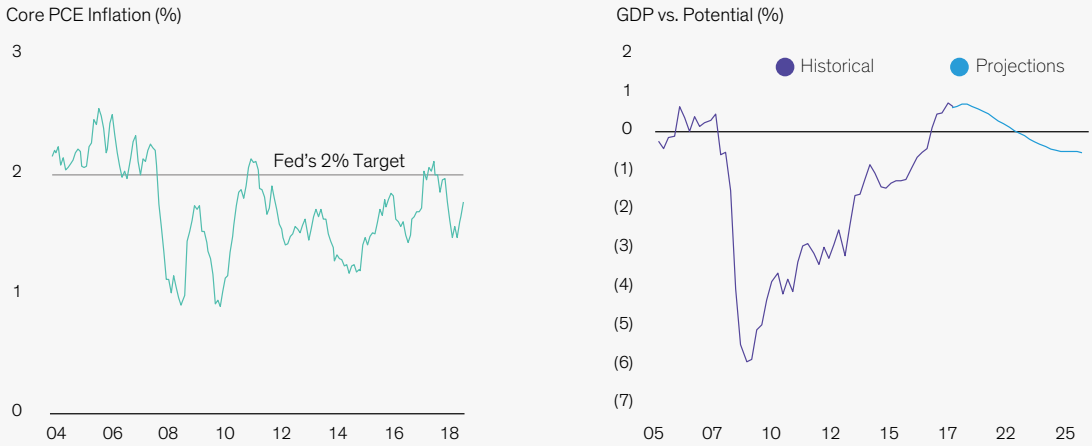
So what drives their decisions to raise and lower rates? The two biggest drivers are inflation (and expectations about it) and GDP relative to its potential (**Display 11**).

GDP and Inflation

GDP finally exceeded its potential in 2018 for the first time this cycle, arguably supporting rate hikes. However, inflation has put the Fed in a tough place. Their preferred inflation index, the Core PCE, remains below their 2% target. And given that they target that inflation rate through the cycle and have run well below that throughout this expansion, to maintain credibility around the target, they arguably need to let the economy run hot for an extended period of time.

Inflation expectations for the next 10 years keep hovering around 1.5%, which may not seem like much of a difference, but may become important if the equilibrium real policy rate in the future becomes negative. The Fed may well need that breathing room to stimulate the economy in a downturn. We've seen indications that the Fed recognizes this and wants to ensure the 2% level is credible, with their recent comments on it being a "symmetrical target."

DISPLAY 11: INFLATION VS. TARGET AND GDP VS. POTENTIAL



Source: Bureau of Economic Analysis, Congressional Budget Office, Haver Analytics, and Bernstein analysis

Without the ongoing global economic slowdown and trade war, current rates might have allowed inflation to push through 2%. But in the face of those, the Fed has had to cut rates. If this slowdown continues, they may need to cut rates even further to fend off a downturn. And if that fails and a recession hits the US, we wouldn't be surprised if they need to cut rates to zero again.

Global Rates

Another key driver of US rates in the near to medium term is global rates. Major economies are closely linked, so their interest rates tend to move in similar directions over time. That makes economic sense—if the real return on US government bonds differs dramatically from that on German government bonds, global investors will adjust their exposures to bring the rate differentials (ex-currency) back in line. Given the tie between US and global rates and the fact that US rates are currently high compared to other countries, we believe that global rates will anchor US rates in the next several years (**Display 12**).

Furthermore, outside of the US, growth and inflation are even weaker, putting global central banks on an easing trajectory. With the connection between US rates and global rates, their continued easing is likely to keep putting downward pressure on US rates in the near to medium term.

NEAR, FAR, WHEREVER YOU ARE

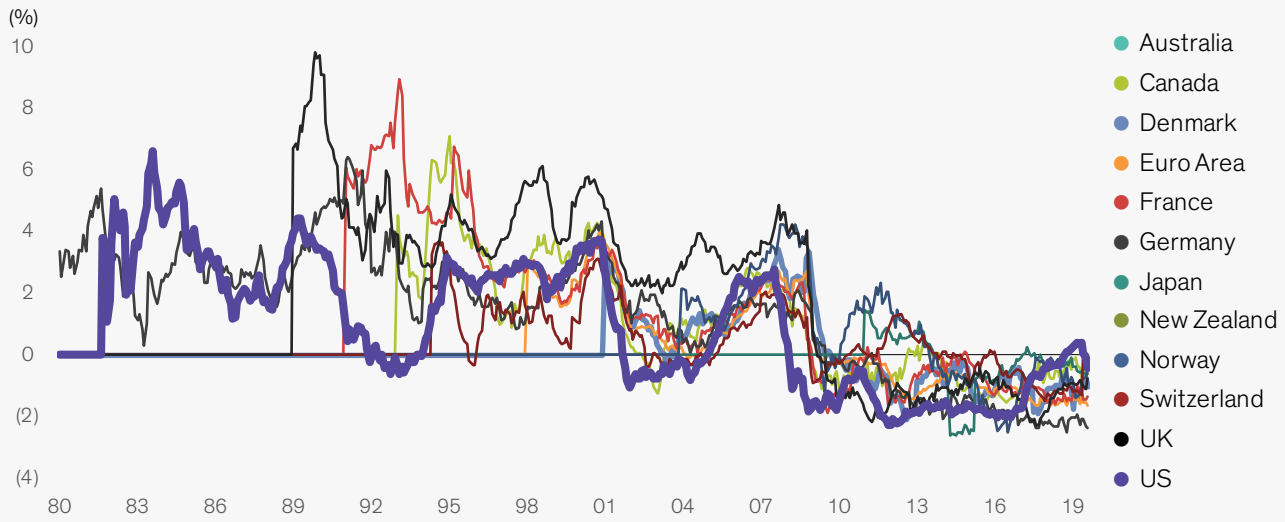
Compiling all these drivers and effects, we see a ceiling on rates in the near to medium term as Fed policy and international anchoring remain key factors.

Looking further into the future, though, we begin to see more upward pressure on rates building. US and international demographic pressures should eventually exert upward pressure on the equilibrium rate. With current fiscal policy, the budget deficit should be fairly neutral over the coming decade but likely an upward pressure after that. We expect that the combination of fiscal policy and demographics will eventually push the equilibrium rate higher.

Income inequality and market power are wild cards. We can see reasonable cases for them to continue increasing and pressure rates down, to moderate and have no impact, or to become key components of populist policies that reverse the trends of the past several decades. On balance, we think it's best to treat them as neutral influences until we see clear signs of political and policy changes.

Overall, we expect low rates to persist over the medium term but to eventually rise over the longer term. Many unanticipated events could change that—China could dump Treasuries in a trade war, an epidemic could ravage the global population, or less dramatically, the US government could begin running a budget surplus as it did in the late 1990s. And remember—the equilibrium real policy rate is hard enough to estimate in the present, so looking out into the future, we recommend taking this with a healthy dose of salt. But if the future looks similar to what we expect in terms of demographics (which are pretty firmly set) and government policies (which are much less firmly set), this general path makes sense.

DISPLAY 12: US REAL INTEREST RATE VS. OTHER MAJOR ECONOMIES



Real interest rate as measured by 3-month sovereign bond yield less past year's core CPI inflation.
Source: Haver Analytics and Bernstein analysis

PORTFOLIO CONSTRUCTION IN A LOW-RATE WORLD

How should portfolios be constructed in a sustained low-rate world? This question has been asked repeatedly by investors for the last decade, and arguably since rates peaked in the early 1980s. Admittedly, there is no silver bullet. But you knew that. Also, there is no one single correct answer. Asset allocation, like many elements of investing, is personal—what may be correct for some would be completely inappropriate for others. That said, there are several core considerations all should be aware of.

Most importantly, high-quality bonds still have a role in a diversified allocation. Why? They serve three purposes: stability, income, and a positive return offset during equity market declines. In our opinion, all of these core tenets remain relevant and applicable even in a low-rate environment. It's just that the income is now lower. So, despite the likely muted returns from high-quality bonds over the short, medium, and long term, we continue to advocate for their usage, to some degree, for investors with diversified allocations.

Additionally, other diversifying income-producing asset classes can play a role alongside stocks and high-quality bonds. These other asset classes include high-yield bonds, alternative credit like private loans, or even asset-backed securities. These types of investments add more income, but also (as always) come with trade-offs—they tend to be more volatile than high-quality bonds. That said, appropriately sized, these investment categories can be useful tools for those sensitive to the likely low yields on offer over the foreseeable future.

The key question is what role the portfolio plays for each investor. Our Financial Advisors work closely with their clients to help prioritize their goals given the client's level of wealth. For some, charity is at the top of the list. For others, family legacy is most important. And yet others' primary objective is supporting their own lifestyle. Thoughtful planning, informed by market expectations, is a critical step along the journey toward financial success.

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