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The Challenge of Low Interest Rates

"There is moderation even in excess."

Benjamin Disraeli (1804-1881)

For the better part of the last 70 years, lower interest rates have been seen as a benefit to borrowers, lenders, and investors. The reasons for this are easy to understand. Homeowners and businesses benefit from lower borrowing costs which increase housing affordability and improve the profitability of businesses while facilitating business expansion. Banks and other lenders have historically witnessed an increase in the demand for credit as interest rates fall. Investors have benefited from lower interest rates for two reasons: The first is the role lower rates play in increasing consumer demand for goods and services, especially housing. The increase in consumer demand has a multiplier effect on economic growth that in turn translates into higher profits for businesses and corporations. The second benefit of lower interest rates to investors is the favorable impact on valuations for equity, fixed income, and other investments. Because asset values and earnings streams are discounted by the prevailing rate of interest, a decline in interest rates usually has the effect of boosting valuations for stocks and other assets.

Such have been the circumstances for much of the post-World War II era: Economic cycles have run a familiar pattern of growth, followed by rising wages and prices, which often triggered a tightening of monetary policy (in the form of increases in central bank lending rates). Conversely, during recessions, when economic activity ebbed and inflationary forces receded, central bank policy typically became more "accommodative"; interest rates were lowered and the Federal Reserve's "open market" activities (the Fed's purchase and sale of securities for its own account) also served to promote easier borrowing conditions for businesses and consumers. The stimulative policy often accompanied by tax cuts and/or increased government spending served to prime the pump for the economy and the virtuous cycle would begin anew. Chart 1 illustrates this pattern during the 1990-1991 recession.

The current economic cycle, in many ways, has broken the pattern of the postwar era. Today, interest rates around the globe are near their lowest levels in modern history; in Japan and certain countries of Europe, interest rates are actually negative, a phenomenon that has been quite rare over the last century. It has been estimated that 20% of the world's outstanding government debt is priced with a negative yield to maturity (Strategas, Investment Viewpoint, April 2016). In addition to accommodative interest rate policies, central banks have also pursued unconventional policies such as the outright purchase of both government and nongovernment securities; all in an attempt to spur economic activity. Yet, despite years of aggressive global monetary policy, economic growth around the world remains muted; for the period 2013-2015 real global growth averaged just 2.4%, according to the World Bank. In the U.S., real GDP growth for 2016 is expected to be about 2%, which is consistent with the pattern of recent years and below the average growth rate of 3.2% for economic recoveries from 1948-2015 according to the U.S. Bureau of Economic Analysis. In Europe, real GDP is estimated to be 1.7% in 2016 according to the World Bank. In Japan, the World Bank estimates economic growth of 1.3%. Among the large global economies, China remains the bright spot with projected growth of 6.3%, which is a

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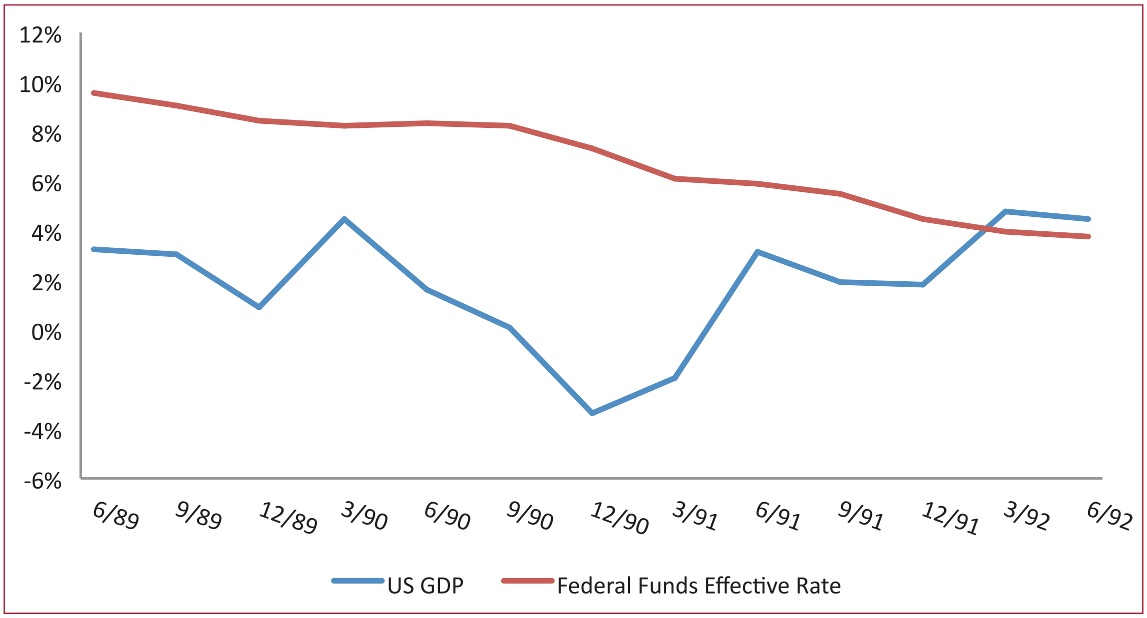
Chart 1: U.S. Federal Reserve Discount Rate and U.S. GDP 1989-1992



Source: Federal Reserve, Bloomberg

deceleration from 8% growth earlier in the decade. What are the causes of persistently below-average economic growth? Why have the extraordinary measures taken by central banks not achieved the desired effect of spurring higher levels of business activity? Are there unintended (or undesired) side effects of ultra-low interest rates? These questions have been weighing on investors' minds. In this article we will address these questions and also share our thinking on how investors might position their portfolios for the risks and opportunities of a low interest rate environment.

The Background

The 2008-2009 financial crisis, and the accompanying recession, marked one of the most severe episodes in modern economic history. The collapse of the U.S. housing sector had a ripple effect across the economy and imperiled the entire U.S. financial system. Prominent financial institutions such as Lehman Brothers did not survive the crisis while the extraordinary actions of the U.S. Treasury and Federal Reserve are credited with preserving the greater U.S. financial system. Following a combination of aggressive monetary policy as well as large fiscal stimulus from the federal government (the Congressional Budget Office estimated the cost of the American Reinvestment and Recovery Act at $891 billion), the U.S. economy bottomed in the second quarter of 2009 and in the intervening years, employment and business and consumer spending have all recovered. But the aftereffects of the recession and financial crisis cast a long economic shadow: government and private debt levels remain elevated; consumer and business confidence remains below prerecession levels.

In Europe the economic recovery lagged the U.S. and China; between 2010-2015 Eurozone real GDP averaged less than 0.5% annually. High debt levels in southern European regions, aging demographics, restrictive labor policies, and uneven fiscal policies hindered the European recovery.

In Japan, years of government spending were met with mixed success in reigniting economic growth and real GDP in Japan averaged 0.3% from 2010-2015. Similar to Europe, the Japanese economic growth has been hindered by high debt levels and an aging population. (Chart 2)

The Chinese economy made a swift recovery from the recession with fiscal policy playing an important role; between 2008-2009, the Chinese economic stimulus plan was estimated at $586 billion. Infrastructure spending drove much of the Chinese economic growth and this increased global demand for energy and industrial commodities. The fiscal stimulus and infrastructure-led expansion also led to an increase in Chinese debt, which increased from $7.4 trillion in 2007 to $28.2 trillion in mid-2014 (source: McKinsey Global Institute, February 2015).

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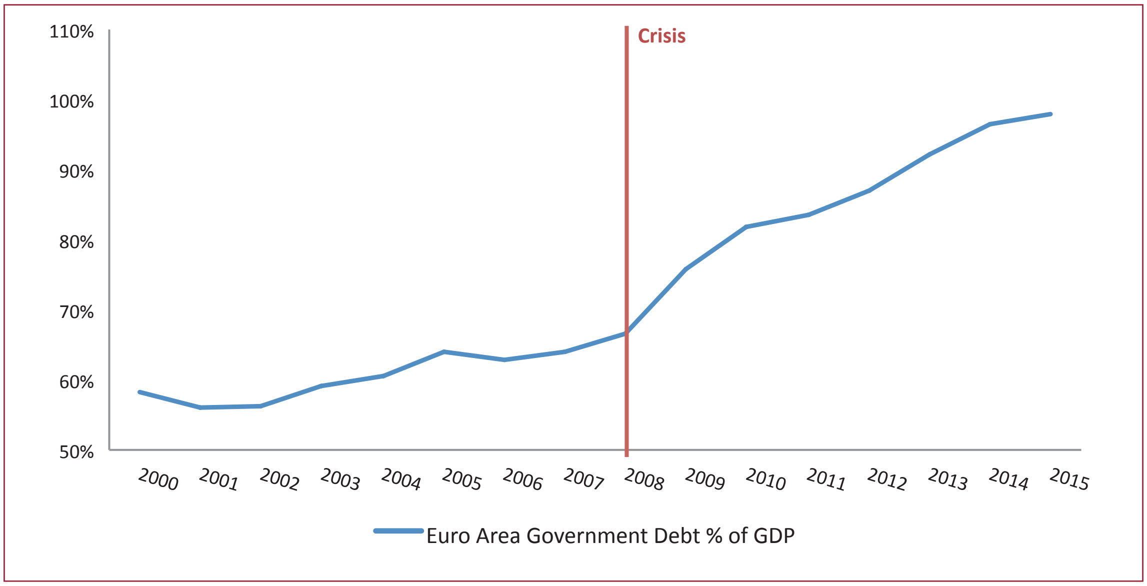
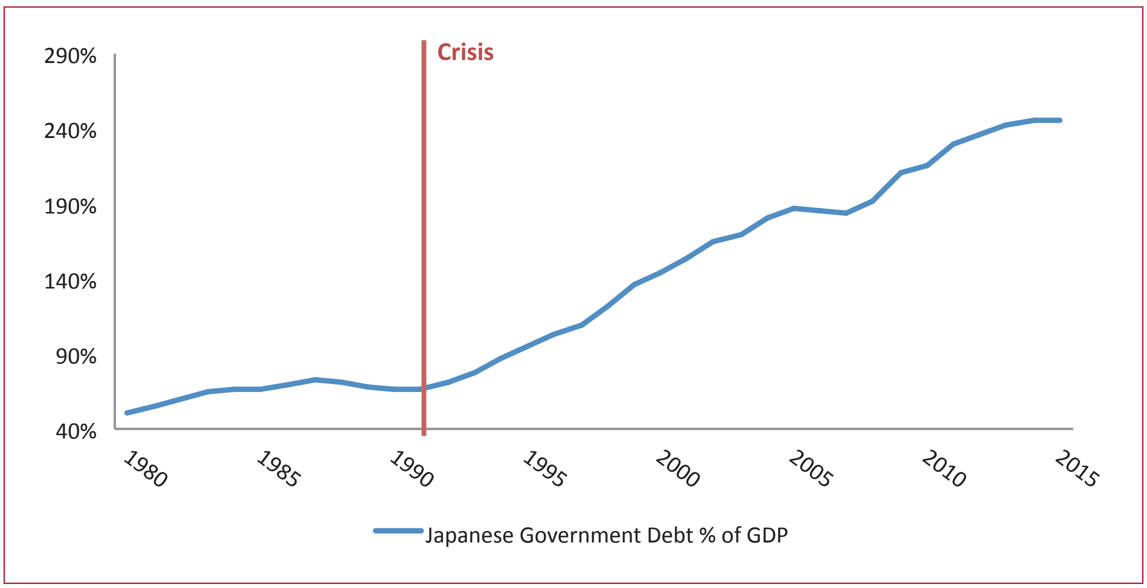
Chart 2: European and Japanese Total Debt 1995-2015



Source: World Economic Outlook Database, International Monetary Fund



Source: World Economic Outlook Database, International Monetary Fund

Global inflation rates remained subdued during the economic recovery and this was particularly the case in the mature economies of Europe and Japan where there were actual signs of price deflation. (Chart 3)

Thus, the post-2009 environment was characterized by subdued levels of economic growth, low inflation, and above average unemployment levels, particularly in the mature western economies. In addition, the sovereign debt crisis in southern European countries including Greece, Portugal, and Spain from 2010-2015 further exacerbated the growth outlook for Europe and placed additional pressure on the European Central Bank to ease monetary conditions.

The Response

In response to these conditions, global central banks have taken aggressive, and in some instances unprecedented, measures to improve lending conditions. In Europe, there

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Digital Asset Planning

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In today's increasingly digital world, our lives revolve around technology and many of our personal possessions and important documents have become integrated into online databases and cloud technology for easy access and convenience. When creating your estate plan, it is important to consider not only your traditional assets, but also your digital assets. What are digital assets? Who has access to them and what are their rights? What can you do to plan for your digital assets when you die? What happens to your digital assets after you die?

What are digital assets?

Simply put, a digital asset is an electronic record. It is electronic content that exists outside the physical world which has personal value to someone. Digital content includes individual files and some online accounts. A few types of digital assets are:

- Personal items such as photos, videos, and email accounts.
- Social media and productivity tools such as Facebook, Twitter, Instagram, Pinterest, LinkedIn, Tumblr, and Evernote.
- Financial accounts such as mutual fund accounts, retirement accounts, online bill payment services that exist in the digital and paper world. There are also digital only accounts such as PayPal, Bitcoin, eCommerce sites, and credit card loyalty programs.
- Business tools such as a domain name, blogs through WordPress, SquareSpace, YouTube, and personal websites, as well as e-commerce sites such as eBay, Amazon, Alibaba, or sharing economy sites like Airbnb, VRBO, and Etsy.

Items that are not typically considered as digital assets are music, movies, eBooks, and audio books purchased from Apple iTunes or Amazon, as examples. The Terms of Service (TOS) agreements that govern these types of assets make them nontransferable; you do not own the digital content. You pay for a license to listen, watch, and read during your lifetime only. Many people are surprised to learn that they cannot transfer their eBooks or music to their heirs upon death.

Digital hardware, such as laptops or PCs, portable hard drives and flash drives, smartphones, tablets, and digital cameras are not digital assets. As tangible assets, these devices are covered by your traditional estate plan, most likely your will or trust. However, access to the devices where your digital assets are located is important for preserving these assets, and having any required passwords to each device is imperative for data recovery and collection.

For all digital assets, it is important to understand the TOS agreement, which governs the transferability of the account when you die, and what rights your surviving heirs have to access your digital assets. Each service, from Facebook to Gmail, Yahoo! to Dropbox, has its own TOS agreement with the intent of protecting the rights of the deceased. Knowing what the TOS agreement allows, and preparing your digital assets accordingly, will ensure a smooth and easy transition, deletion, or preservation of your digital assets.

The Laws

Legal representatives of an estate have a duty to protect the assets of the decedent; however, they may face significant roadblocks when dealing with multiple TOS agreements or policies regarding when or if they can access online accounts and information. Currently, if an online account has a policy that does not allow transferability and the user agrees to this policy when creating or updating the account, the executor administering the estate does not have the legal authority to overstep these restrictions. To gain access, the executor may have to go through a complicated, time consuming, and costly court procedure. For example, Yahoo's TOS agreement purports to provide the company with full and sole authority to delete an account on the death of the account holder[1]—regardless of the effect that may have on an estate.

Most states are actively pursuing legislation to deal with access by a fiduciary to a decedent's digital assets and accounts, and in the intervening time, each state has laws governing the rights of a representative of an estate, guardianship, or trust. It is important to note that technology has far outpaced legislation regarding access to digital assets. Your professional advisors should be consulted to ensure that your wishes coincide with your state's laws.

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Digital Asset Planning (continued)

Planning for your Digital Assets

Besides familiarizing yourself with what your digital assets are and knowing your state's laws, there are some relatively simple steps you can take to protect your digital assets and make sure they are handled according to your wishes after your death. First, take an inventory of all of your digital assets, which can be highly useful as a guide and will remain a living document throughout your lifetime.

While not a legally binding role, naming a digital executor is a prudent step to take when planning for your digital assets. Choose someone you trust and who is comfortable with technology. An individual who is highly organized and patient also demonstrates qualities of a digital executor. This person should be aware of where your digital hardware is located, what accounts you have, and any pertinent information on accessing those accounts. Compiling your passwords for various online accounts in a safe and secure place, as well as your digital asset inventory, is an easy and effective way to transfer this knowledge to your digital executor.

Consider using a password manager with inheritance features, which will share passwords with heirs electronically or even by registered letter to ensure this information is not lost. There are also online services that can assist you in planning for your digital assets, some of which include Digital Estate Planning, Digital Locker, Postmortem Messaging, and Digital Assets Locator. Consulting services are also available to assist you with creating a plan, organizing, or digitizing your assets.

Although it may seem daunting to plan for your digital assets, taking action early will facilitate a smooth process. Create a digital asset inventory, and use a password manager. Consider adding language to your estate plan that authorizes access to your digital accounts. Name a digital executor and work with him or her as early in the process as possible. Be sure to keep your inventory and password manager up to date, with regular reminders to edit pertinent information as technology changes and new platforms and services are added to your digital asset collection. Consult with your trust officer or estate planner to be sure that your estate and trust documents reflect your wishes in regards to your digital assets, and to ensure that your wishes are carried out.

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[1] Yahoo Terms of Service, https://policies.yahoo.com/us/en/yahoo/terms/utos/
Thanks to Steve Milt, Certified Information Systems Auditor (CISA)

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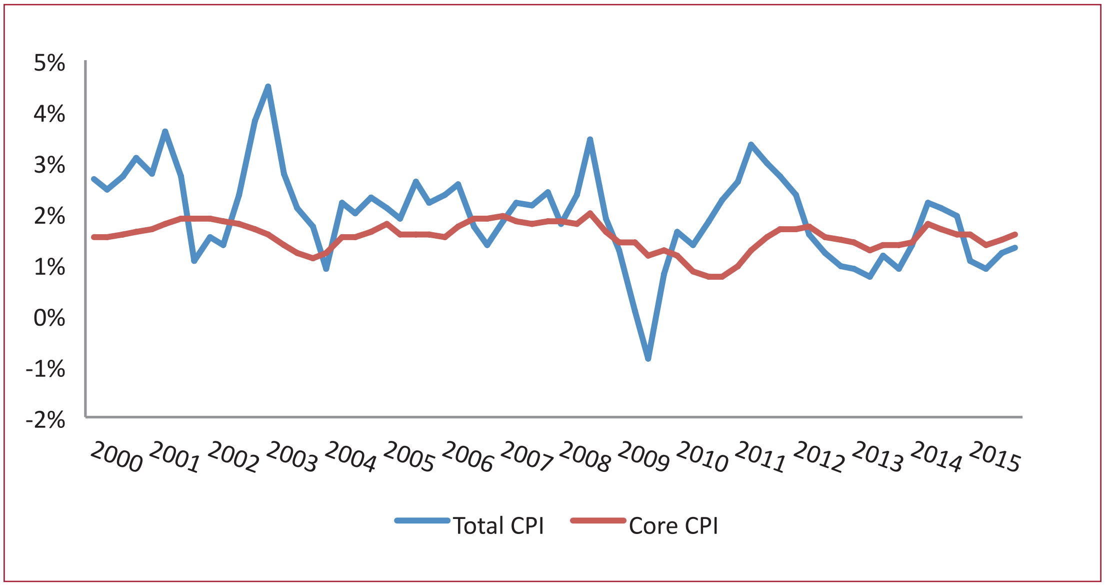
Chart 3: Inflation in Developed Economies



Source: OECD

was an additional goal of stabilizing the financial system while coordinating debt restructuring of southern European nations. Central bank responses included the lowering of key lending rates, loosening of reserve requirements, quantitative easing—or the open market purchase of government securities—and open market purchases of mortgages and other nongovernment securities. Towards the middle of the decade, the European Central Bank (ECB) as well as central banks in Denmark, Switzerland, Sweden, and Japan introduced negative interest rates which have pushed policy rates into negative territory. Accompanying this move the short-term yields on government bonds in many of these countries approached zero or were slightly negative. (Chart 4)

In the U.S. most sectors of the economy have recovered including housing, consumer spending, and industrial production; with the current unemployment rate at 5.5%, the U.S. economy is near full employment. In Europe, the actions of the ECB, in concert with the International Monetary Fund and the World Bank, avoided a sovereign debt collapse. Modest economic growth has been restored in Europe, although Eurozone unemployment remains stubbornly high and averaged 10.4% in January 2016 according to Eurostat. Chinese economic growth leads the major world economies with real GDP estimated to expand by 6.3% in 2016 according to the World Bank. However, as noted above, Chinese economic growth has been accompanied by a meaningful increase in total debt across the Chinese economy. In addition, China has witnessed a shift from infrastructure-led growth to consumer-driven economic growth and this has led to a slowing of demand for industrial commodities such as iron ore, cement, coal, and petroleum. The reduction in demand growth was an important factor in weakness of industrial and energy commodity prices from 2014-2016; over that period the price of WTI oil declined over 70% and the CRB index of industrial commodities declined over 48%. In Japan, economic growth remains muted and the country faces significant challenges from an aging population, restrictive immigration and labor policies, and high debt levels cited above. Outside these large economies, economic growth in other regions has been mixed with commodity-dependent economies in South America, the Middle East, and Russia being negatively impacted by commodity price weakness, while India, South Korea, and other emerging economies that are less commodity-dependent, will average real GDP growth between 2.5% and 6% in 2016, according to the World Bank.

Thus, it is against the backdrop of government fiscal deficits, elevated global debt levels, severe commodity price weakness, aging populations, and above-average unemployment that the extraordinary central bank policies have been undertaken. Citing the modest global economic growth over the 2010-

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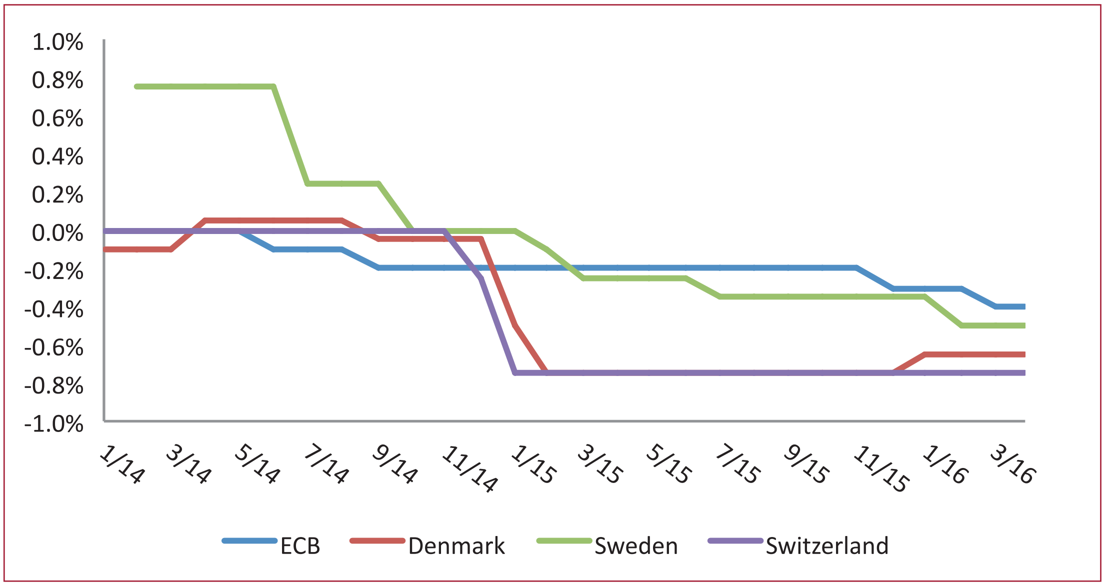
Chart 4: Policy Rate on Excess Reserves (percent)



Source: Bloomberg

2015 timeframe and the avoidance of severe sovereign debt defaults in Europe, it can be argued that these policies have met some important objectives, although the measure of success of these policies will only be known in the fullness of time.

The Implications

While the benefits of unconventional monetary policy, in the form of lower borrowing costs, are well understood, it is becoming increasingly apparent that there are costs as well as benefits to these policies including the following:

- With interest rates near historically low levels, the cost to individuals saving for retirement has been significant. As an example, in April of 2005 a retiree looking to generate $40,000 of annual income, while taking minimal risk, could have invested $940,000 in a 10-year U.S. Treasury bond yielding 4.2%. Today, with 10-year Treasury yields at 1.5%, a retiree would require over $2 million in savings to generate the same level of income.
- Banks, insurance companies, and other financial institutions have seen a significant impact from low interest rates. Banks and other lenders earn profits on the difference between what they charge for a loan and what they pay to fund the loan, known as the net interest margin. Since early 2010, the average net interest margin for U.S. banks has declined from 3.7% to 2.9% according to the Federal Financial Institutions Examination Council.
- Low interest rates have reduced income streams for investors and this has impacted investor behavior. While difficult to quantify, investors seeking income have been forced to move away from the most highly rated securities, such as government bonds and investment-grade corporate debt, and into riskier assets such as lower rated bonds, master limited partnerships (MLPs), and high yield stocks. The latter have distinctly different financial and risk characteristics from investment-grade bonds and should be approached cautiously; during the fourth quarter of 2015 Kinder Morgan, one of the largest MLPs in the energy sector, reduced its dividend 75% in part due to the decline in oil and gas prices and the accompanying reduction in demand for the company's services.
- For a cross-section of industries, very low interest rates present a mixed blessing. On the one hand, borrowing costs are at the lowest levels in decades. On the other hand, because interest rates are a key factor in calculating the investment return on new plants and equipment, very low interest rates serve to distort the true economic return for new capital investments on plants and equipment.

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- Another by-product of low rates has been the effect on overall corporate balance sheets. While low interest rates have encouraged companies to borrow, the returns on new plant and equipment have discouraged capital spending. The result has been that a portion of those borrowings has been returned to shareholders in either the form of stock buybacks or dividend increases. This is good news for shareholders – up to a point. Standard & Poor's estimates that over the last two years between 20-23% of S&P 500 companies have purchased enough shares to reduce their share count by 4% annually. This has occurred against a backdrop of rising corporate debt; Societe Generale estimates that U.S. nonfinancial net debt has risen over 30% since early 2015.

While the low interest rate policies have played an important role in aiding economic growth and stabilizing the global financial system following the 2008-2009 financial crisis, there is a growing list of unanticipated side effects for investors, retirees, and businesses. Given these challenges, how should investors adapt to a low-rate environment?

Addressing the Challenge

Investors face three main challenges in a low rate environment: 1) providing sustainable current income, 2) incorporating lower return expectations in retirement planning, and 3) avoiding the pitfalls associated with reaching for income. Below we offer some thoughts on these topics.

- Employ a multi-faceted approach to retirement. Low interest rates present a headwind for retirement planning, but longevity is another factor. According to the Social Security Administration, men reaching age 65 today can expect to live until 84; women age 65 can expect to live until 86. Providing a sustainable income for a retirement that can last 20+ years is a daunting task and requires sound planning and an element of creativity. Factors to consider include deferring retirement, engaging in a part-time second career, postponing withdrawals from an IRA until age 70 ½, and adjusting the timing of Social Security benefits. While there are no magic answers to solve the retirement equation, several adjustments taken together, can make a significant difference. For example, even assuming modest rates of return, postponing withdrawals from an IRA for five years can have a meaningful impact. At a 4% annual rate of return, a $1 million IRA grows to $1.2 million between age 65 and age 70, if no withdrawals are made.
- Incorporate lower investment return expectations into retirement planning. There are few certainties in this world however, the current low level of interest rates is sure to impact the future investment returns for fixed income securities; since 1926, the annualized return on long-term government bonds has been 5.5% and today the yield on the 10-year Treasury bond stands at 1.6%. In a recent report, Strategas Research Partners states that the average annual rate of return assumption for public pension plans in the U.S. is 7.6%. Given the current level of interest rates, and since fixed income securities will continue to play an important role in retirement portfolios, this rate of return appears optimistic. It is essential that investors adjust their expectations for the future investment returns when planning their retirement investment strategies.
- Focus on sustainable yield and not the highest yield. As the Kinder Morgan example demonstrates, higher yielding securities often carry out-sized risks. However, the stocks of many high quality multinational companies pay above average dividends with yields that range from 1.5%-3.0%. Moreover, these companies have a history of increasing their dividends as their earnings grow. For example, Minnesota Mining and Manufacturing (3M) has increased its dividend at an annual rate of 15% over the last five years; over that period, 3M's annual dividend per share has risen from $2.20 to $4.43. An investor buying 3M in 2011 would have purchased the shares with a (then) current yield of 2.7%. With the growth of the dividend over the intervening years, that investor's yield on purchase price would today be close to 5%. Investors are well served by owning the shares of financially strong companies with growing earnings and above average, but not necessarily the highest, current yields.

The Future

We touched upon the background of low interest rates and described the underlying circumstances that led to the current policies and discussed some of the benefits of low interest rates as well as some of the challenges low rates pose for businesses and investors. During the early months of 2016, it is clear that many of economic trends that led to low

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interest rate policies remain with us: U.S. real GDP growth for the first quarter of 2016 was reported at 0.5%; the U.S. consumer price index for the 12 months ended March 2016 rose 0.9% according to the Bureau of Labor Statistics. In April, the International Monetary Fund reduced its outlook for 2016 global GDP growth to 3.2% citing "softening activity in advanced economies…and concerns about the impact of unwinding prior excesses in China's economy."

The recent Brexit vote in the U.K. has increased uncertainty about global economic growth and this has been reflected in stock prices and further downward pressure on interest rates. In May of 2016 the U.S. 10-year Treasury bond had a yield of 1.83% and by late June the yield had declined to 1.47%. Is the global economy headed for a prolonged period of low interest rates and the accompanying challenges for investors? Or, is there, as Disraeli says, "moderation" in excessively low interest rates? The turmoil caused by the Brexit vote notwithstanding, there are some encouraging signs. The Federal Reserve, while still accommodative in its policy, has signaled its willingness to increase the federal funds rate and took a first step in that direction at its December 2015 meeting. One key economic barometer the Fed is watching is the inflation rate. While current inflationary trends are quiescent, there are several recent developments that portend an increase in inflationary trends. The Federal Bank of Atlanta's index of wage growth rose at a 3.5% annual rate in the month of May which is the highest annual rate since early 2009. Following a significant decline since mid-2014, crude oil prices bottomed in mid-February and have rallied sharply; by the early summer WTI crude stood at $47 per barrel or almost 50% above the low point reached in February 2016. The Baltic Freight Index, a key measure of global trade, has risen strongly since early February. While these signs are encouraging, they are overshadowed by the upcoming negotiations between the U.K. government and the EU regarding the terms of the U.K. withdrawal from the EU. The tone and substance of these negotiations and the lack of clarity regarding the possible outcomes will impact business and consumer confidence and will have an indirect influence on interest rates.

In many ways investors are living through an unprecedented time in modern financial history. Uncertainties about the economy and investment outlook abound and the future direction of interest rates deserves to rank high upon the list of concerns. Navigating the current environment successfully requires some advance planning as well as a disciplined and thoughtful approach to seeking investment income. Patience and conservatism, two hallmarks of successful investing, are especially valuable in facing the challenges of a low interest rate environment.

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