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Quarterly Review and Outlook

First Quarter 2020

Is This Time Different?

Recent articles have suggested that the Federal Reserve and the Department of the Treasury are engaged in Modern Monetary Theory (MMT) or some form of "helicopter money", the famous Milton Friedman phrase also referred to by Ben Bernanke. The inference is that once the virus is contained, these new efforts will yield different and more powerful economic and inflation results than did the Quantitative Easing periods following the 2008-09 Global Financial Crisis (GFC). Further, the suggestion is that the fiscal policy actions taken this year totaling $2.7 trillion will be far more effective than the $2 trillion stimulus package of 2009. Are these assertions that MMT is in place and monetary and fiscal actions will spur economic and inflation rates higher true? The short answer is no.

The Monetary System, Yesterday and Today

The size of the Federal Reserve's new operations in March was totally unprecedented. The most recent Fed statement (March 25, 2020) noted that the monetary base totaled $3.9 trillion, up $700 billion from the recent 2019 low. The increase in the monetary base and total reserves in the four weeks ended March 25 exceeded any four-week period in history and even larger increases can be expected over the next several months. Before the end of April, the monetary base will exceed $5 trillion, compared with the $3.4 trillion level established in December 2019 (Chart 1).

The critical foundation of the monetary system is no different today than in 2008-09 with the exception of the eliminated reserve requirement

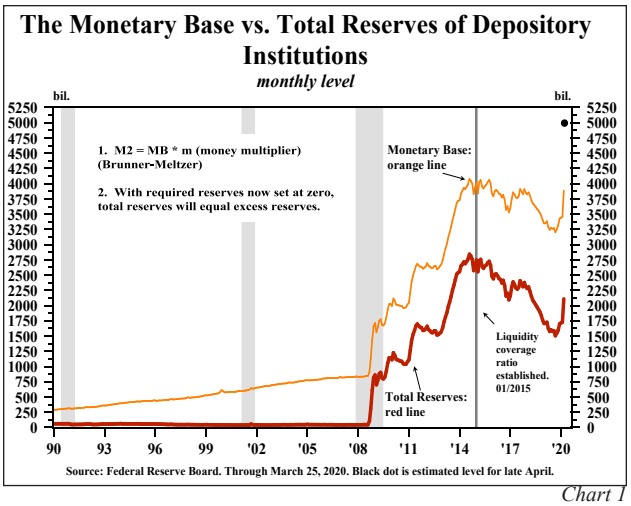

Chart 1

on all deposits at all banks. Thus, causality is no different and the impact on economic growth and inflation will be no different.

Two critical equations define the U.S. monetary structure. First, M2 = MB x *m* where MB stands for the monetary base and *m* stands for the money multiplier (known as little *m*). Second, GDP equals M2 multiplied by the velocity of money, or GDP = M2 x V and V is GDP divided by M2. It is important to note that both *m* and V are complex variables and their operation in determining economic activity is opaque. Our understanding is that the essence of *m* is that the banks and their customers must reach an agreement that a new loan will be profitable to both. Prior to reducing reserve requirements to zero, swings in currency and time deposits could change *m*, but that is no longer the case. As long as the required reserve ratio remains zero, total reserves and excess reserves are identical. Swings in Treasury deposits still have a role, albeit minimal. It appears that the key to V is whether a new loan is productive in the sense that it generates an income stream to pay principle and interest.

It becomes apparent therefore that the Fed has extremely limited capacity to alter *m* or V.

Ending the regulatory requirement to hold reserves does not mean banks will convert all of their deposits at the Federal Reserve Bank to loans or other assets. All banks will still be obligated to meet capital requirements and the large banks and banks with large foreign exposure must still meet the 100% Liquidity Coverage Ratio (LCR), which is the amount of the estimated cash outflow during the month of the stress test. Even more importantly, the banks must manage their portfolio with regard to the risk and potential default of loans. Equally critical, the potential borrowers from the banks must have a need for loans and the ability to take on that loan and repay principle and interest. The Fed has no direct role in this process.

Thus, the banks will continue to hold substantial reserves even though the required reserve ratio is zero. In the two-week accounting period for reserve requirements in late March, the banks held $2.1 trillion of excess reserves and $203 billion of required reserves. We expect total (or excess) reserves of the depository institutions to move dramatically higher as the Fed executes further rounds of security purchases. Use of these reserves will depend, as they always have, on the bank lender reaching a deal with the bank borrower.

The Net Effect

When the Fed buys government or agency securities from the banks, holdings of government debt declines and the banks' holdings of deposits or reserves at the Fed go up. The bank balance sheet is unchanged except that the banks are selling government paper of longer maturity (such as three to ten-year Treasury and agency paper) and they receive an overnight asset at the Fed. Those deposits do not circulate freely within the economy. If the Fed and Treasury balance sheets are consolidated, the main effect of this transaction, as calculated by Harvard Professor Kenneth Rogoff, is to reduce the average maturity of the Federal debt in the hands of the private sector.

If the Fed's purchase of the debt is from non-bank entities, there will be a transitory rise in M2. Further M2 expansion from that new level will depend on the banking industry. The banks high level of reserves at the Fed will result in no further increase in money unless they and their customers make the collective decision for new bank loans to be originated and the loans are used to expand economic output. This is what happened in 2010-11. M2 surged transitorily to a nearly 12% rate of growth along with an increase in loans. The money and loans were used to shore up financial conditions rather than channeled into the purchase of new goods and services. As such, the velocity of money fell dramatically, and the Fed's purchases of securities did not lead to increased economic growth and inflation. After financial conditions were stabilized, the depository institutions held large amounts of excess reserves. Nevertheless, new loan growth was extremely modest because of subpar economic conditions and M2 quickly fell back below its trend rate of growth of 6.6%, which was the average increase since 1900. In addition, money velocity continued to fall in line with the falling productivity of the debt. Economic growth and inflation did not accelerate, and interest rates continued to fall. M2 growth has surged recently just as it did in 2010-11. Even though money and credit growth are likely to exceed previous peak levels, these funds are almost entirely being used to stabilize finances. As such, money velocity will fall significantly. Even if the size of the Fed's current operations expands further, the consequences for the economy will be no different than almost a decade ago…sub-par growth.

The transitory surge in M2 and bank loans will not be sustained as a result of the weak financial conditions of the banks and other financial institutions as well as their business and household customers. The financial intermediaries will be weak for a variety of reasons – the yield curve is too flat, and loan losses will accelerate as result of the severity of the recession. Additionally, the highly leveraged corporate sector balance sheet and the general difficulty of paying back loans in the deflationary environment that lies ahead will restrain financial intermediaries lending. Before tax

corporate profits with IVA and CCA in 2019 were well below the peak of 2014. Corporate debt as a percent of GDP was 170 basis points above the peak during the Lehman failure. As such, the corporate sector is poorly positioned for deflation, which as history indicates, will lead to higher business borrowing interest rates.

As part of the newly christened CARES Act, firms may apply to the Treasury for reimbursement for some of their debt taken on in order to the keep businesses running and to pay employee salaries during the current pandemic. This is not the same thing as the Fed writing a check to pay bills of struggling firms. Those firms have to go to the banks and other financial intermediaries and obtain a loan. The banks' direct recourse if the firm defaults is still the firm itself. The bank may be able to go through the liquidation process and be repaid a portion of the loan, but the banks and the depository institutions will absorb the loss on the remaining portion of the loan. In addition, the bank could have its funds tied up in the liquidation process for an extended period of time. Thus, the loan decision will still reflect the interests of both the borrower and lender.

Another part of the Fed's actions is that the Fed is offering a credit facility for high-grade corporate bonds for up to four years in maturity. This is not the same as the Fed buying of corporate debt outright since the party tendering these corporate bonds to the credit facility the Fed established is still the party responsible for the quality of the credit. If the corporate borrower were to default, the loss would thus not accrue to the Fed. As such, the Fed's actions to date do not transfer the liability of a defaulted loan or corporate bond to the Fed. The Fed has not initiated MMT/helicopter drop.

The Requirement for MMT

For the Fed to engage in true MMT, a major regulatory change to the Federal Reserve Acts would be necessary: the Fed's liabilities would need to be made legal tender. Having the Treasury sell securities directly to the Fed could do this; the Treasury's deposits would be credited and then the Treasury would write checks against these deposits. In this case, the Fed would, in essence, write checks to pay the obligations of the Treasury.

If this change is enacted, rising inflation would ensue and the entire international monetary system would be severely destabilized and the U.S. banking system would be irrelevant. Many cases of making a central bank's liabilities legal tender or its equivalent have occurred historically – China in the 1930s, Germany in the 1920s, Yugoslavia and Hungary immediately after WWII as well as multiple cases in Latin America. Inflation in these circumstances was so burdensome that economic conditions became horrific and serious political ruptures occurred. As these cases remind us, money printing would in the final analysis be an attempt to improve the economy by destroying its very basic foundations.

Record Levels of Total and Government Debt Ahead

The two fiscal virus relief measures that passed in March will raise the budget deficit by approximately 13% of 2019's GDP, driving the deficit to 20% of GDP, the largest since World War II. The government debt-to-GDP ratio will jump from a record 107% of GDP to well above 120% of GDP. The denominator (GDP) of this ratio will fall sharply and possibly thrust the ratio into a range of 125-130% of GDP. As a result, total public and private debt will surge above the Lehman peak of the GFC. Since rising unproductive debt results in a lower level of GDP growth (diminishing returns), each additional dollar of debt means weakened future economic performance.

The academic research shows that above a 50% ratio to GDP, government debt has a deleterious effect on the trend rate of economic growth and that this effect worsens as the ratio rises. When government debt-to-GDP exceeds 90% for five consecutive years, the U.S. economy loses one-third of its growth against trend. At the expected levels of government debt relative to GDP, the loss should be considerably larger, but no historical record exists to calibrate its magnitude (Chart 2).

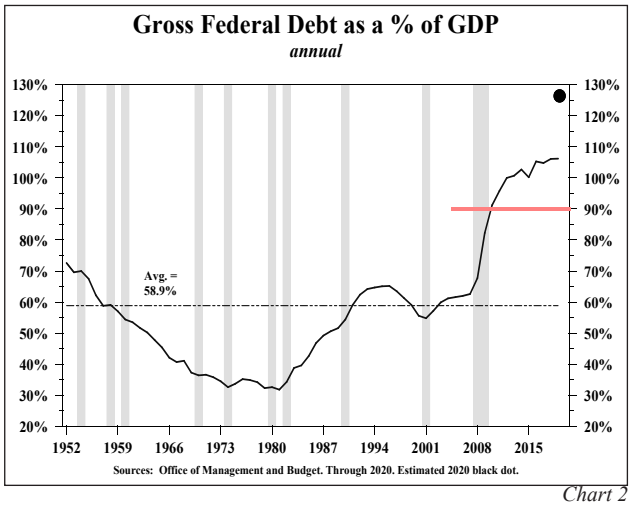

Chart 2

Deficits of the magnitude that lie ahead can also be evaluated in terms of the economic equation I = S, where I is physical investment and S is saving out of income. Saving out of income has three components – private, government and foreign. In late 2019, net national saving (the combination of all three) as a percent of national income was just 2%, down from the average of 6.4% since 1929. Private saving was 8.4% but government saving (dis-saving) was -6.4%. In view of the fiscal actions taken to date, government saving could easily drop more deeply negative, resulting in a negative net national saving rate, the first time this has happened in the U.S. economic history since the Great Depression (Chart 3). Thus, physical investment will also decline, resulting in the economy's inability to grow in the future and generate a rising standard of living.

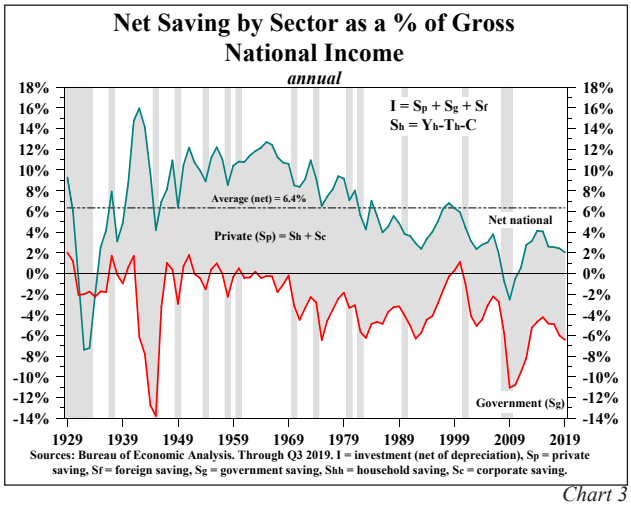

Chart 3

Diminishing Returns

By early next year, total private and public debt could reach a new all-time peak of approximately 405% of GDP, compared with 402% at the time of the Lehman failure. Such estimates are highly tentative and are subjective based on the length of time until the economy can begin on a path to more normal operations. If this tentative assessment is accurate it will mean that significantly less GDP can be generated by adding an additional dollar of debt. This process is formally known as the Marginal Revenue Product of Debt (MRPD). In 2019, a dollar of debt generated about 40 cents of additional GDP. We estimate that the MRPD will fall to 25 cents should total debt soar to 405% of GDP. As the other major economies are also taking on unprecedented amounts of new debt, the marginal revenue product of debt will still be lower in China, the Euro-currency area, the UK and Japan than in the United States. Each dollar of public and private debt in these foreign economies may only be generating 20 cents or less of GDP.

The issue that immediately arises is whether this looming drop in the marginal productivity of debt could be offset if the Fed's liabilities were to become legal tender (MMT). Under such an assumption, the Fed's check writing of government bills would be a debt obligation of the Fed, and since the Fed is a subsidiary of the U.S. Government, this would increase the debt of the Treasury. Perhaps a nicer sounding name could be used to describe this other than debt, but debt it surely is even though it could be issued with a zero rate of interest and zero maturity. The rising level of debt would trigger diminishing returns and real GDP growth would decline, which is exactly happened in China, Germany, France and the other cases cited above. In this case diminishing returns would be evident in terms of rampant inflation rather than deflation.

In rampant inflation, saving falls as Gresham's law takes effect and bad money chases out good and everyone tries to hold wealth in useable commodities that can be bartered. This would result in a massive decline in productivity, as the efficiencies of the monetary system would end. This

too would impede real GDP or output and depress the U.S. standard of living.

Deteriorating Demographics

Last year the rate of growth in U.S. population was 0.48%, the lowest since 1918, which ironically was the year of the Spanish flu during the horrific conditions of World War I. Since 1909, which is the first start of the annual population statistics, the average yearly growth was 1.2%. The figures were even weaker in the major economies outside the U.S. The latest comparable figures were 0.2% for Europe, unchanged for China and -0.4% for Japan.

Based on the pattern during the Spanish flu, which was a global pandemic, the population growth rates are likely to decline in all of these economies, as the corona virus has engulfed each one.

Since the marginal productivity of debt and demographics are both likely to fall, the U.S. production function (real GDP, or total output, equals technology interacting with the three factors of production – land, labor and capital) will shift downward to an even slower pace. In the past twenty years of the massive debt overhang, real per capita GDP grew just 1.2% per annum compounded, a decline 36.8% from the growth rate from 1790-1999 of 1.9%.

Economic Conditions and The Treasury Yield Curve

In view of the initial conditions when the virus hit, the U.S. economy is facing a deflationary recession. Based on the trends at hand, this downturn will be more severe than the three previous worst post-war recessions of 1973-75, 1981-82 and 2008-09.

This will have a noticeable impact on inflation. Measured from the peak before or during the recession until the cyclical trough, the average decline in the core PCE deflator, the Fed's preferred inflation target, was 432 basis points, with a range of minus 165 basis points for the 2008-09 recession to minus 696 points for the 1981-82 recession.

One of the reasons for the variability in this range was that highly volatile oil prices rose in two of the recessions and although energy prices are not measured directly in the core PCE deflator, they have a strong indirect influence. From peak to trough, oil prices declined 49.2% for the 1981-82 recession, but in all three recessions the average price was virtually unchanged. From the cyclical peak in oil prices to the current level, the drop in oil prices is nearly 72%, unprecedented for a major recession. Extrapolating these trends from previous recessions the core PCE measure could deflate 200 to 300 basis points and possibly more while the broader PCE measure could contract 400 basis points. This means that core PCE could recede to a 1% rate of deflation, with the overall PCE measure deflating at 4% or more.

Once the virus is contained, the output gap, a measure of real GDP relative to its potential will be massive both domestically and globally. A recovery in business activity will occur and may appear to be V shaped but will be at a much lower GDP level than the 2019 measure of activity. In other words, the economy will stagger, not march forward. Five to seven years will likely elapse before the output gap returns to late 2019 level. This suggests that once the cyclical decline in inflation has occurred, the economy will be mired in a protracted period of mild deflation and that firms with the weakest pricing power will need to try to lower nominal wages, something for which modern business managers have no experience.

Thus, the Treasury yield curve will be anchored close to the zero bound for a very lengthy period. Without the legal and structural impediments to crossing the zero bound, both variables in the Fisher equation (the real rate and inflationary expectations) will tend to push yields toward negative territory.

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Disclosures

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