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#### Introduction

In December of 2017, the U.S. passed the Tax Cut and Jobs Act of 2017, which reduced corporate and individual tax rates. On March 23, 2018, an omnibus spending bill increased discretionary spending. Declines in tax receipts and increased spending are expected to push the fiscal deficit higher.

The Congressional Budget Office ("CBO") projects the federal debt to grow to 150% of GDP by 2047, a historic level. Investors likely will grow increasingly worried about the long term consequences of such significant debt levels. Additionally, growing fiscal deficits are occurring at the same time that the current account deficit has been widening, causing investors to contemplate the ramifications of "twin deficits."

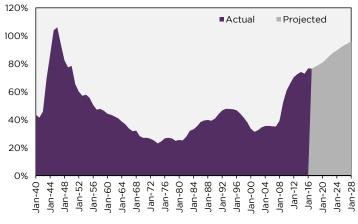
Despite debt breaching historic levels, theory and history suggest Treasury rates will remain constrained by growth rates and inflation. The source of funding of the debt, however, likely will impact economic fundamentals and financial markets over the longer-run. Foreign investment likely will continue to serve as a material source of funding, making a reduction in the trade deficit difficult. In this report, we briefly explore the implications for interest rates, funding options available to finance the federal debt and the implication of high debt levels on capital markets going forward.

### Federal debt rising toward historic levels

Recent changes to taxes and spending policies have resulted in projected debt climbing to historic levels. This raises three important concerns:

- What will happen to interest rates?
- How will these record debt levels be financed what are funding options?

Figure 1: Publicly held U.S. Federal debt as % GDP



Source: Congressional Budget Office

• What impact will it have on markets?

In terms of how the debt will be financed, there are really only three options:

- 1. Increased private savings or reduced private investment
- Monetization by the central bank (quantitative easing or QE)
- 3. Foreign investment

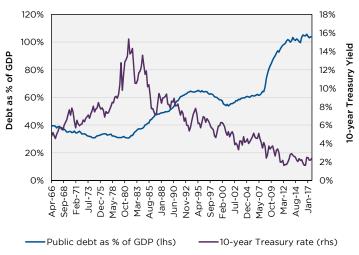
The implications for various asset classes will depend, in part, on the method of financing.

## Will the sheer volume of rising debt cause interest rates to rise?

Not necessarily. If history is any guide, debt levels and interest rates need not move in the same direction - in fact over the last 50 years in the U.S., the relationship is almost inversely related. This inverse relationship is not unique to the United States. A similar pattern has evolved in other developed markets, including Japan and the U.K.



Figure 2: Debt and yields, not what you'd expect

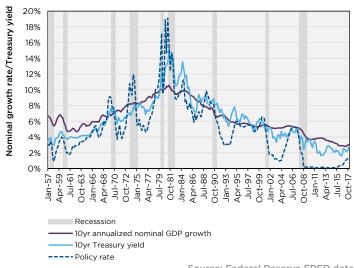


Source: Federal Reserve FRED data

### What drives interest rate levels?

Policy rates. Policy rates track nominal GDP; rising above nominal GDP when the Fed is working to reduce inflation and falling below when trying to stimulate growth. In turn, for any given maturity of Treasury notes or bonds, the yield reflects the market's estimate of what the policy rate will average over the course of the bonds' maturity. As policy rates decline, the average expected policy rate over the life of a given bond declines as well, so yields decline. The reverse occurs as policy rates rise. As a result, the policy rate tracks nominal GDP while Treasury yields closely track policy rates. The end result is that interest rates track nominal GDP.

Figure 3: Interest rates follow the policy rate set by the Fed



Source: Federal Reserve FRED data

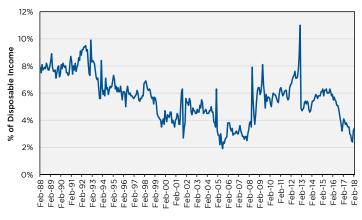
## Funding options: #1 Increased saving or lower investment

One way to finance the growing deficit would be through increased savings. Increased savings, however, imply lower consumption, which may adversely impact growth. Additionally, while appearing low relative to historic levels, demographic factors and slow wage growth make an increase in savings appear less likely.

Another funding option for the deficit would be to reduce private investment. Again, this option would restrict growth and have long-term implications for productivity (lower).

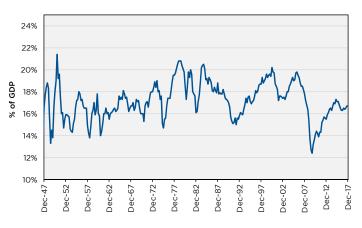
There appears little room to reduce private investment relative to historic standards.

Figure 4: U.S. Savings Rate



Source: Federal Reserve FRED data

**Figure 5: Private Investment** 



Source: Federal Reserve FRED data

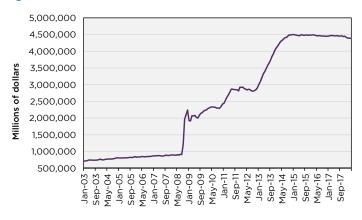


# Funding options: #2 Borrow from the Central Bank, i.e., monetization

Another method of funding the deficit would be for the Federal Reserve (Fed) to simply exchange debt securities for cash. This is referred to as monetization and is basically the same as QE. This method is unlikely to be employed, as the Fed is working to reduce its balance sheet from current historic levels.

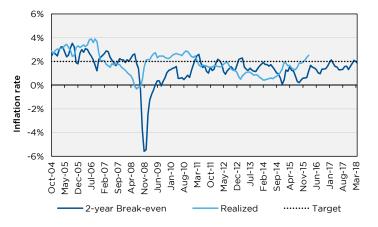
An additional problem associated with monetization is that it adds to inflationary pressures. Current market-based measures of inflation, such as the implied breakeven inflation rate from two-year Inflation Protected Treasury notes (TIPs), suggest that inflation will remain close to the 2% policy target. Additional purchases of debt by the Fed likely would raise inflation above target.

Figure 6: Federal Reserve total assets



Source: Federal Reserve FRED data

Figure 7: Inflation: realized vs expected



Source: Federal Reserve FRED data

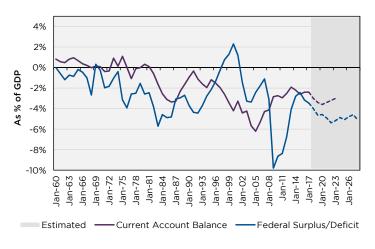
### Funding options: #3 Financing from foreign investors

In the post war period, large increases in the Federal deficit have been associated with increased current account balances. A large portion of the current account balance is the trade deficit.

As the Federal Government relies upon foreign investment to fund the increased deficit, foreigners have fewer dollars left with which to purchase goods and services - pushing the trade and consequently current account deficits higher.

While numerous factors influence the relationship between the two deficits, an increasing Federal deficit puts upward pressure on the current account deficit, all other things being equal. These conditions will make reducing the trade deficit all the more challenging.

Figure 8: Twin deficits over time



Source: Federal Reserve FRED data

### Implications for various asset classes

GDP: Regardless of how they are financed, the increased deficits will place modest downward pressure on GDP. In the near-term, however, expansionary fiscal policy should be positive for growth.

U.S. Dollar: A growing fiscal deficit financed by foreign investors will place upward pressure on the current account deficit and downward pressure on the dollar, but rising yields likely will put upward pressure on the currency. While a confluence of forces likely will drive the currency, the long-run trend will be for the dollar to decline until the current account comes into balance.



Fixed income: Rising fiscal deficits likely will apply upward pressure on rates, although yields are expected to remain below long-run historical levels, illustrated by the chart to the right. Both the CBO and market based measures suggest 10-year rates should remain near 3.5%, hindering but not introducing abnormal risks for fixed income assets.

Equities: Rising interest rates combined with a modest growth slowdown will provide headwinds for equities. Slower but positive growth should continue to support equity returns. A declining dollar should be a benefit. As a result, performance is likely to remain positive but more subdued than in recent years.

### Conclusions

Long-term fiscal imbalances will need to be addressed in order for economic growth to strengthen; however, the impact on capital markets seems to be modest at this point due to the fact that U.S. remains a traditional safe haven for global investors.

The unique strength of the U.S. economy and the global market's appetite for the U.S. Dollar should blunt any deterioration in the U.S. Government's credit standing, therefore, limiting a significant increase in debt servicing costs.

The implications on various asset classes highlighted above would not cause us to consider altering investor long-term strategic allocations.

The current conditions may give rise to tactical opportunities moving forward (e.g., a temporary interest rate spike). It is Pavilion's assessment, however, that at the present time, no such obvious opportunities exist.

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