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# Structural Drivers of Low Rates

## > Executive Summary

- Monetary policy rates and government bond yields across much of the world, in both nominal and real terms, have fallen to historically low levels. This structural decline has spanned several business cycles and can be seen in each component of current yields: lower expected future short term rates, lower expected inflation, and a lower term premium.
- As nominal output growth forecasts dimmed, and productivity growth stagnated, the global real neutral rate of interest—the theoretical equilibrium interest rate that neither heats nor cools the real economy—had declined to historically low levels.
- Demographics and productivity growth are powerful, long-lived, structural forces that, we believe, best account for the secular trend toward lower global growth and interest rates. Should global aging persist and labor force growth weaken, absent a positive shock in productivity, world GDP growth stands to slow by 1.1% per annum over the next 35 years. In other words, the world would be on pace to produce almost half as much stuff (i.e. goods and services) over the next 35 years as it did in the preceding 35 years.
- Lower investment returns and longer lifespans lead consumers to save, rather than spend. If retirement ages are not adjusted higher to keep pace with increasing life expectancies, savings rates will continue to climb. Spending may be additionally constrained by inequality. Accommodative post-crisis monetary policy and asset price reflation have disproportionately benefitted the wealthiest, highest income-earning Americans, who tend to have a lower marginal propensity to consume.
- Rising productivity growth will be increasingly important to ending the structural pressures toward lower equilibrium interest rates. To that end, the political system would need to mobilize substantive structural reforms in order to stimulate business dynamism, encourage new-business formation, and better-diffuse innovation within industries and across the real economy.
- Policy uncertainty remains: It's still not clear what reforms a Trump White House and Republican Congress will pursue and achieve. Positive return-on-investment fiscal spending should be encouraged to stimulate trend productivity. Should fiscal policy and structural reform encourage private investment and improve trend productivity, the U.S. could likely experience incremental increases to U.S. trend growth. Import tariffs and less immigration, however, could be drags on productivity and growth.



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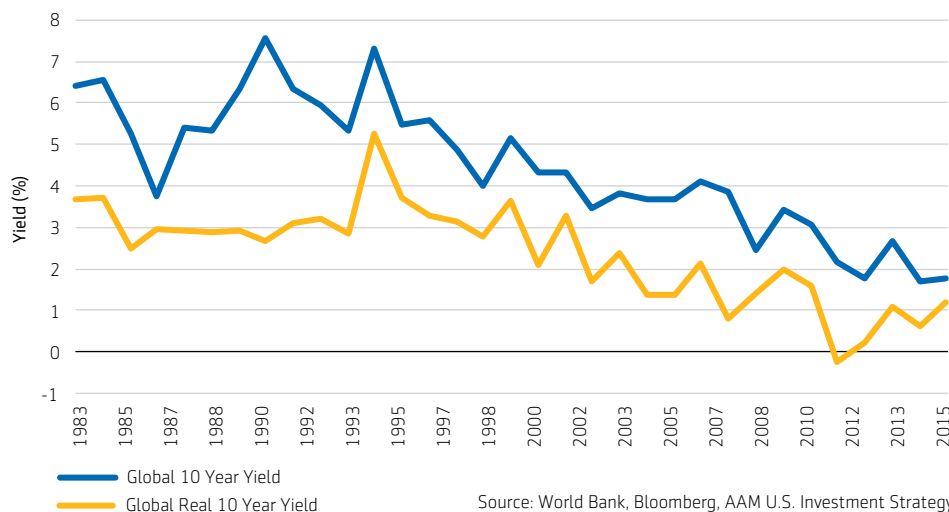
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> In this publication, we expound upon our strategic theme - when the structural collides with the cyclical - which describes the current macroeconomic environment, characterized by a secularly lower neutral real interest rate.

## I. When structural and cyclical collide

Monetary policy rates and government bond yields across much of the world, in both nominal and real terms, have fallen to historically low levels in what we believe is the downside of a long-term super cycle dating back to the 1940s. The decline in global rates has spanned across several business cycles. (Chart 1) Projected growth and inflation rates have continually ratcheted down over the past thirty years, and productivity growth remains meager. These factors suggest that the global neutral real rate of interest has structurally declined.

Chart 1: Global interest rates in secular decline



In this paper, we survey the likeliest causes, including structural declines in potential output and productivity growth, a dearth of investment, and a glut of savings. We then discuss policy responses—notably in the context of a Trump presidency—that could potentially shift these deep, structural trends.

(Note: Global 10 yr yield is GDP-weighted avg nominal yield. Global 10yr real yield is global 10yr minus GDP-weighted global inflation. Countries are U.S., Canada, Germany, UK, Italy, Japan, and Australia.)

## II. Yields all the way down

> That interest rates in the developed world, specifically in the U.S., have fallen to historical lows will come as no surprise to anyone who, over the past thirty years, has started a business, financed (or refinanced) a home, sent kids to college, saved for retirement, or invested in government bonds.

By September 2016, the 10yr U.S. Treasury yield had fallen by approximately 13 percentage points since the peak in 1982. There is no shortage of explanations as to why yield levels are lower today than at any point in modern history, but to get the clearest understanding of what is driving yields down, we need to first understand what components make up a yield.

The 10yr U.S. government bond yield can be decomposed into three key parts: expected future short term real rates, expected inflation, and the term premium. It should be noted: each component has itself fallen to secular low levels.

Chart 2: Decomposing the 10yr U.S. Treasury yield

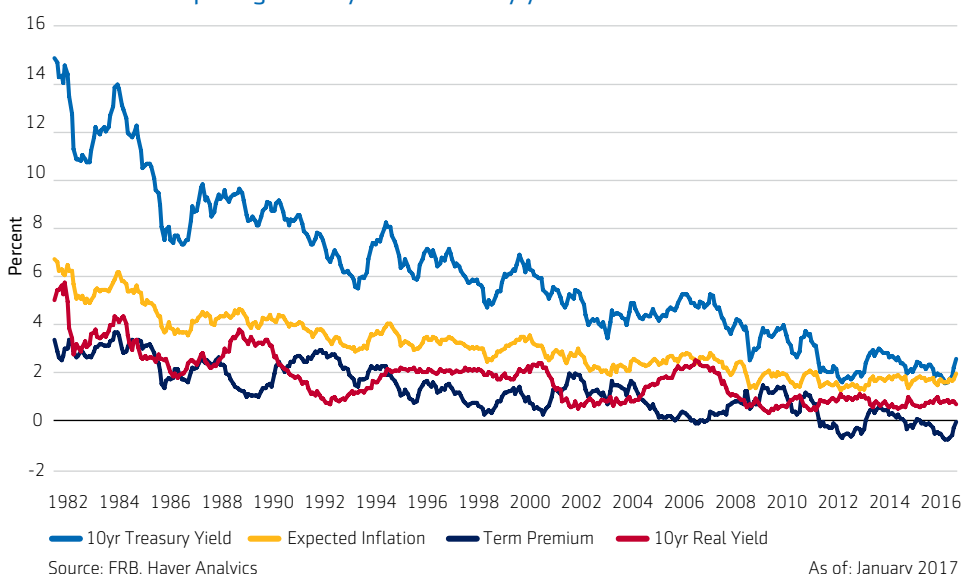


Table I:  
Decomposing the 10yr U.S. Treasury yield

Data point	Change since Jan 1982
Expected inflation	-4.8
Term premium	-4.0
10yr real yield	-4.2
10yr yield	-13.0
Source: Haver Analytics; As of: September 2016	

### a. Expected short-term rates

In this view of the yield curve, the 10yr real yield today is equivalent to the expected path of short-term real rates over the next ten years. All-else-equal, investing in a 10yr government bond today and holding to maturity should yield approximately the same as investing in a series of consecutively maturing short-term bonds for ten years. So at any point in time, the 10yr yield reflects the market's view of short-term rates. In this model, we use this same logic to describe the 10yr real yield, which you will note has fallen from 4.2% in 1982 to 1% in September 2016. The cyclical influences on the real rate are revealed as upward spikes during Fed tightening cycles, but the secular trend is clear. The decline in the 10yr real yield results from structural shifts in the balance of savings and investment in the real economy. Theoretically, the real rate is the clearing mechanism for money in an economy, i.e., the rate of interest that balances the demand for investments and the supply of savings. It is closely linked to policy rates and the equilibrium real rate of interest, which we will discuss shortly.

> For several reasons, inflation expectations have also declined over the past thirty years, and so has the inflation premium component of nominal 10yr yields.

### b. Inflation premium

Owners of fixed-cash flows, like those investors receive from fixed-income assets, can be worse-off during inflationary periods. As a result, bonds will fetch a premium for the risk that prospective inflation will erode the real-value of those cash flows. As of September 2016, the 10yr inflation premium stood roughly 4.8 percentage points lower than it did in 1982. The Federal Reserve's inflation-fighting credibility may take some of the credit for the decline, but the persistently low level, below the Fed's mandate, indicates other drivers. For example, the decline may be symptomatic of a general lack of aggregate demand, which slows money velocity (chart 3) and pressures price levels down. Lower inflation expectations are also consistent with the aftermath of the financial crisis and the subsequent deleveraging process.

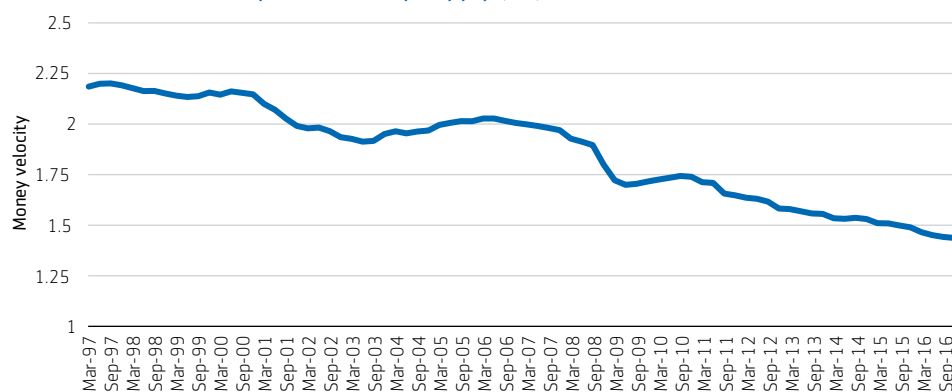
[\(see: Reinhart and Rogoff\).](#)

### c. Term premium

The term premium is a theoretical construct, best described as the added compensation for holding a longer term bond instead of a series of shorter-term notes. Since 1982, the term premium has fallen by about 4 percentage points and, after oscillating around zero for the better part of the last decade, turned negative for a period in 2016, reflecting both structural and cyclical developments.

An asset's price ultimately reflects the balance of its supply and the demand for it. As such, the current term "discount" (i.e. negative term premium) signals investors' increasing desire—perhaps a need—to lock-in long-term returns. Implications are significant as the U.S. Treasury bond's term premium acts as a tractor beam for domestic and foreign financial assets in an increasingly integrated global economy where capital flows swiftly and relatively freely. As term premia and yields have compressed, so have expected returns.

Chart 3: Velocity of M2 Money Supply (SA)



Source: Bloomberg, AAM U.S. Investment Strategy

As of: December 31, 2016

### III. Secular stagnation and/or a global savings glut?

Noted economist Alvin Hansen coined the term “secular stagnation” in a 1938 speech to the American Economic Association. After decades of technological innovation, sustained capital investment, and rising living standards following the Civil War, the U.S. economy was, in 1938, mired in the Great Depression. At the time, Hansen attributed the lack of a sustained economic expansion to a shrinking population (this was pre-baby boom after all) and a declining rate of technological advancement. Those secular forces deterred private investment, outweighing the cyclical boosts from loose monetary policy and abundant supply of cheap money. Simply put, a shrinking labor force and less innovation reduced both the need to equip workers with capital and the availability of profitable ventures, which worked to depress the demand for investment and constrain employment growth – the cost of capital isn’t the primary concern, the return on capital that justifies the investment is – leaving a weakened consumer to shoulder the burden of economic growth.

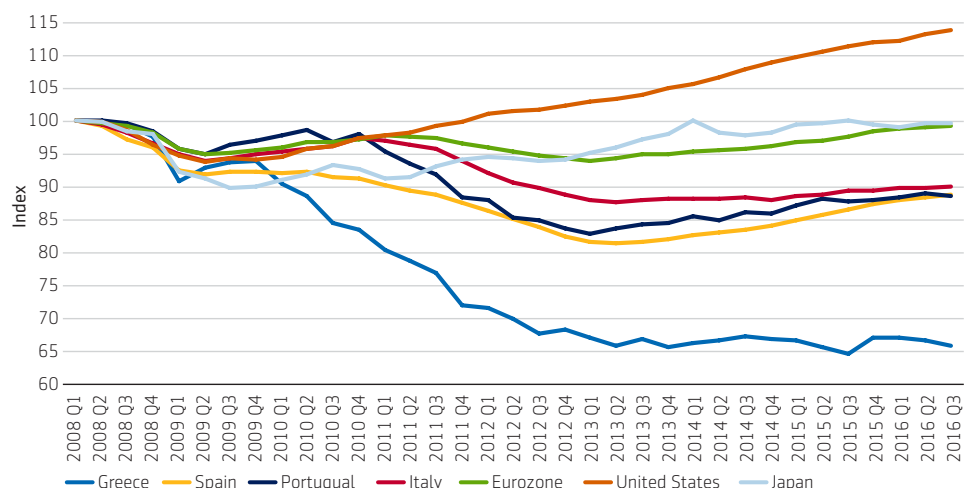
As illustrated in Chart 4, aggregate demand has yet to return to pre-crisis levels in much of the developed world. As the U.S., EU, and Japan make up roughly 46% of World GDP, implications are significant for global growth. What was then a rather domestic challenge appears to now be a global phenomenon, in a largely open and interconnected macroeconomic world.

#### a. The One Rate to Rule them All: The neutral rate of interest:

In 1898, Swedish economist Knut Wicksell argued that “there is a certain rate of interest on loans which is neutral in respect to commodity prices, and tends neither to raise nor to lower them. This is necessarily the same as the rate of interest which would be determined by supply and demand if no use were made of money...” Alternative definitions have since evolved, including the Fed’s, which defines the neutral rate as the rate of interest consistent with full employment and stable inflation. In simpler terms, it is the rate of interest that neither cools nor heats the real economy.

> Policy and market rates oscillate cyclically around the neutral rate, which highlights the influence the latter has on the former.

Chart 4: The Real Secular Stagnation - Domestic Demand



Source: AAM U.S. Investment Strategy, Haver Analytics

As of: Q4 2016

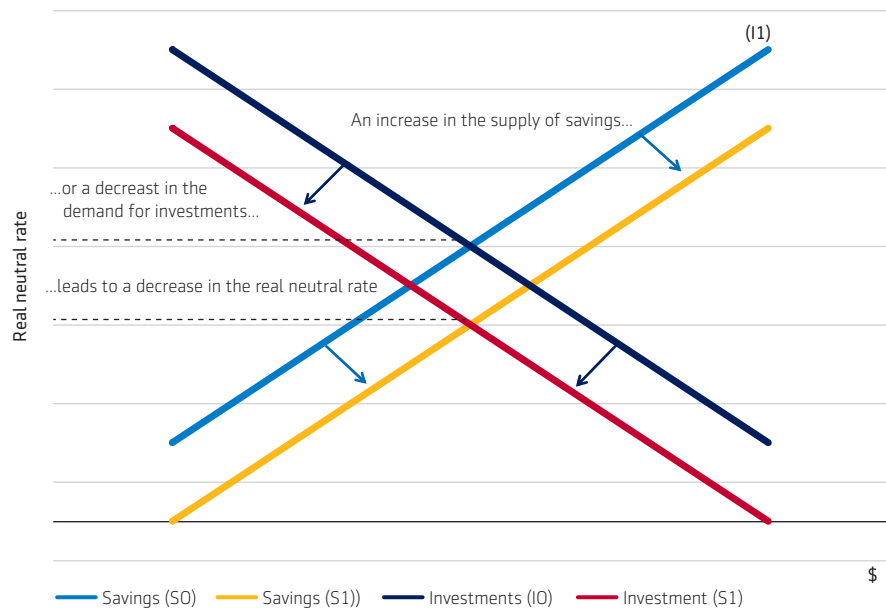
## b. Savings and Investments

> While the equilibrium rate of interest is a theoretical construct, its secular decline could be a powerful reflection of what we observe in today's economy, namely, meagre nominal growth in spite of historically accommodative monetary policy.

It is perhaps apt that, in the wake of the worst U.S. recession since the Great Depression, Larry Summers revived Hansen's secular stagnation thesis. A lesser need for capital intensity and a shrinking population, Summers posited, had depressed fixed investment and demand, and thus lowered the neutral interest rate in a country awash with liquidity. The neutral rate is the clearing mechanism for transactions in an economy where the return on savings equals the marginal return on capital investment, and conceptually reflects the adjustment process between supply of savings and demand for investments. As such, the neutral rate of interest is also known as the equilibrium rate. We illustrate this in Chart 5.

If demand were to shrink (i.e., the demand curve shifts left) while the supply of available savings remained the same, the equilibrium interest rate would fall to reflect weaker economic prospects. A lower equilibrium rate implies the monetary authority should pursue lower policy rates, all else equal. The logic works in reverse, too, as a jump in demand for investments, and no change in the supply of savings, should necessitate a tighter monetary policy. Secular stagnation theorists, typically of Keynesian ilk, argue that the structural forces depressing economic prospects (and by proxy the neutral rate) are beyond the scope of monetary policy, which faces a zero lower bound. Keynesians would further argue that restoring economic prosperity requires expansionary fiscal policy.

Chart 5: The laws of supply and demand



Source: AAM U.S. Investment Strategy

That the economy performs today with relatively lower capital intensity is further illustrated by the inventory-to-sales ratios of the five largest companies.

The median inventory-to-sales ratio has shrunk from 11.6% on October 31, 1990 to 5.9% on December 31, 2016. The five largest companies today, two of which are in the technology sector, are using less capital per unit of sales (Table II). This trend highlights the overall drop in the relative demand for investment, which pressures the real rate downward.

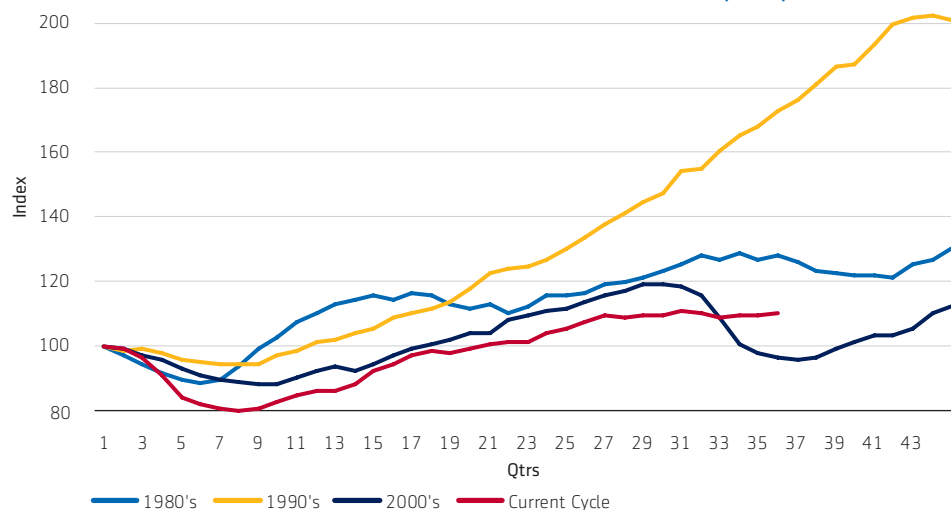
Capital intensity—the amount of capital per unit of labor—is a concept central to the secular stagnation hypothesis. Today's technology sector is creating massive amounts of value (at least according to corporate valuations) with very small amounts of capital and labor. As more resources are diverted to this sector, the demand for fixed investment falls. As Larry Summers [put it](#), "My favorite example for thinking about these dynamics is think about two companies. Sony, the company is a strong company. It has factories, it's got offices, it's got tens of thousands of people working for it. It's worth \$18 billion. Now, think about Snapchat. All of it – the machines, the people, everything – could fit in this room quite comfortably. It will ... It's about to be valued by our nation's capital markets at \$19 billion. What's that say, suggests that when you can start a company for nothing, and with nothing, that you will have the possibility of wealth creation without substantial investment, again, reinforcing an increase of savings over investment." Chart 6 illustrates the low-level of fixed investment in this cycle.

**Table II: Capital Intensity**

Top 5 Mkt Cap Oct 1990	Inventory to sales	Average	Median
IBM	14.6%	10.7%	11.6%
Exxon	6.1%		
General Electric	11.6%		
Altria	16.1%		
AT&T Corp	5.0%		
Top 5 Mkt Cap Dec 2016	Inventory to Sales	Average	Median
Apple	1.0%	5.6%	5.9%
Microsoft	2.6%		
Exxon	6.9%		
Johnson & Johnson	11.5%		
Berkshire Hathaway	5.9%		

Source: Bloomberg, AAM U.S. Investment Strategy

**Chart 6: Private Fixed Nonresidential Investment: Indexed as of prior peak**



Source: Bureau of Economic analysis, AAM U.S. Investment Strategy

As of: December 2016



The secular stagnation theory was originally focused on an individual country's domestic economy, but when multiple countries suffer a similar affliction in an open-economy world, the theory can be [applied globally](#). So, while secular stagnation can tell a compelling story from the demand-side, there is a robust supply-side explanation as well, and they're not mutually exclusive.

Credited to former Federal Reserve chair Ben Bernanke, the global savings glut view argues that excess savings, primarily from emerging Asia and oil-producing nations, was recirculated into U.S. Treasuries, pressuring interest rates lower. Referring to the excess savings caused the supply curve to shift down, which assuming no change in the demand curve, would mean a lower equilibrium rate.



## IV. Deep structures driving rates:

### a. Demographics

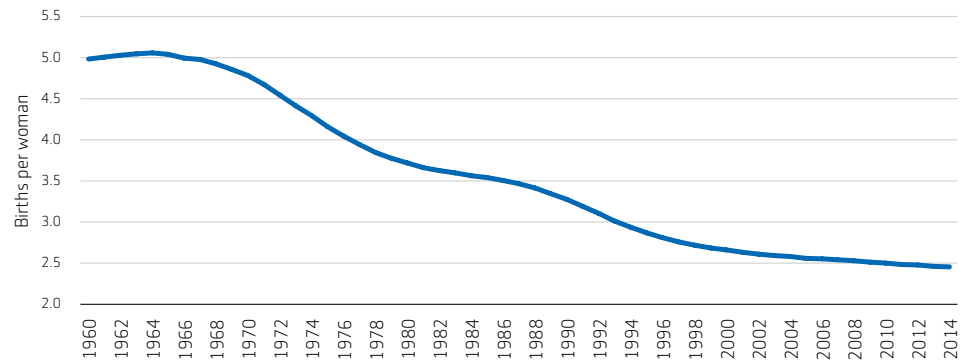
Demographics are a powerful economic force. Consider the charts below, which shows labor force growth is expected to be lower over the next several decades than it was over the preceding decades. It is worth noting that the declining working age population growth is a direct result of the decline in global fertility and population growth rates.

The implications for future economic growth are significant. Potential output growth is itself a function of labor and productivity growth.

> Given current estimates, the loss in the world's working age population growth roughly translates to a 1.1% annual annual reduction in potential GDP growth 35 years hence, when compared to the previous 35 years.

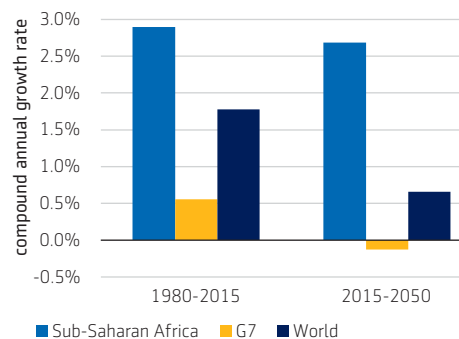
In other words, the world will produce about half as many goods and services than it would have if the 1980-2015 pace of working age population growth were maintained, all else equal.

Chart 7: World fertility rate (births per woman)



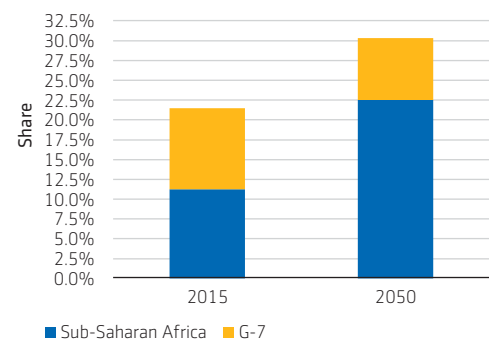
Source: World Bank, AAM U.S. Investment Strategy

Chart 8: Working age population (15-64)



Source: World Bank, AAM U.S. Investment Strategy  
Note: 2015-2050 are forecasts

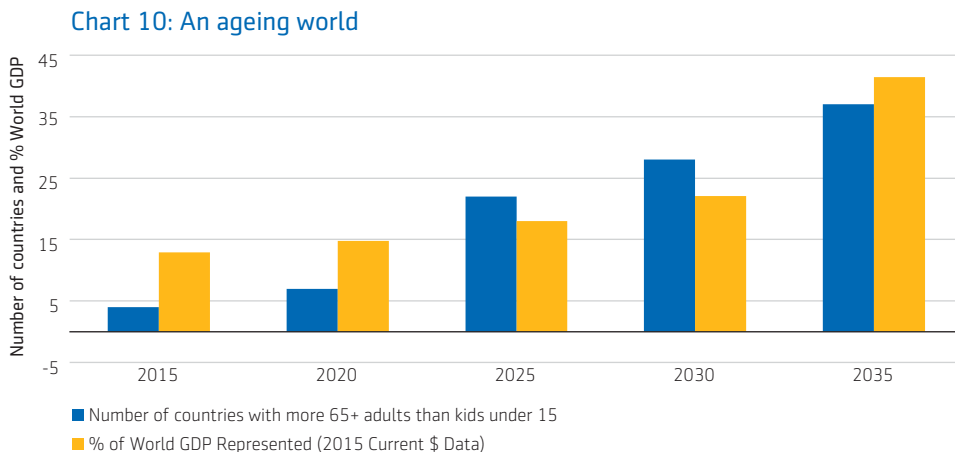
Chart 9: Shares of global working-age pop



Source: World Bank, AAM U.S. Investment Strategy  
Note: 2050 are forecasts

> What's more, demographic shifts may be exacerbating the global savings glut.

Chart 10 illustrates the changing landscape. Over time, the number of countries with more seniors (aged 65+) than teens (<15 years) will likely surge, and those countries could account for more than 1/3 of global GDP by 2035.



Source: UN Population Division Medium-Variant Pop Estimates, World Bank, AAM U.S. Investment Strategy

As life expectancy increases and retirement ages hold steady, the world spends increasingly more time in retirement, which has considerable implications for savings, consumption, and productivity. (Table III) Retirement is a period of consuming without producing. If this period appears to be increasing within our lifetimes—that is, if as we approach retirement we see life expectancy increase—then there is a growing pressure to save more, and consume less today. This need to save is further exacerbated by chronically low interest rates and reduced expected returns from financial assets.

**Table III: Living Longer**

	Average retirement age			Life expectancy		
	Dec 31, 1970	Dec 31, 1990	Dec 31, 2010	Dec 31, 1970	Dec 31, 1990	Dec 31, 2010
United States	68.4	64.7	65.6	71	75	79
China	66.7	66.9	67.0	59	69	75
Japan	72.8	70.6	70.1	72	79	83
Germany	60.3	60.3	62.0	71	75	80

Source: OECD, World Bank, Bloomberg, AAM U.S. Investment Strategy

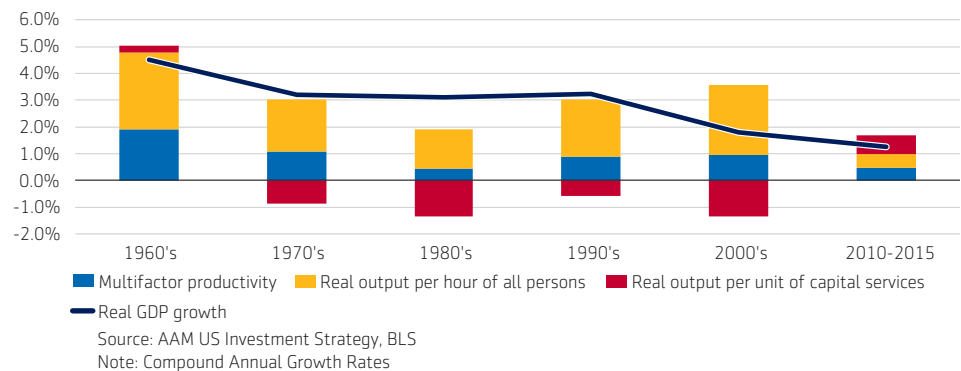
Economic theory suggests that demographic trends can and do impact capital deepening and labor productivity. Labor is paired with capital for productive capacity. Each worker may need to be equipped with a computer, a machine, or other such tools to be able to produce, and the economy as a whole achieves a certain level of capital per labor, which enhances output per worker. Increasing capital to labor ratios do eventually exhibit diminishing returns, an employee with two desktops is not necessarily twice as productive after all, but the process of capital deepening positively impacts aggregate spending and labor productivity. As the labor force grows at a slower pace and eventually shrinks, fewer workers need to be equipped, so there is less demand for net additional capital investments and the productivity contribution from the marginal worker is foregone.

> Productivity also exhibits direct links with economic growth, consumption, and real rates over time.

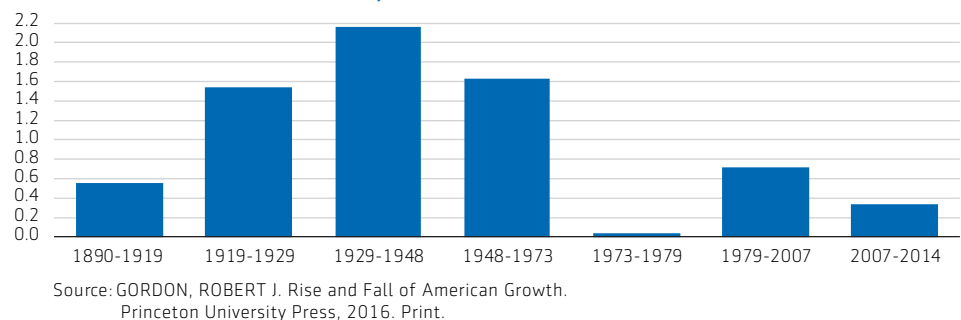
## b. Productivity

In light of the long run trend in labor supply, productivity will increasingly be the prime driver of economic growth and prosperity. As is evident in Chart 13—which illustrates the the slope of real output per hour—the pace of growth in U.S. labor productivity has steadily declined over the past three decades, with a faster slowdown post-crisis. This decline occurred at a time when labor productivity had been the biggest contributor to overall productivity. Bob Gordon, a leading researcher and publisher on productivity, also suggests that total factor productivity, which results from innovations, is the lowest on record in recent years since the turn of the 20th century, save for a brief period from 1973 to 1979. These observations suggest a general and secular decline in productivity growth and the pace of significant innovations.

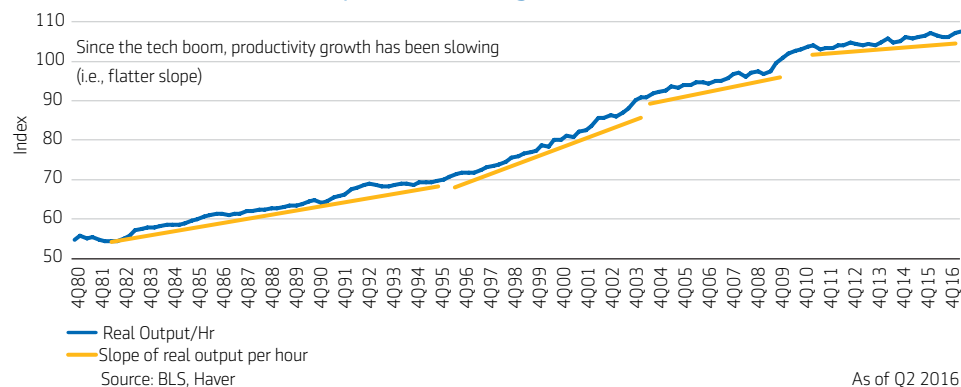
**Chart 11 - U.S. Productivity Growth Components:**



**Chart 12 - Total Factor Productivity**



**Chart 13 - Nonfarm Productivity Index - The longer view**



> Microeconomics provides a good deal of information on the behavior of private enterprise and its impact on productivity.

New businesses spring up due to new ideas or profitable prospects in existing industries. Starting and operating costs ramp up with output. A learning curve thus begins. Processes get improved upon, knowledge capital and operational know-how compound as new businesses ultimately learn, become more efficient, yield more output for given levels of labor and capital, survive and often thrive. The ones that can't cease to exist, so do existing businesses that cannot adapt to progress. That process is at the heart of a free market economy, and stimulates productivity, capex and/or R&D investment, and economic growth. Chart 14 indicates that new business formation has been on a steady, multi-decade decline. It is worth noting that the ratio provides a glimpse of not just the amount of new businesses created, but new businesses created relative to existing businesses. This means that the ratio may have declined due to: less overall new businesses; fewer firms ceasing to exist such that the base business count is high; a combination thereof. This speaks to business dynamism, or the lack thereof in the U.S. The decline in business dynamism naturally implies negative consequences for productivity (chart 15).

Chart 14 - Small business birth rate

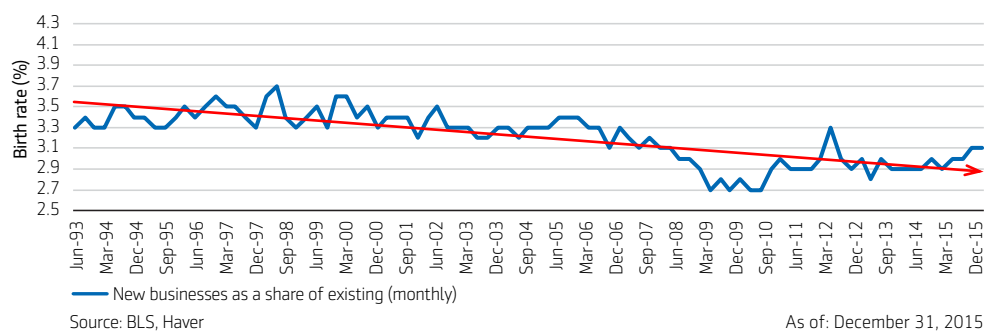
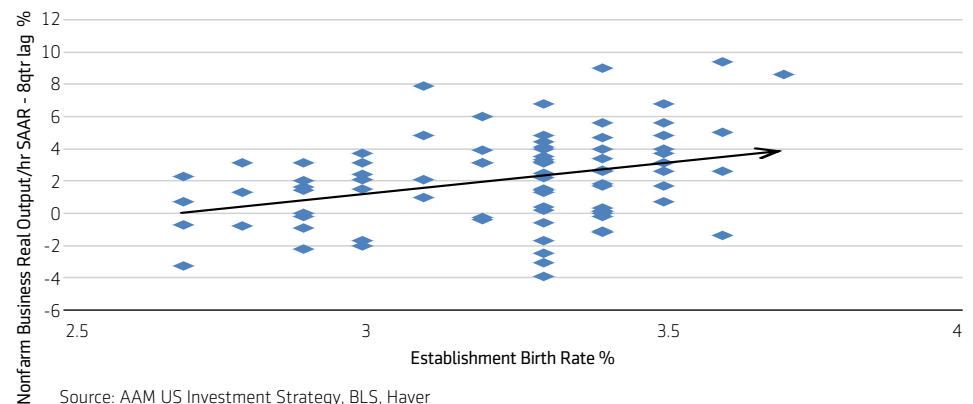


Chart 15 - Business dynamism vs. productivity



What then, may have caused the slowdown in business dynamism? Externalities in economic terms, or for our purposes, regulation. Increased regulations, especially since the financial crisis, may have altered the playing field and constrained the start of new businesses. Additionally, the effects of monetary policy, a necessary tool post crisis, and low rates, cannot be understated. The Darwinian nature of a free market economy may have been softened due to the availability of cheap credit, as less efficient businesses remained afloat. Simply put, ease of entry for new businesses was constricted as exit was discouraged. Schumpeter's creative destruction machine was turned off, or at the very least muted.

Recent studies on productivity ([notably the OECD in 2015](#)) suggest that the slowdown in productivity growth may not necessarily suggest a lack of general innovation. Rather, they suggest, the transmission mechanism through which innovation is diffused at large has changed. Progress is still made at the innovation frontier, but pass-through across industries and society at large is slower, leading to a reduction in total factor productivity growth. This would be consistent with the reduction in business dynamism, regulation (a heavier patent-based economy), and an increasingly "winner takes all" based business environment. Indeed, productivity growth cycles are long in nature, often spanning decades, and innovation often bears massive fruit long after inception. After all, famed economist Robert Solow, Nobel-prize winner and architect of the determinants of economic growth discussed earlier once noted that "you can see the computer age everywhere but in the productivity statistics". He said so in 1987, as the advent of the personal computer was ubiquitous in the face of a long decline in productivity growth.

### c. Inequality

inequality itself could prove to have been a factor in dampening growth and real rates. Consider the home ownership rate in the US. Inequality in the U.S. has been rising steadily for decades (Chart 16), and this trend has had widespread implications for households. Consider the homeownership-rate in the U.S.

The vast majority of homeowners were in the highest income quintile as of 2014, with only 38% of the lowest income quintile owning homes. The housing recovery has clearly benefited the highest income quintile, a much lower portion of the US population, more than it has the lowest quintile, which has exhibited a higher propensity to consume a larger portion of income in cycles past. As table IV suggests (home ownership and home value changes), the lower income quintile has yet to enjoy the general rise in home prices since the end of the crisis. Additionally, the substantial increase in financial assets has not evenly flowed through to society. As chart 16 shows, the wealthier quintile of the US economy owned more financial assets than the bottom quintile, and therefore benefited more from the general rise in stock and bond markets. With the value of assets, homes, and home equity generally influencing spending decisions, the lowest quintile would have a higher propensity for saving, a reduced capacity to spend even, if only to repair balance sheets.

> These disparities in asset ownership have contributed to the rise in inequality in the U.S. as owners of physical and financial assets benefited more than the bottom and mid tiers, which have historically been strong contributors to consumption in the economy. This feeds into the relative lack of aggregate demand and lower real rates.

Chart 16 - Gini Ratio for households

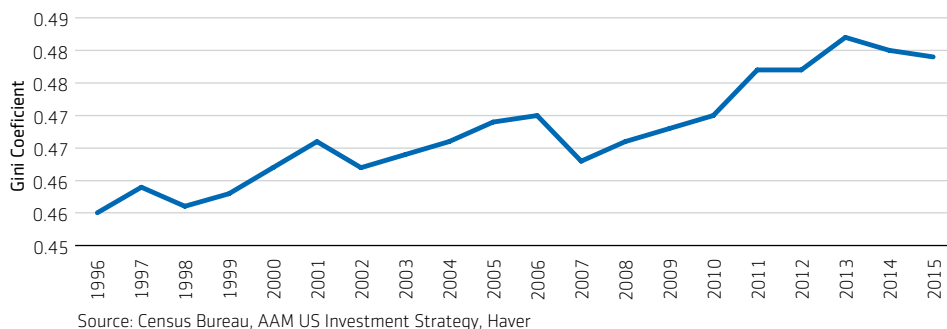


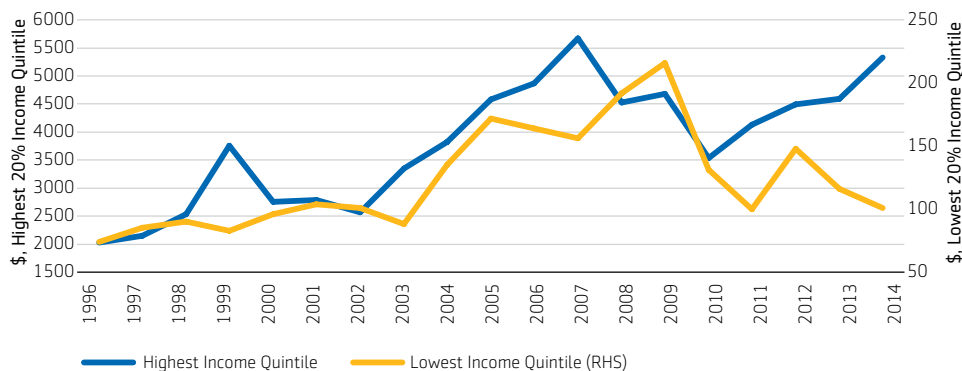
Table IV: Homeownership Favors the Wealthy

	Highest Income Quintile	Lowest Income Quintile
% Homeowners 2015	87	38
Change in Home Value Since 2009	12%	-2.7%
Change in Home Value 1996-2014	147.4%	94%

Source: BLS

There are two additional dynamics at play that serve to further the divide. The lowest income quintile likely had a larger mortgage, such that a change in home values was magnified by the inherent leverage. That group felt the brunt of the drop in housing with less exposure to the upside conferred by easy money and higher returns from financial assets following the crisis. The highest income quintile, on the other hand, was relatively more levered to financial assets, and they were likelier to have a lower mortgage if any at all. This group was less exposed to the downside of housing, and more exposed to the upside in financial assets.

Chart 17 - Interest, dividends, rent & property income

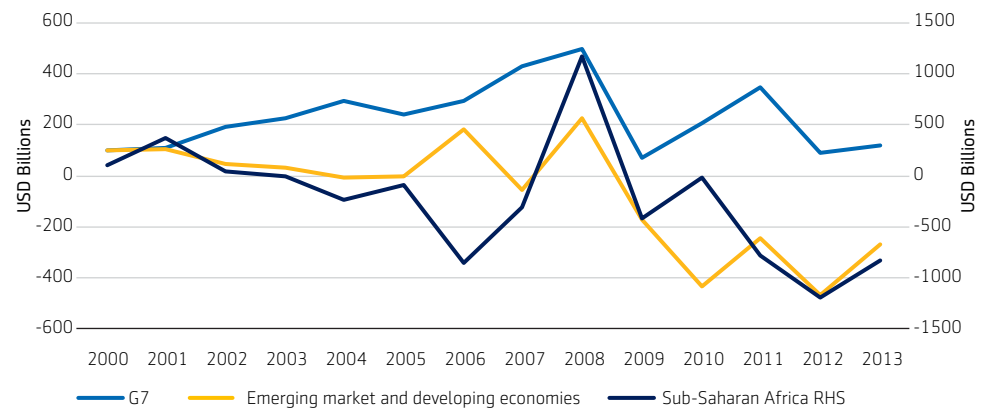




#### d. Global capital discrimination: The Africa case

A central part of the savings glut hypothesis is the global flow of capital from regions with surplus savings –notably emerging Asia and oil producers – to the large developed economies comprising a significant portion of global GDP, notably the U.S., creating a global imbalance in the flow of capital and working to depress rates globally. As can be seen in chart 18, capital flows have been discriminatory, flowing to the perceived safe havens of advanced economies at the expense of emerging nations. Justified flows perhaps, as the ease of doing business table below illustrates the relative safety of capital in advanced economies.

Chart 18 - Net Portfolio Investments



Source: IMF World Economic Outlook Database - Apr 2016, AAM US Investment Strategy





The World Bank ranks economies on their [ease of doing business](#) on a scale of 1-189, based on 36 indicators that relate a country's performance to a measure of best practices. The narrower the gap between the country's performance and the best practice measure, the higher the ease of doing business in that particular economy (table V).

> Looking closer into emerging economies, however, reveals that the most productive use of capital, the ease of doing business notwithstanding, may be within emerging nations, most notably Sub-Saharan Africa.

Projected working-age population, economic and productivity (lower capitals to labor ratios indicate room for aggregate spending and productivity, and room for productivity catch up vs. developed nations) growth rates will increasingly contribute to global prosperity at the expense of developed markets. This is consistent with our secular call that favors EM financial assets over DM, based on fundamentals, valuation, and the natural flow of investing assets.

Table V: World Bank's Ease of Doing Business Indicator

	Rank	GDP-weighted Rank
<b>Africa</b>	<b>114</b>	<b>124.3</b>
South Africa	73	21.9
Morocco	75	7.2
Kenya	108	6.6
Ghana	114	4.1
Ivory Coast	142	4.3
Senegal	153	2.0
Nigeria	169	78.1
<b>G7</b>	<b>15</b>	<b>14.7</b>
United States	7	3.7
United Kingdom	6	0.5
Canada	14	0.6
Germany	15	1.5
France	27	1.9
Japan	34	4.1
Italy	45	2.4

Source: World Bank, AAM US Investment Strategy, Bloomberg  
As of 2016

## V. Possible solutions

### a. Lower interest rates

In the following paragraphs we discuss potential policy actions that may remedy low growth and real rates. Monetary and fiscal policies are central tenets of neoclassical macroeconomics. We've observed monetary policy tools, conventional and non-conventional, unfold in much of the developed world. As previously mentioned, monetary policy, and its usual benefits during normal business cycles, may be less effective in secular developments. There is an implicit zero bound constraint for nominal policy rates, while weak aggregate demand may be indicative of a negative neutral rate, suggesting that monetary policy is limited in its ability to cut rates to levels needed to stimulate spending and economic growth. The potential existence of hysteresis, or a permanent regime shift to lower trend growth, further limits the powers of monetary policy.

Although lower rates do collaterally inflate asset prices, the net effect on demand is debatable as asset owners may have a lower marginal propensity to consume and make up a smaller portion of the population, thereby limiting the potential positive effects of the wealth effect.

> Low rates create asset inflation, supporting consumer demand on the margin. But really weak aggregate demand may theoretically require negative policy rates.

### b. Government spending

Public spending is another alternative, with the assumption that government incurring further debt and investing in infrastructure, which tends to have a multiplier effect throughout the economy, would stimulate employment, spending, productivity, and raise the real neutral rate. Alving Hansen (progenitor of the secular stagnation thesis) couldn't have predicted WWII, the impact of U.S. government spending (in fairness he did support fiscal spending but worried about its practical application), and the resulting baby boom. The baby boom in particular is a powerful force that has shaped the U.S. economy since then, and will continue to do so over the next few decades.

There are concerns however, on the longevity of the benefits of expansionary fiscal policy, which may only provide a cyclical benefit to economies, while the structural forces of demographics and productivity prevail later on.

### c. Private-sector investment

The importance of economic policy and reforms cannot be understated, especially in light of structural headwinds to growth in the form of demographics and the cyclical limitations of fiscal and monetary actions. Policies supportive of private enterprise and investment, and therefore business dynamism, are de rigueur. And regulations need to foster, not constrain, the creation of businesses. Stimulating private sector investment would serve to increase spending and employment, improve productivity and raise the prospects for potential economic growth.

#### **d. Global trade**

Trade is an important lubricant for economic growth worldwide, and policies need to be encouraging of open trade absent currency manipulations and unfair trade practices, a potential solution offered by savings glut theorist Ben Bernanke. The rise of protectionism and isolationism in several developed economies, most recently with the election of Trump for instance, is a potential concern as it would further dampen trade and economic growth.

It is worth noting however, that the rise in populism may in part be attributed to the marginalization of a significant portion of societies as a result of the globalization and increased productivity of decades past. Increased prosperity has not been equally shared, inciting angst globally and a push towards isolationism. Protectionism can be a destructive answer to the challenge of inequality as the economic benefits of trade, or the aggregate consumer surplus, would be lost and manufacturing may still never be as large a portion of the U.S. economy as it once was for instance – it is worth heeding its message and promoting policies that do not leave displaced workers behind.

It isn't surprising that ideas such as the universal basic income have gained further popularity. What is more needed, perhaps, is a substantial effort towards skill enhancements and education to keep up with current and future economic and technology trends.

#### **e. Increase retirement ages sharply**

As previously discussed, the significant increase in life expectancy relative to the retirement age encourages savings at the expense of consumption. In the U.S. in particular, social security as a safety net was initially meant to support retirees with a much lower life expectancy. Increasing retirement ages, or modifying pension and social security payouts to further benefit withdrawals at a later age would raise the employed portion of the population, reduce the need for savings, and ultimately stimulate consumption.

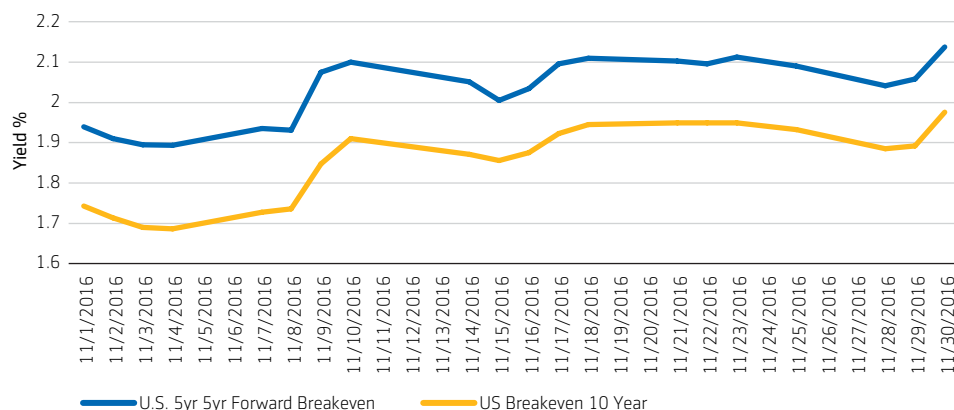


## VI. The Trump effect

> The recent election of Donald Trump as the 45th president of the United States has some important implications, as assessed by policies highlighted in his campaign.

With the caveat that campaign promises may not necessarily be enacted, we will discuss domestic cyclical implications of proposed programs, and address structural considerations for the U.S. and the rest of the world as we assess what Trump could mean for trend growth and long term rates by extension.

Chart 19 - Inflation Expectations Rising



Source: AA US Investment Strategy, Bloomberg

As of: November 30, 2016

### a. The Cyclical

Trump's proposed policies are broadly reflationary and, we believe, marginally positive for the U.S. economy over the next few years. U.S. financial markets directionally concur based on the post-election rally in equities and the selloff in treasuries, with a material increase in inflation expectations. Over eight years removed from the great recession and with the Fed a year into a gradual tightening cycle, the U.S. economy stands to benefit from fiscal policy taking center stage, at least in the short to medium term. The deployment of fiscal policy in the form of infrastructure spending and tax cuts is a distinct possibility, should the president-elect come to terms with the Republican-led congress on increased government spending.

Infrastructure spending could spur aggregate demand and further tighten the labor market, while corporate and personal tax cuts may stimulate business investment and consumer spending. The exact effect on the economy is uncertain as estimates of the multiplier effect vary greatly. [The Congressional Budget Office](#), for instance, estimates that the stage of the business cycle matters, direct government spending is more promising, and the policy mix of tax cuts drives aggregate spending benefits.

Should the incumbent president's protectionist posture be acted upon however, trade restrictions could quickly engender trade wars that would detract from the goodwill conferred by fiscal policy.

> While a cyclical boost is constructive, the demographics and productivity drivers that structurally impact economies are weightier for trend growth and the path of long term rates.

## b. The Structural

Policies that aim to positively contribute to those drivers merit special attention. Trend growth is a marathon after all, not a sprint. With labor force growth projected to remain slow and eventually decline longer term, increased investment incentives and business confidence need to sow the seeds for tomorrow's productivity gains.

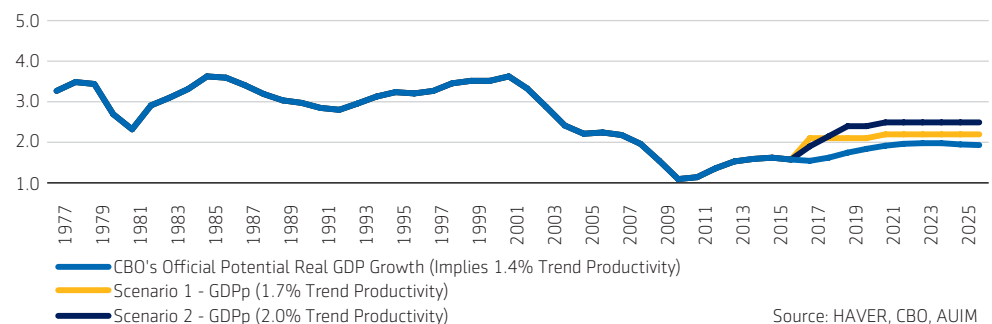
### i. Productivity

Public and private investment, in both capital equipment and R&D, tends to drive labor productivity growth and innovation. Broadly speaking, should enacted infrastructure spending and corporate tax reform spur long term investment, which has been rather muted this cycle, this would bode well for trend productivity and potentially expand the U.S.'s output curve.

Their effects go even further. Innovation and permanently lower corporate tax rates could be meaningful catalysts for business dynamism and encourage business formation, which ultimately drives employment and future productivity growth in the U.S. economy. Longer term, this benefit would be further supported by the proposed structural reforms, which could encourage business creation by reducing regulatory hurdles and facilitating business lending.

Boosting trend productivity through structural reform and investment is therefore plausible, and illustrating its potential effect on trend growth is rather straightforward (Chart 20). As of August 2016, Congressional Budget Office (CBO) projections, which do not incorporate proposed policies, assume a 1.4% annual rate of productivity growth longer term. Should Trump's policies marginally impact trend productivity, productivity growth could return to its long term average of 1.7% dating back to 1950. Holding labor force constant, the marginal impact on trend productivity growth would fully flow through to trend growth, increasing the CBO's potential GDP estimate of 1.8% to 2.1%. A modest boost perhaps, but a meaningful one nonetheless given low growth rates. Should stimulated productivity return to its tech-boom trend of 2%, this would lift trend growth to 2.4%.

**Chart 20 - Can Trumponomics boost LT productivity?**  
If so, real trend growth can accelerate, but upside limited





## ii. Demographics

The slow moving force of demographics presents a different challenge as labor force growth is projected to slow and even decline long term, absent an improbable baby boom redux. At best, the president elect's immigration stance provides no boost to trend growth. At worst, it exacerbates this colossal challenge as it would put a damper on net migration.

Naturally, easing entry of skilled immigrants to the labor force, increasing the retirement age, and reducing skills mismatches via broad education and re-training reforms, would all serve to stem the tide of a declining workforce and support a productivity growth return to long term trend.

On balance, Trump's policies could marginally raise trend growth, should the mix of productivity enhancing measures outweigh a declining workforce and isolationism. Therefore, impact on the longer term neutral rate would be incremental. Within a global context, U.S. GDP represents roughly a quarter of world GDP in current dollars and the marginal impact of U.S. trend growth would be negligible, all else equal. Consequently, U.S. effect on global rates would not be material. Should a suite of developed economies embark on coordinated structural reforms however, a return to higher global trend rates of growth and interest rates is possible.

## VII. Conclusion

### a. Real neutral rate much lower (maybe zero), and structural drivers are not changing anytime soon.

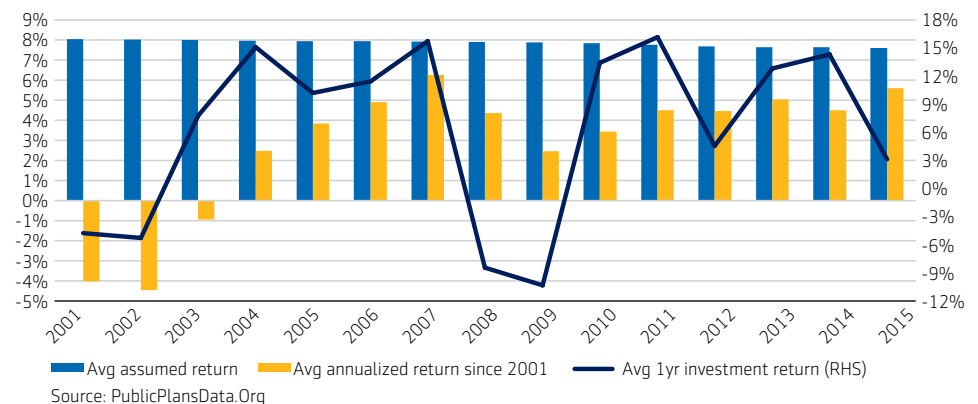
> Economic growth and the neutral rate of interest have trended down over the past few decades. Although cyclical factors may have contributed to the declines, structural factors are also at play, notably demographics and productivity.

However, even structural drivers can change. For example, material developments in the fields of robotics, artificial intelligence, and genomics may lead to strong tailwinds for productivity growth ([AUIM U.S. Rates Strategy](#)). And while developed markets will be dealing with demographic shifts for years, there are good relative opportunities for capital in higher-growth emerging markets.

### b. Return assumptions for pensions still too high

An added side effect of low rates has been the lower expected returns for households and institutions, which will be problematic for public pension. As chart 21 shows, return assumptions are yet to catch up with economic reality, and funding challenges may eventually present a systemic risk to the global economy.

Chart 21 - Average Returns - Public Pension Plans



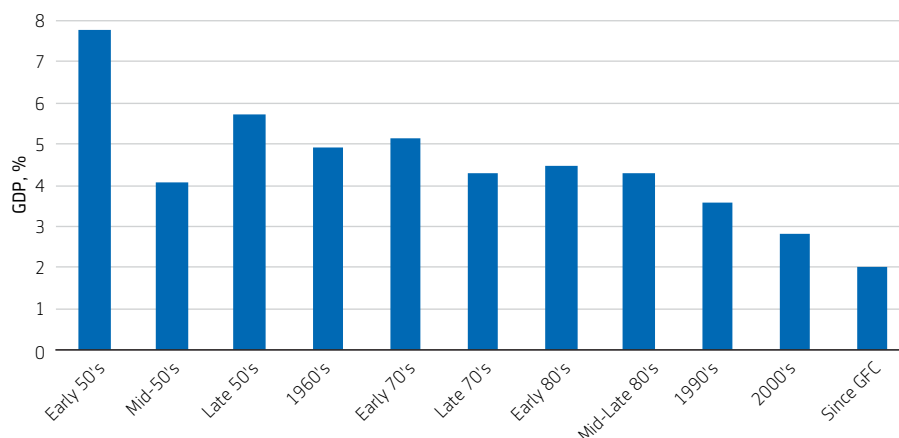


### c. Favor Emerging Markets over Developed Markets

For years, capital flocked to developed countries while, despite higher growth prospects and more potential for investment, capital exited emerging markets. Yet, as developed market returns have been depressed by secular trends, emerging market economies look relatively more attractive places to invest.

Whether the global economy is in a period of secular stagnation or is working through a global savings glut—or perhaps a bit of both—the consequences are similar: a lower equilibrium rate of interest, lower realized growth, and declining growth expectations. It is no coincidence that U.S. GDP growth rates during expansions, for instance, have been steadily declining since the 1980's, despite longer economic cycles and fewer recessions (Chart 22).

Chart 22 - Average US Expansionary GDP (% QoQ SAAR)



Source: AAM US Investment Strategy, Bloomberg

As of: Q3 2016

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