Treasury Bond Fundamentals

The decline in long term interest rates in 2019 once again revealed the efficacy of the Fisher equation. It states that the risk-free long term bond yield \( (i) \) equals the real rate \( (r) \) plus inflationary expectations \( (\pi) \), \( i = r + \pi \).

The yield on the thirty-year Treasury bond declined from 3.02% at the end of 2018, to 2.39% on December 31, 2019. This was the lowest yearly close on the thirty-year bond since its introduction in 1977, and the average yield of long term Treasuries for the year of 2.5% was the second lowest since 1950.

Inflation was once again the driving force as evidenced by the core personal consumption expenditures deflator which dropped from 2% in December of 2018 to 1.6% at the end of 2019. Inflationary expectations followed the inflation retreat, as the median University of Michigan Survey of Expected Change in Prices During the next 5-10 Years dropped to a record low of 2.2%. Also, the Federal Reserve Bank of New York Survey of Consumer Expectations declined over the course of the year for both the one and three-year expected inflation rates. The one-year expected inflation rate dropped to 2.35%, or 65 basis points, while the three-year view was down 46 basis points to 2.52%.

Real Rates

U.S. economic performance in 2019 was substantially below expectations. This was most evident in observing Federal Reserve actions. In December 2018 they increased the federal funds target range from 2.25% to 2.5%, while they simultaneously announced that three more rate hikes would be necessary in 2019. Instead, the year unfolded with three cuts in the target rate as economic activity disappointed. This lower growth and decline in inflation expectations reinforced investor perception that lower real yields were warranted. The decline in U.S. real yields was consistent with global trends. Over the past twenty years, real yields have fallen, albeit irregularly, in Japan, the euro area and the U.K. (Chart 1). Based on the yearly averages, real sovereign yield levels were at a 21-year low in the U.S. and all three of these other major economic regions. It is important to note the movement of real yields appears to be associated with changing economic output, real yields were more negative in Japan, the euro area and the U.K. than in the U.S. This reflects that U.S. economic growth, while disappointing, has exceeded that of these major economic regions.
Last year’s exceptional decline in long term U.S. treasury bond yields occurred in spite of a large tax cut and a huge increase in Federal spending in 2018 and 2019 that were financed by a major acceleration in federal debt. The benefit of the fiscal actions was largely confined to the second and third quarters of 2018, and followed by the negative effects of inordinately high federal debt. Thus, the events of 2019 confirm that federal debt accelerations eventually lead to lower, not higher, bond yields.

**Lower Growth, Inflation and Interest Rates**

Five considerations indicate that inflation, real growth and interest rates will be less in 2020 than in 2019. First, momentum is to the downside since 2019 economic growth was fading as the domestic and global economy prepared to enter the new year. Second, U.S. monetary conditions are still restrictive. Third, the domestic and worldwide debt overhang became even greater in 2019. Fourth, average U.S. economy-wide profits have been flat since 2012. Fifth, excess manufacturing capacity is greater than a year ago, indicating that firms do not having pricing power.

**(1) Loss of Momentum**

Based on yearly averages, in 2019 economic growth slowed both worldwide and in each of the four largest economic areas – the United States, China, Japan and the euro area. In the U.S., real GDP growth dropped from 2.9% to 2.3%, accompanied by noticeable declines in the euro area and China. Japan’s growth held up better due to anticipatory consumer buying ahead of a major increase in the value added taxes on October 1st of last year, but as 2019 closed, recessionary indications were widespread. Many other countries experienced similar fates, with Mexico leading a list of poor results from Latin America. Such typical stalwarts as India, Korea, Singapore and Canada were also exhibiting considerable frailties. Confirming the slowing GDP, the growth rate in the volume of world trade, as measured by Netherlands Bureau for Economic Policy, slipped from 4.9% in 2017 to 3.4% in 2018, and a 0.4% decrease in the first ten months of 2019.

It might appear the global economic prospects for 2020 are better due to a potential first-round trade agreement between the U.S. and China and possible passage of the USMCA trade agreement. Further, there are scattered economic numbers that may indicate a shallowing out of the global economic deterioration. However, incrementalism will not reverse the current situation. The fact is that the deleterious nature of excessive debt and monetary problems will prevent a turnaround in the negative trajectory of growth in the world’s estimated $88 trillion economy.

**(2) Monetary Restraint**

A restrictive monetary stance may not seem to be characterized by M2 growing at an 8.6% annual rate in the last six months, a meteoric rise in the Fed’s holdings of U.S. treasury securities of $218.6 billion, and three cuts in the target rate during 2019, however, monetary effects are a complex process. Historical instances have occurred when a surge in M2 growth was followed by an acceleration in economic growth and/or inflation. But the trend in the bank loans and money velocity indicate that this will not be the case in the present situation. There are noticeable differences between the current surge in M2 and other monetary variables when compared to the monetary expansion during the first Quantitative Easing (QE1), which incidentally provided only a modest lift to economic growth and no sustainable increase in inflation.

After QE1, the two-year annualized rate of growth in M2 rose above the post-1900 average growth rate of 6.6%, while the latest two-
year number is 4.5%. As the research of Nobel Laureate Milton Friedman documented, the typical lags between monetary change and economic fluctuations cluster around two years, confirming the importance of the two-year time frame. After QE1, the growth rate in M2 accelerated (Chart 2). At that time the two-year annualized rate of growth in total commercial bank loans and leases accelerated from negative to positive, indicating that a potential expanding monetary process might be underway. In the second half of 2019, this growth rate in bank loans and leases decelerated and the two-year annualized rate of growth in M2 continued to decrease, falling to a fourteen year low. Thus, based on these historical lags, in corroboration with current trends in loans and velocity, monetary conditions are still restrictive. This growth rate in bank loans is a reliable cyclical indicator, decelerating prior to the post-1950 recessions (Chart 3).

There is, however, a further reason not to be alarmed by the recent surge in money. The simultaneous acceleration in M2 and loan growth in response to QE1 was neutralized by a sharp decline in M2 velocity. This meant that the money and loan growth did not find its way into the real economy.

That is happening again, with M2 velocity declining for the past five consecutive quarters. A large decline in velocity is also a high probability for the fourth quarter. In 2019, velocity was extremely close to the lowest levels recorded since 1950. As Fisher originally noted, velocity declines in highly over indebted economies.

M2 growth in the euro area, Japan and China in the latest twelve months were all below their peaks of the decade. China's growth rate fell from 29.6% to 8.2%; in Japan the drop was from 4.3% to 2.8%. Most recently year over year growth in M2 in the euro area was 6.1%, which is an acceleration from the lows but still down from the 6.7% peak. Although the history is far more limited outside of the U.S., the levels of velocity in all three of these areas were near or at historic lows and far below that in the U.S. In the euro area, money turned over 0.98 times in 2019, with money turnover around 0.5 in both Japan and China, where the marginal revenue product of debt is the lowest among the major economies. Also, a composite of velocity for the U.S. and the other three areas fell again in 2019, continuing the severe downward trend since the late 1990s.

(3) Decreasing Marginal Revenue Product of Debt

Each additional dollar of total nonfinancial debt outstanding over the first two quarters of 2019 generated 40 cents of GDP in the U.S., a contribution to growth that was 25% lower than twenty years ago. The contribution of each
additional dollar of debt was far worse in the other major economies. In the euro area and Japan, debt generated only 38 and 26 cents of GDP growth, respectively. In the first two quarters of last year, each dollar of debt generated only 37 cents in the U.K. In China, the number was 38 cents for 2019, a decline of 57.5% from twenty years ago. The declining marginal revenue product of debt reconfirms that excessive debt usage is triggering the law of diminishing returns, which results in weaker growth in real GDP. In the euro area, Japan and China, economic policy is relying heavily on debt financed fiscal operations to try to reverse weak economic conditions. This method has been demonstrated to be a self-defeating process.

While the aggregate debt problem is not as bad in the U.S. as in other major economies, debt levels are unprecedented in the government and corporate sector, and thus should serve as a major constraint on U.S. economic growth. Gross U.S. government debt outstanding increased to 107% of GDP late last year, the highest since the 1940s. Moreover, the bipartisan omnibus budget combined with continuing growth in off-budget increases in debt will push the government debt ratio to steadily higher levels in the years ahead. Substantial peer reviewed economic research indicates that the U.S. economy loses one-third of its trend economic growth rate when the government debt ratio rises above 90% for a period of five years. The U.S. has met that condition since 2014. When viewed from a cyclical perspective, the increase in Federal debt in 2018 and 2019 is even more serious. In late stage expansions, economic theory indicates that budget deficits should be reduced and with it the ratio of debt to GDP should fall. Deterioration in economic conditions would lead to a quick worsening in the ratio, pushing the debt ratio further into uncharted waters, even without new fiscal measures that would likely be enacted in such circumstances.

Corporate debt surged to a record 47% of GDP in the third quarter of 2019, three percentage points above the peak during the financial crisis of 2008-09 (Chart 4). Total business debt, which includes corporate and unincorporated firms, also surged to a record of 75% of GDP in the third quarter, two percentage points more than the 2008-09 level.

(4) Stagnate Profits

In the third quarter of 2019, Corporate Profits After Tax IVA CCAdj, stood at $1.869 trillion, up from $1.706 trillion in the first quarter of 2012, a gain of $163 billion. However, the before tax gain was a paltry $53 billion over the nearly eight year span, or only an increase of 0.4% per year. This means that the tax cut accounted for two-thirds of the rise of aggregate profits since 2012. In real terms corporate profits declined since inflation rose about five times more than the yearly average increase in profits. Thus, firms have had funds to spend, but not relative to the needs of the real economy.

When Corporate Profits After Tax IVA-CCAdj are viewed broadly as a percent of GDP, it is clear that profits have not kept up with the demand of an expanding economy. This ratio displays an interesting cyclical pattern which has pointed to the inception of business cycle recessions (Chart 5). This ratio has dropped from 10.6% in the first quarter of 2012 to 8.7% in the
third quarter of 2019. In real terms, since 2012 this ratio has declined 9.6%

In view of the stagnant corporate profits situation, the 2019 drop in real capital spending is not surprising. Neither is the weakness in key leading indicators of capital spending. In the latest twelve months, the unfilled orders of nondefense capital goods excluding aircraft, fell 2.3%, compared with a peak increase of 3.8% in late 2017. New orders for this key sector are up a mere 0.5% in the latest twelve months, a sharp decrease from the peak of over 13% in early 2017.

(5) Mounting Excess Capacity

Substantial excess manufacturing capacity developed last year in the face of the slower growth and will serve to put downward pressure on inflation. Total industrial capacity of the nation’s manufacturing, mining and utility companies was 77.3% in November, 2.3 percentage points less than the peak reached about a year earlier and at a lower level than when the economy entered all of the recessions since 1970. Manufacturing firms were operating at even a lower rate, 75.2% late last year, compared to the post-1950 average of 79.9%.

The Organization for Economic Cooperation and Development (OECD) indicates that the industrial sector capacity use has moved steadily lower for all OECD countries over the past five years. The latest reading showed two percentage points less capacity utilization than the cyclical peak five years ago. This provides confirmation that global manufacturing is in a recession and is a contributing factor to the list of reasons why disinflation is global.

The poor capacity use rates have broad economic implications. They serve to weaken corporate profits while simultaneously undermining capital expenditures. Thus, poor capital use rates reflect economic weakness while contributing to a persistence of these conditions in the future.

2020

These five factors – loss of momentum, monetary restraint, high debt levels, flat profits and excess capacity – will bring about slower growth and continue to subdue core inflation in 2020. Over the past 65 years, yields on long dated risk-free U.S. treasury securities moved in the same direction as core inflation on an annual basis roughly 80% of the time. We believe that there is a high probability that this relationship will hold in 2020 as inflationary pressures continue to subside.

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Disclosures

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