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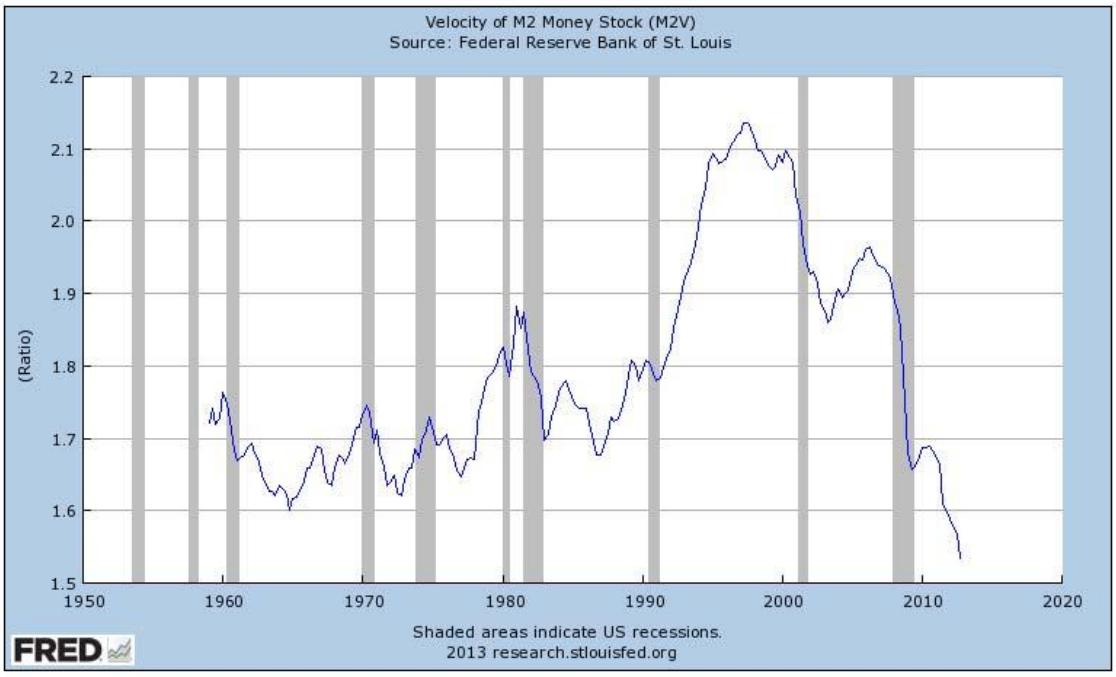
Market Note

Where is the inflation? There are some that have been calling for massive inflation based on the amount of money printing that has occurred. While they may be correct at some point, we have not experienced significant inflation to date. This note will discuss this issue.

When something is at a generational extreme it is normal to wonder about how we got there or whether things will change and how things will be impacted if they do change. For example, the stock market and stock market valuations were at an extreme in 2000, and we know how that played out. The accumulation of debt in this country was at an extreme high in 2007 and we are living in the aftermath of that now. Today, we see interest rates at an extreme low which I commented on in December.

Today I want to discuss another element of our current situation that is at extreme levels. While important, there is a chance that most of you have never heard of it. The velocity of money is at generational lows, and this is having a profound impact on our current environment. If you bear with a bit of economic talk, I will try to make some sense out of the issue.

First a picture from the St. Louis Federal Reserve Bank.



See, I told you, whatever velocity of M2 is, it is at generational lows. Should we care? Here is another formula known as the Quantity Theory of Money: $p = v + m - y$. It states that the inflation

rate (p) equals the % change in velocity (v), plus the % change in the money supply (m) less the % change in the economy(GDP) (y). Here is why this matters: We know that too much inflation is very bad (as is negative inflation or deflation). It would therefore be nice to know if inflation is in our future so we can at least try to do something about it. So, we care about 'p'. We have a sense that creating a lot of new money in a system is supposed to be inflationary, and this formula suggests that there is some relationship between money supply creation and economic growth that impacts inflation (this is the ' m – y' part of the equation). If money supply growth 'm' is greater than economic growth 'y', the formula suggests a positive impact on inflation (m-y would be positive). If the money supply growth 'm' is equal to the rate of increase in products and services produced 'y', there will be little impact on inflation. This makes some sense as we have heard the expression that too many dollars chasing too few goods will create inflation.

Measuring and even predicting changes in money supply growth and economic growth are somewhat straightforward. If these were the only elements in the formula, we could have a good idea on what inflation would be. Why is the 'v' in the equation? We need the 'v' because the real world doesn't work as easily as we would like, and 'v' is the variable that explains the unknowns in why changes in money supply and economic growth do not fully explains changes in inflation.

Let's assume that money supply increases by 8% and there is 5% economic growth. It would be simple if inflation was 3%. The difference between 3% and the actual inflation rate is 'v'. 'v' is the explanation as to why things did not work out as we expected.

For you algebra fans, we can rearrange the formula $p = v + m – y$ to say that $v = p + y – m$. The change in velocity is equal to the difference between actual inflation (p) and the gap between economic growth and money supply growth. A formulaic way of saying the same thing.

Look back to the chart. We know that the money supply has grown a great deal faster than the economy over the last 5 years. Between 10-1-2007 and 10-1-2012, M2 grew by 38.6%. GDP grew by 11% over this same period. If 'v' did not exist, the Quantity Theory of Money suggests that we should have experienced 27.6% of inflation over this time period. The CPI actually increased by 11%.

'v' in this case explains why inflation is 16.6% lower than we expected. Whatever 'v' is, it has been a good thing for investors. If the money supply continues its growth, it would be nice for 'v' to continue its good work. Long live 'v'. I just wish I knew what it was!

Actually we know what 'v' is, we just don't know how to explain why it changes. Before I comment on that, I need to clarify one point. The chart on page 1 shows the velocity of M2 money stock. The velocity of money is represented by big V. The rate of change between two points on the chart is denoted by little 'v'. Big V represents actual points on the chart and little 'v' represents percentage changes between points on the chart.

In the Quantity Theory of Money formulas listed in this note, the variables are all % changes. Inflation is a percentage change in prices, Money supply growth is a % change in money supply, GDP growth is a percentage change in growth, and 'v' is a percentage change in the velocity of money (V).

Why is this important? Note that as far as the contribution to inflation goes, it is not the actual level of Velocity that is important, but rather the rate of change. It is not the actual point on the graph that I showed you that impacts inflation, but rather where the graph was prior to the point you are looking at, and where the line is going.

Since December 31, 1999, M2 has increased by 120.5% and GDP increased by 63%. If not for the changes in the velocity of money, inflation would have been 57.5% over this time period. As it was, the CPI grew by 38.9%. Two points: First the cumulative impact of inflation gets your attention at 38.9%. Second, the reason that actual inflation was not almost 20% higher over this time period was due to the drop in the velocity of money. If you go back to the graph, it is due to the fact that this line was essentially dropping since 2000.

In order for the velocity of money to continue to help keep inflation tame, it will need to continue falling from its present level. Given that we are already at generational lows, one could reasonably ask whether this is likely. If the velocity of money just remains where it is, inflation will be dictated by the growth in the money supply as it compares to economic growth. My take is that we are at the point where further drops in the velocity of money are not likely, and the economy will need to grow at an equal pace with the money supply to keep inflation at bay.

When you hear concerns about 'exit strategies' from Federal Reserve policy, this is what they are talking about. The Fed can work to reduce the money supply, but doing so will impact the interest rate markets and possible economic growth. They have a difficult balancing act to follow, and there is not much historical precedent to suggest how to do this successfully.

What if the velocity of money actually increases? Even if the money supply grows at an equal pace with the economy, an increase in the money velocity will create inflation. So, what is the velocity of money and can it be controlled or predicted?

The velocity of money (Big V) is the number of times the money supply (M2 in this case) is turned over in the economy each year. The Federal Reserve creates the money supply. Some of this money is spent, and some gets squirreled away for potential future expenditures. In times of uncertainty (or recession), people may tend to squirrel away more cash, taking it out of circulation for a while. If more cash is 'stored' in this way, then the amount of cash or money supply compared to the amount of economic transactions will grow in proportion. The velocity of money measures how many times a dollar participates in a transaction. If the dollar gets stored longer, or more dollars get stored as opposed to spent, the velocity will decline.

Since more dollars in the current money supply have been stored in the past 10 years, the velocity of money has declined. If we have passed the point of maximum uncertainty, we could expect people to free up some of these 'reserves'. For example, if people are more confident in their ability to generate additional dollars in the future (either through work or liquidating investments that are appreciating), they might live with less cash on hand and we could see the velocity increase (or at least stabilize).

If you like formulas, the Velocity of Money is described as V= GDP/M. V is the velocity of money, GDP is the size of the economy and M is the money supply. If money is hoarded rather than spent, the size of M will grow in relation to GDP, the denominator will be larger and GDP/M will shrink.

Hopefully this note is helpful in explaining why we have not experienced significant inflation yet based on the money supply growth thus far, and why these favorable trends may not continue. Generally, we have been keeping the average maturities of our fixed income exposure on the shorter side, and we continue to have some exposure to gold in some form. Higher inflation and interest rates could also create some volatility in the equity markets, but depending on the pace of change, any negative impact due to higher inflation could be offset with positive impact from economic growth.

Please call with any questions.

Regards,

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For those that would like to know what M2 is, I have copied the following from the St. Louis Federal Reserve website.

M1 includes funds that are readily accessible for spending. M1 consists of: (1) currency outside the U.S. Treasury, Federal Reserve Banks, and the vaults of depository institutions; (2) traveler's checks of nonbank issuers; (3) demand deposits; and (4) other checkable deposits (OCDs), which consist primarily of negotiable order of withdrawal (NOW) accounts at depository institutions and credit union share draft accounts. Seasonally adjusted M1 is calculated by summing currency, traveler's checks, demand deposits, and OCDs, each seasonally adjusted separately

M2 includes a broader set of financial assets held principally by households. M2 consists of M1 plus: (1) savings deposits (which include money market deposit accounts, or MMDAs); (2) small-denomination time deposits (time deposits in amounts of less than $100,000); and (3) balances in retail money market mutual funds (MMMFs). Seasonally adjusted M2 is computed by summing savings deposits, small-denomination time deposits, and retail MMMFs, each seasonally adjusted separately, and adding this result to seasonally adjusted M1.