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# **Quarterly Review and Outlook**

Second Quarter 2019

#### **Real Interest Rates**

Before the world's economies became so heavily indebted, the movement of nominal long-term government bond yields followed some fairly broad-brush strokes. Fluctuations in inflationary expectations, over time, dominated the trend in yields. Expectations, in turn, reflected the vicissitudes of the business cycle and investor reaction to government policy changes and investors' understanding of how those actions influence the economy. Since the founding of the republic, however, real yields swung wildly, but over long periods of time, they tended to be mean reverting. With the current global experience of more than two decades of subnormal economic growth in the face of extreme over-indebtedness, numerous cases of sustained historically low levels of real yields have come into focus and the following analysis indicates this recent pattern is likely to persist. If debt levels as percentage of total output continue higher, then investors will likely face even lower future real yields. Additionally, as inflation recedes in response to softening economic conditions, which the Fed acknowledged again in its June meeting, then both determinants of long government bond yields the real yield and inflationary expectations - point toward noticeably lower nominal yields.

# Diminished Returns On Capital

In a normal cyclical setting, we might assume that lower real yields could boost economic growth, but under current conditions lower real yields may, in fact, merely reflect that returns on capital have declined significantly. When real yields are low or negative, investors and entrepreneurs will not earn returns in real terms commensurate with the risk. Accordingly, the funds for physical investment will fall, and productivity gains will continue to erode as will growth prospects.

On average, over the past ten years, real ten-year government bond yields have been slightly negative in the UK and Japan and positive by a mere 10 basis points in Germany. In the past five years, when nominal interest rates were slightly negative in Japan and Germany, real yields were even more negative since modest inflation continued. In each of these cases, negative real rates have been no panacea for the growth problems. Indeed, the span of sustained poor economic performance has increased. Now, evidence has emerged that the U.S. real rate, while still positive, is declining and that investors here are being forced to accept lower real yields similar to investors in foreign markets. The implication: decreased capital returns will prolong the period of poor economic growth in the United States, as has been the case in Japan and Europe. If the solution to the subnormal growth is an even faster acceleration in debt, then this cycle will continue to repeat.

### **Theory**

In discussing his famous equation  $(i = r + \pi^e)$  that defines the long-term risk-free rate (i) as being equal to the real rate (r) plus expected inflation  $(\pi^e)$ , economist Irving Fisher

thought that inflationary expectations adjusted slowly to changing circumstances, or as he termed it in The Theory of Interest (1930) with "surprisingly long lags", an insight that has been confirmed by others. Fisher did not apply this same insight to the real rate. The equation, however, speaks for Fisher since algebraically, his equation can be rearranged to:  $r = i - \pi^e$ . Thus, inflationary expectations determine both the nominal and real rate (i and r), as investors rely on all available information to make their decisions. When investors believe that certain government policies will reduce economic growth and can verify such a pattern, they are inclined to cut their expectations for economic growth while also downshifting their inflationary expectations. With growth and inflation expectations in a constant process of influencing each other as well as determining the level of nominal bond yields, both independent variables of the Fisher equation support two interest rate theorems: (1) Federal debt accelerations ultimately lead to lower, not higher interest rates; and (2) monetary decelerations ultimately lead to lower, not higher interest rates. Strong evidence is emerging that these two theorems are developing.

#### The Historical Record

From 1800 until 1999, or before the U.S. economy became extremely over-indebted, the real per capita growth in GDP grew 1.8% per annum compounded, as indicated by multiple econometric studies (Chart 1). Since 1999, growth has dropped by 33.3%, or to 1.2% per annum. Similarly, the real interest rate on long-term risk-free U.S. Government bonds fell by 36.7%, or from 3.1% to 2.0%. Thus, both economic growth and real interest rates shifted downward together by similar magnitudes. Many other influences have been at work, including the differential risk premiums between the United States and other major sovereign governments. However, the highly correlated movement between the two variables speaks for itself. The

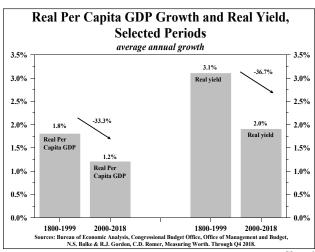


Chart 1

sample period encompasses virtually all U.S. history. The time periods include recessions and expansions as well as a variety of changing parameters, including data from before and after the establishment of the Federal Reserve and the enactment of the income tax, peace and war times as well as a host of other idiosyncratic conditions. In this case, it is apparent that as economic growth falls, so does the real rate on Treasury bonds.

Not surprisingly, over shorter time spans, greater differences between the real yield and real growth are apparent. The real yield has experienced readings as high as 16% during the 1920s and 1930s, and negative levels below -12% immediately after World War I and World II when inflation was temporarily quite high. Actual inflation is not the same as inflationary expectations, but over very long periods of time, actual inflation must equal expected inflation or investors would suffer income and wealth losses, which is not a viable situation. Thus, Fisher's conclusion in the Theory of Interest that real yields are more volatile than nominal ones can be confirmed. Fisher's accomplishments were monumental since he was working with wholesale prices in the United States, the United Kingdom and other countries without the benefit of computers and the nearly 90 years of additional data we have today.



#### The Past Ten Years

As widely celebrated in numerous articles, the current expansion reached its tenth anniversary in July 2019, thus making it the longest running expansion on record. This accomplishment is a hollow victory since real per capita GDP rose only 1.4% per annum in this expansion, the poorest growth rate for an expansion since 1950. The possibility of underperformance in the current expansion was presaged by the expansion from 2001 to 2007. In this first expansion of the high debt era, real per capita GDP growth was 1.9% per annuum. Prior to the 2001 expansion the average growth in real per capita GDP during expansions since 1952 was 3.0%. Thus, the real per capita GDP growth was 36.6% and 53.3%, respectively, less than in the prior and current expansion, when compared to the base period. As debt levels, on average, moved higher, real growth retreated. This indicates once again the deleterious effects of high debt levels, as well as reflecting the nonlinear relationship as diminishing returns set in with higher debt levels. Thus, even if larger Federal debt accelerations are enacted in the future, the growth rate will slide further, resulting in even lower long-term Treasury yields.

The nonlinear relationship between accelerating debt and economic growth carries through to inflation with a major downside effect. The CPI and the GDP Deflator rose by a paltry 1.7% and 1.6% per annum in this expansion from 2009 to the present. These inflation experiences were even less than during the 2001-07 expansion when the CPI and the GDP Deflator increased by 2.6% and 2.5% per annum. For all post War expansions preceding 2001, these two inflation indicators gained by an average of 4.1% and 3.9% per annuum, respectively. Thus, in the latest expansion, the inflation rate fell by 240 basis points when measured in terms of the CPI and 230 basis points in terms of the deflator.

Importantly, these inflation measurements are for economic expansions. Recessions are excluded. In a mild recession, inflation could easily fall 200 basis points, which would push both the CPI and the deflator into a mild deflation. A quasi-recession could result in near deflation. In the three well known quasi-recessions (1966-7, 1984-6 and 1995-8) since WWII, the CPI fell by an average of 130 basis points. In those instances, when massive Fed easing prevented an outright recession, other economic conditions were much better. Demographics were stronger, debt levels were far more moderate and global economic conditions were much better. Such a decrease in inflation would put several sectors of the U.S. economy in outright deflation.

## **Productivity**

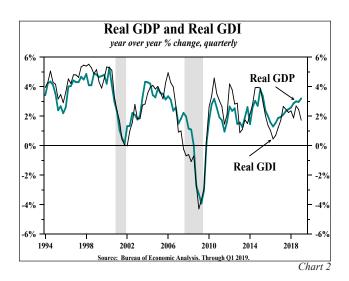
In the past ten years, productivity rose at a record slow pace of just 1.3% per annum, or about 43% of the rate of increase in output per worker hour since the quarterly data was first tabulated in the late 1940s. In the last five years the gain was less than 1% per annum and equaled the previous low from 1979-1984. However, the past five years was one of economic expansion while the prior worst five-year periods of productivity gains contained three years of recession – 1980-81 & 82. Debt, economic growth, productivity and real interest rates together form a vicious cycle. Higher levels of debt have produced successively weaker gains in GDP generated per dollar of debt. This has weakened GDP growth, which in turn, resulted in declining real yields, which has discouraged investment. This harkens back to our previous point that the drop in real yields is not a stimulant to economic activity, as would be the case if debt levels were considerably lower.

### **Cyclical Deterioration**

Fundamental economic indicators suggest that recessionary forces may be advancing faster

than is generally recognized inside and outside the Fed:

- (1) Real gross domestic income (GDI) gained at a very meager 0.76% annual rate in Q4 2018 and Q1 2019, well below the 2.65% growth in real GDP (Chart 2). Over the past year, real GDP growth was 3.2%, versus 1.7% for GDI, hardly ebullient growth. Normally, GDI and GDP have moved together going into recessions but prior to the severe recession in 2008, GDI led GDP, just as presently, a clear warning sign.
- (2) Net national saving as a percent of gross national income was just 2.4% in the first quarter of 2019, well down from the post 1929 average of 6.4%. Based on net national saving for this year's first quarter, the economy is just as ill-prepared for recession as in 2007, the year before the Great Recession.
- (3) Real disposable income in the latest month was below the level attained in December 2018, the potential cyclical peak.
- (4) Manufacturing, which is the high value added sector, has also declined since the end of 2018 and shows the most definitive sign of already being in a recession.
- (5) The transportation sector, rail, truck and air freight, have all declined this year.
- (6) The Economic Cycle Research Institute's weekly leading economic indicator in late June was more than 2% below the cyclical peak reached about two years ago.



In the December 2018 meeting, the FOMC projected three increases in the policy rate would occur this year. Subsequently, the FOMC abandoned those plans and recently has indicated they are open to a cut in the policy rate. Such guidance, however, is not equivalent to a more expansionary monetary policy even though there has been a significant downward shift in market rates. The nine increases in the policy rate as well as other monetary changes are still a noticeable drag on growth.

After halving its annual growth rate from almost 8% in 2016 to 4% in the first quarter, the money supply (M2) has accelerated sharply over the past three months. Four considerations indicate that recent M2 strength is not any more fundamentally important than several similar temporary upswings in money growth since the Fed initiated more restrictive monetary conditions in late 2015.

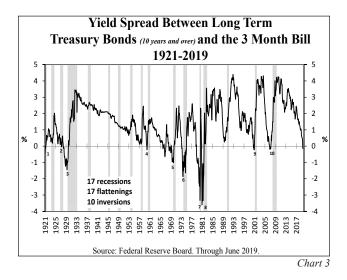
First, Treasury deposits at the Fed, which are not included in M2, fell dramatically as a result of special measures taken to avoid hitting the debt ceiling, thus giving M2 a large boost as Treasury deposits moved to the private sector. Once the debt ceiling is raised, Treasury deposits will rebound, reversing the process and slowing M2 growth. Even with the recent improvement in M2, the deceleration from its year over year peak growth rate in October 2016 through June 2019 is sufficient in magnitude and duration to be consistent with money slowdowns that preceded 80% of the recessions from 1900 through 2009.

Second, in spite of the spurt in M2, the inversion between the three-month bill and the average of ten year or longer Treasury securities has increased further, meaning the M2 gain was not a net creation of money but merely a shift from non-M2 items into M2. The spread between the three-month Treasury bill rate and the yield on ten year or longer-term Treasury bonds has inverted for the eleventh time since 1921 (Chart 3). In all previous ten inversions, recessions followed.

In seven cases, flattening, not inversion, was a sufficient condition for recession. The current inversion is the eighteenth cyclical flattening since 1921, with all of the prior seventeen preceding recessions, as officially recognized by the National Bureau of Economic Research. As the Chart (3) indicates, the curve has historically begun to steepen at the start of recessions as the Fed lowers the policy rate. This is an important point. If the Fed does not ease in a timely fashion, monetary restraint will intensify and the degree of curve inversion will also increase. A late response from the Fed, which we are now experiencing, risks worsening the recession in both magnitude and duration.

Third, the velocity of money (V) appears to have fallen sharply in the second quarter, the second consecutive quarterly decline. The steep drop in V in the spring quarter reflects the transitory fall in Treasury deposits but also the ongoing and far more significant decline in the marginal revenue product of debt, the main fundamental determinant of velocity. With velocity down in both of the past two quarters, it is possible that the secular decline in V since 1998 has resumed. The ongoing fall in velocity will greatly reduce the Fed's efforts to boost the economy.

Fourth, growth in the monetary base and total reserves of depository institutions



has continued to contract due to a continuing balance sheet normalization and a drain of excess reserves needed to meet currency needs of the private nonbank sector as well as other operating factors. The weakness in the base flowed into world dollar liquidity (WDL), which contracted at an unprecedented 0.9% annual rate from 2015 to the present. This drop is far outside the range from 1960 to 2008 (or before quantitative easing) when WDL grew a much faster 8.2% per annum. Thus, Fed operations continue to drain liquidity from foreign markets at time when a synchronized economic downturn is evident in all major economies of the world.

Accordingly, monetary restraint is continuing to weigh on economic growth. Inflation, which fell below the Fed's targets and most Wall Street forecasts, will remain on a downward path. These cyclical forces suggest that inflationary expectations should continue to fall this year and next as the economic growth rate weakens further. This means that a mild recession would push the real rate into negative territory. Thus, both determinants of the nominal long risk-free rate (i.e. the real rate and inflationary expectations) are directionally favorable for further interest rate declines, although the path will continue to remain volatile.

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