Record Lows

Thirty-year Treasury bonds reached a new record low yield in the third quarter of 2019 at 1.90% eclipsing the previous record low of 2.09% set in August of 2016. No cataclysmic events, such as a fear of systemic banking collapse or some immediate slump in economic activity, created the new low yield in risk-free long-term yields. Certainly, concerns on trade and economic weakness overseas, and a reversal in Fed policy toward ease, could be cited as the proximate cause yet these problems were well known for a considerable time, since early in the year Fed Chair Powell had introduced the possibility of a policy rate reduction in 2019.

The move in rates from 3.02% at the start of 2019 to 1.90% in August 2019 can be attributed to a shift in inflationary expectations which were formed as a result of the lagged impact of Federal Reserve policy actions. In 2015, the Fed initiated the first of nine 25 basis point increases in the federal funds rate, thus the “price” of credit rose. However, there are also quantity effects as Fed actions simultaneously shrunk the monetary base and the excess reserves of the depository institutions by 21% and 50%, respectively, as of the final week of September 2019, from their 2014 peaks. The Nobel Prize winning economist, Dr. Milton Friedman, explained at length the delayed impact of Fed policy actions upon economic activity. He postulated that a monetary tightening via the raising of policy rates would eventually result in a lower market level of interest rates due to falling expectations for both inflation and real growth.

For Friedman, raising of the policy rate would temporarily move market rates higher in the short run (liquidity effect), but that circumstance would slow growth (income effect), and thus lower inflation (price effect). In the most recent episode this pattern is visible. The more restrictive monetary conditions slowed housing and construction activities noticeably. Additionally, auto sales peaked more than a year ago, displaying its sensitivity to higher rates. Core capital goods orders and the backlog of unfilled orders have fallen below the year ago levels. These sectors and others reacted poorly to a higher cost of money and consequently labor markets were adversely affected. When payroll employment is adjusted to include the August 21, 2019 benchmark revision, the year over year growth rate in September was

![Nonfarm Payroll Employment](chart1.png)
1.3%, down from a peak of 2.3% in 2015 which actually occurred even before the first hike in the Federal funds rate (Chart 1).

**World Dollar Liquidity**

Another extremely broad quantity effect was also at work. The Fed’s balance sheet constriction reduced world dollar liquidity, which is defined as the monetary base plus foreign central bank holdings of U.S. Treasuries at the Federal Reserve Bank in New York. This quantity effect also served to underpin strength in the U.S. dollar, which has had the result of draining foreign central bank holdings of U.S. Treasuries impacting foreign financial markets. This is plainly evident when comparing the period during and after quantitative easing (QE) (Chart 2). During QE from 2009 to 2014, foreign holdings of U.S. Treasuries surged by an unprecedented 20.8% average annual rate (aar), as the base jumped by 29% (aar). Conversely, from 2015 through July 2019, foreign holdings of U.S. Treasuries increased only 0.6% (aar) while the base contracted by a 3.1% (aar). As a result, money growth slowed in Europe, Japan and China. The more restrictive monetary conditions spread worldwide as the velocity of money fell sharply in all their countries to levels far below the United States. Not surprisingly, global economic growth moderated in concert with U.S. economic moderation. World trade volume, which has fallen over the past year (Chart 3), clearly points to the universal nature of current global downturn and the result has been a disinflationary pricing of goods. When this happened in 2000 and again in 2008, the global recession was well underway. At a minimum, the current drop in world trade volume confirms that world manufacturing is in recession. Although this sector is not as important as it was historically, it is the high value-added component of economic activity, amounting to about a 20% contribution to real GDP in the United States. Even as the manufacturing sector’s role has diminished, it has continued to be a leading indicator of economic activity.

In the Theory of Interest, Irving Fisher wrote that the risk-free bond yield (I) equals the real rate (r) plus inflationary expectations (π) or I = r + π. During the past four years both the increase in the Fed funds rate (the price effect), and the global impact of a reserve reduction in U.S. and global banks' liquidity (quantity effect) have had a simultaneously negative impact on economic growth here and abroad thus lowering price pressures. Accordingly, investors in the U.S. and around the world lowered expectations of both the real rate and inflation, with the result that government bond yields fell globally. Reflecting the inexorable lagged impact of a
tightening of monetary policy, this process is far from over.

Despite the evidence that monetary policy works with long lags, the Fed appears to be waiting for a downturn in the coincident economic indicators before attempting to “get ahead” of where the market has priced interest rates. The three-month bill rate, for instance, is rate sensitive to the policy rate (Fed funds) and stood at 1.84% at the end of the quarter, versus the 10-year note yield at 1.68%. This yield curve has been inverted for over four months which has historically been associated with a policy rate which is too high for the current economic conditions. The proof, of course, is historic. During the period from 1921 to 2008, there were ten inversions of this yield curve each of which preceded the ten recessions (Chart 4). The lags between initial inversion and recession have been variable but the market is presently within the historical lagged periods. The current over-restraint of Fed policy is why 5, 10, and 20-year Treasury security yields have not set new record lows, but it is only a matter of time.

Debt Overhang

The more restrictive monetary conditions originated in the U.S. but were transmitted globally and fell upon very fragile economies experiencing an increasing debt overhang. Major economies are carrying too much debt, and too much of the wrong kind of debt, therefore the GDP generated per dollar of debt is falling. This is more properly referred to as the marginal revenue product of debt.

Slumping Marginal Revenue Product of Debt.

For the current three-year period, using the partially available data for 2019, each dollar of global debt generated only $0.42 of GDP growth in the major economic sectors, which was down 11.1% from ten years ago (Table 1). This deterioration was greater in all the major foreign economies than in the United States. The largest percentage decrease in debt productivity, of more than 38%, was registered in China over the past ten years. The decline in the marginal revenue product of debt in Japan, the United Kingdom (U.K.) and Europe were all more than two and one-half times greater than in the United States.

Over the current three-year period, the debt productivity in the U.S. was $0.40, versus $0.38, $0.36 and $0.34 in the Euro currency zone, the U.K. and China, respectively.

During the past decade real economic growth has been far less than normal for these overindebted countries. Accordingly, inflation and interest rates has been trending lower. The

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**Latest Evidence of Diminishing Returns: GDP Generating Capacity of Global Debt: All Major Economies**

<table>
<thead>
<tr>
<th>Country</th>
<th>(2007-2009 avg.) Ratio of GDP to Debt</th>
<th>(2017-Q1 2019 avg.) Ratio of GDP to Debt</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Euro Area</td>
<td>0.64</td>
<td>0.38</td>
<td>-33.5%</td>
</tr>
<tr>
<td>2. United Kingdom</td>
<td>0.42</td>
<td>0.36</td>
<td>-14.3%</td>
</tr>
<tr>
<td>3. Japan</td>
<td>0.52</td>
<td>0.27</td>
<td>-54.8%</td>
</tr>
<tr>
<td>4. United States</td>
<td>0.43</td>
<td>0.40</td>
<td>-5.0%</td>
</tr>
<tr>
<td>5. China</td>
<td>0.65</td>
<td>0.34</td>
<td>-38.2%</td>
</tr>
<tr>
<td>6. All reporting countries (aggregate)</td>
<td>0.47</td>
<td>0.42</td>
<td>-11.5%</td>
</tr>
</tbody>
</table>


Chart 4

Table 1
sustained poor growth has dually suppressed inflationary expectations and real interest rates. The trend in interest rates is consistent with prevailing economic conditions and the Fisher equation. In relative terms, economic growth and inflation in Europe and Japan have been less than in the United States, with the result that interest rates there have also been lower.

**The Production Function and Future Growth**

The production function states that real GDP, or total output, equals the way technology arranges the three factors of production – labor, capital and land. Using this fundamental concept, it is possible to develop an assessment of how future growth will rank in the U.S., Europe, Japan, and China, and it leads to some relatively optimistic results for the U.S. economy. Technology and land can be considered neutral for future growth if it is assumed that first, technology is so rapidly transmitted that technology developed in one country does not provide a lasting benefit to that country, and second, the major discovery of new mines or new natural resources will not take place over the next decade. Therefore, it is possible to project the potential growth of the world’s four largest economies by using the final two factors of production, the marginal revenue product of debt and population growth.

First, with a current population growth of 0.6% in the U.S., compared with China at 0.4%, Europe at 0.3%, and Japan at -0.4%, it is obvious that the U.S. currently has the best demographics. Second, as noted earlier, the U.S. also generates about $0.40 of GDP for every additional dollar of debt, compared with $0.38 in Euro currency zone, $0.36 in the United Kingdom, and $0.34 in China (Table 1). Therefore, when these two factors of production are combined, it strongly suggests that, going forward, growth in the U.S. will exceed that of the other major economic centers. It is also true that if economic contractions appear, any under performance would be more pronounced outside the U.S. Consequently, it appears the world will become even more dependent on U.S. growth. Over time, this growth pattern will tend to support dollar strength which will in turn transmit disinflationary conditions from the foreign sector into the domestic sector.

**Outlook**

The global over indebtedness has clearly restrained growth, and therefore has had a profound disinflationary impact on every major economic sector of the world. This fact, coupled with an overzealous U.S. Central Bank have created the conditions for an economic contraction in the U.S. and abroad. This has also created a worldwide decline in inflation and inflationary expectations. It is therefore unsurprising that record lows in long term interest rates have been established in all major economic regions. A quick and dramatic shift toward greater accommodation by the Fed could begin to shift momentum from contraction toward expansion. However, policy lags are long and slow to develop, therefore despite the remarkable decline in long term yields this year, we are maintaining our long duration holdings. A shift towards shorter duration portfolios would be appropriate when the forward-looking indicators of expansion, in the U.S. and abroad, begin to appear.

Van R. Hoisington
Lacy H. Hunt, Ph.D.
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