

Inflation: The Next Crisis?

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In response to the current economic crisis, the federal government has taken unprecedented action to prevent job losses, support banks, unfreeze credit markets and abate the housing market catastrophe. In order to pay for these actions, the government has borrowed and printed trillions of dollars and there is more to come. As this tremendous quantity is thrust into the marketplace, it only makes sense that our currency would lose its value causing the dollar to weaken and inflation to grip the U.S. economy. However, the trade-weighted dollar has actually strengthened in each of the last four quarters and the market forecasts less than 0.5% annualized inflation over the next five years according to the premium on the Treasury's inflation-protected bonds (TIPS). So where is the disconnect? The answer is the market's perception that the inflationary pressures from the Federal government will be more than overcome by the deflationary forces which the market is currently facing.

What is Inflation?

Milton Friedman, the founder of Monetary Economics, came up with a succinct formula to explain changes in the general level of prices (inflation or deflation):

$$M \times V = P \times Q$$

M – Money Supply¹: Quantity of hard dollars in existence (also called monetary base)

V – Velocity of Money: Frequency those dollars are transacted per year

P – Price Level: General level of prices in the economy

Q – Quantity: Quantity of transactions in the economy during the year (measured by real GDP)

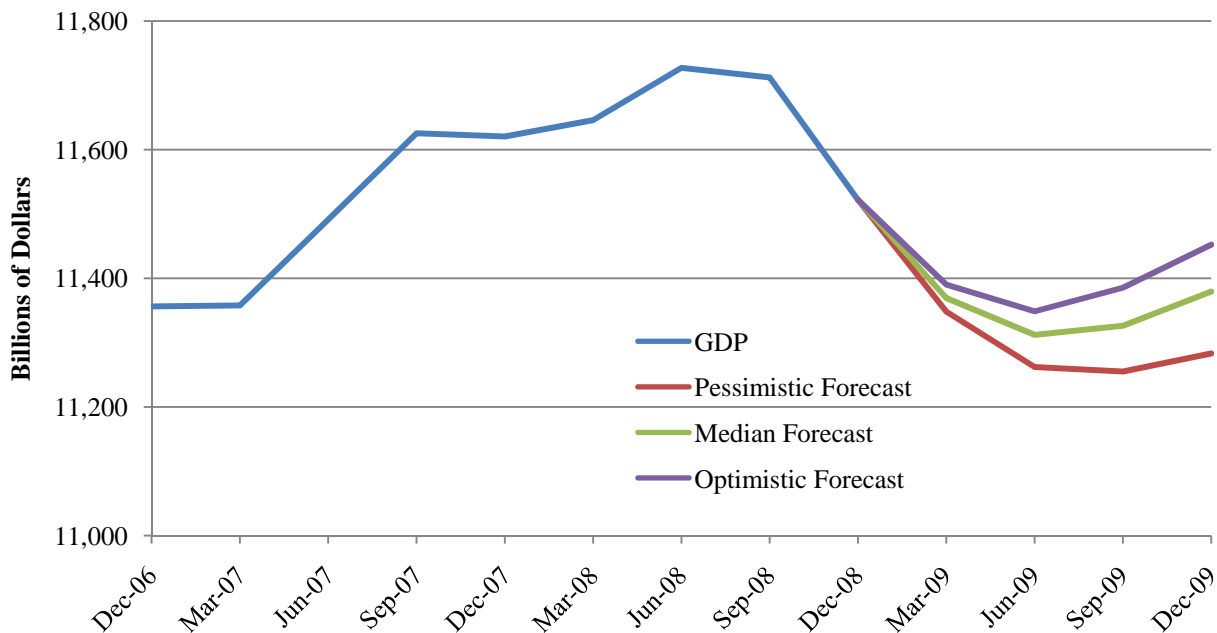
This equation is a tautology as long as all transactions in the economy are made in the domestic currency. If all transactions in the United States are made in dollars, P x Q gives the number of nominal dollars used in all transactions in the economy, which must equal the number of hard dollars in the economy multiplied by how often those dollars are used.

¹ There are many measures of the money supply. This research article uses the monetary base (also called M0) while M1, M2 and M3 are all other measures which take into account various highly liquid assets (such as bank deposits) in addition to hard currency. For this analysis, the monetary base is preferable because all other measures have some amount of the velocity of money imbedded in them, while this analysis aims to isolate the velocity of money.

Therefore, to examine how prices will be affected by the current economic situation, we must quantify the movement of GDP, the monetary base and the velocity of money.

Q: Gross Domestic Product

U.S. Real Gross Domestic Product with Forecasts



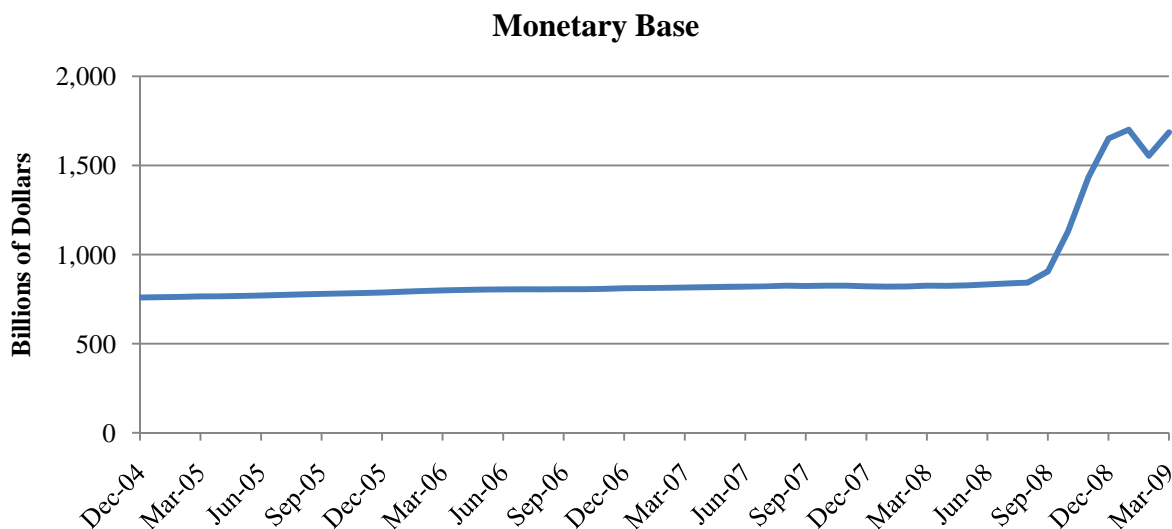
*GDP data from Bloomberg, Bureau of Economic Analysis

**GDP is measured as a seasonally adjusted, annualized rate in chained year 2000 dollars

***GDP forecasts from Bloomberg survey of economists; “pessimistic forecast” is the first quartile forecast and the “optimistic forecast” is the third quartile forecast

During the second quarter of 2008, GDP peaked at \$11.73 trillion per year and fell to \$11.52 trillion per year (down 1.75%) by the end of 2008 and is expected to keep falling until at least the second half of 2009. Even in the optimistic forecast, GDP falls 3.2% from the 2008 peak, which would be the worst recession since 1957-1958 and the longest since the Great Depression. This economic contraction puts upward pressure on prices because the dollars within the economy are chasing fewer goods and services than 12 months ago.

M: Monetary Base



*Source: Bloomberg, Federal Reserve

This chart shows that the monetary base has skyrocketed during this crisis. The Federal Reserve has pumped \$780 billion into the economy over the last six months to fight the recession. In fact, during the last twelve months, the money supply has grown as much as it had during the previous 14 years.

The Federal Reserve’s quantitative easing process has, by design, caused this increase in the money supply. On December 16, the Fed had effectively reduced the Fed Funds rate to zero in an effort to stimulate the velocity of money. However, the declining Funds rate was more than offset by increasing risk premiums in the market. This meant that the cost of borrowing for most individuals and businesses was still far greater than a few years prior, in spite of the declining Fed Funds rate. In November 2008 the Federal Reserve announced that it would begin purchasing mortgage-backed and federal-agency securities in order to reduce interest rates for home loans, business loans, consumer loans, etc. During their March 2009 meeting, the Fed expanded their purchases to include longer-term Treasury securities. The table below shows how much the Fed has purchased and how much more it plans to purchase.

Federal Reserve Purchases* (billions of dollars)

	Residential Mortgage- Backed Securities	Federal Agency Bonds	Longer-Term Treasury Bonds
So Far	500	100	0
Still to Come	750	100	300
Total	1,250	200	300

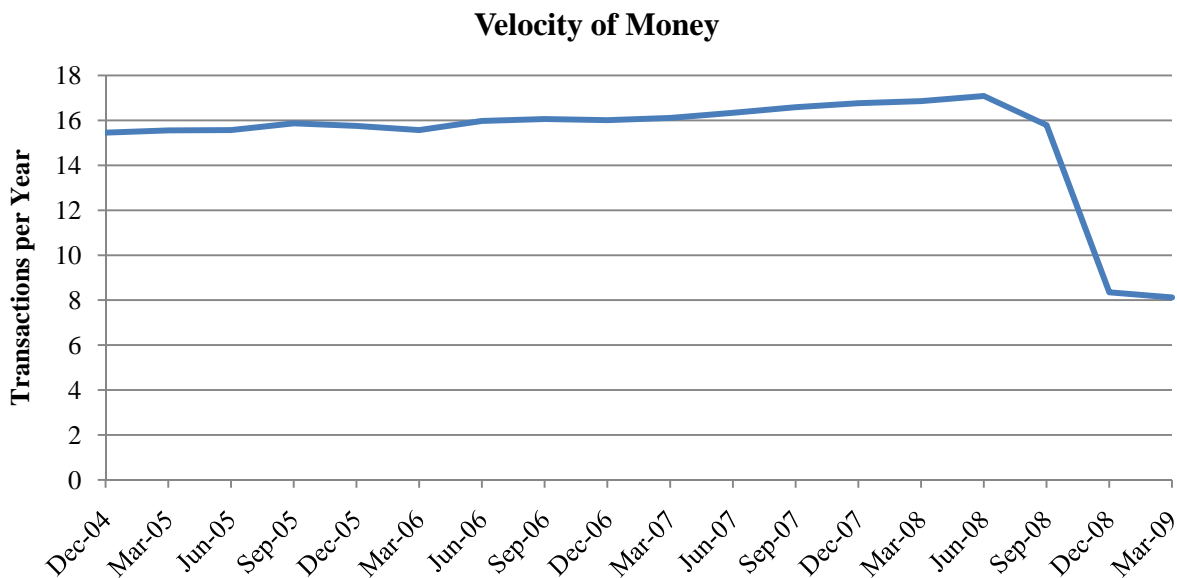
*According to the Federal Reserve’s March 18, 2009 statement

In addition to their security purchases, the Federal Reserve has also lent money to financial institutions through a number of new programs including the Term Securities Lending Facility (TSLF) and the Term Asset-Backed Securities Loan Facility (TALF).

All of these Federal Reserve programs designed to stimulate credit markets and the overall economy have led to the \$780 billion increase in the monetary base. However, heretofore the Fed's security purchases have only totaled \$600 billion of a planned \$1.75 trillion. Additionally, the lending facilities created by Fed are expected to expand in the coming months. Considering these facts, the money supply should keep rising into the foreseeable future.

Given this meteoric increase in the money supply along with the decline in real GDP, there is clearly more money today chasing fewer goods than 12 months ago. Why then are economists estimating that, when inflation data is released later in April, it will be approximately 0% and more economists are expecting deflation during 2009 than inflation? Because we must take into account the last missing input: velocity of money.

V: Velocity of Money



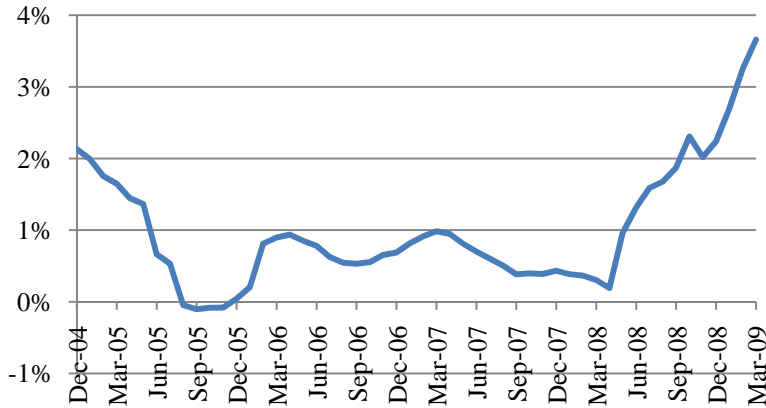
*Velocity of money calculated by formula: $Velocity\ of\ Money = (Nominal\ GDP / Monetary\ Base)$

**Nominal GDP for March 2009 is an economist estimate from Bloomberg

This graph shows how the velocity of money has collapsed by more than 50% over the last nine months to the lowest level in over 50 years. This graph represents what the Federal Reserve and the Treasury have been trying to combat during the current economic crisis. Such a dramatic slowing in the velocity of money results from cash hoarding in the economy, which prevents transactions from occurring.

Evidence of cash hoarding can be found all over the economy, both among consumers and businesses.

U.S. Personal Savings Rate



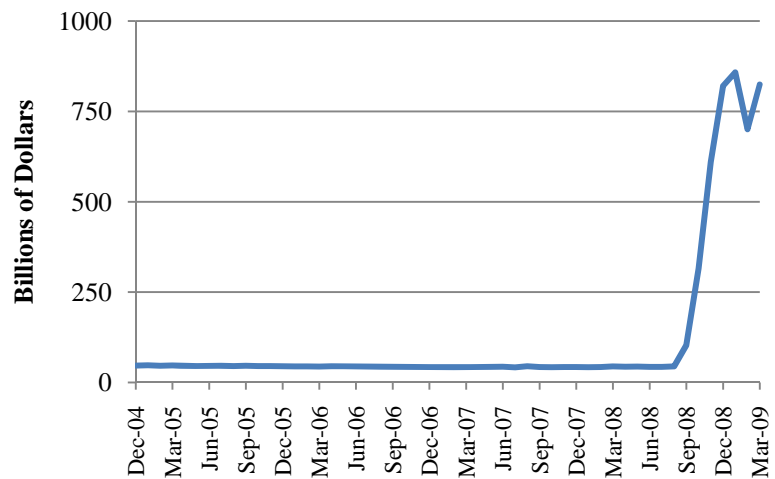
In less than a year the personal savings rate has gone from approximately zero to the highest level in a decade and is expected to keep increasing. During the last twelve months, consumer savings increased by \$270 billion versus the prior twelve months.

*Source: Bloomberg, Bureau of Economic Research

**Graph is shown as a six-month rolling savings rate

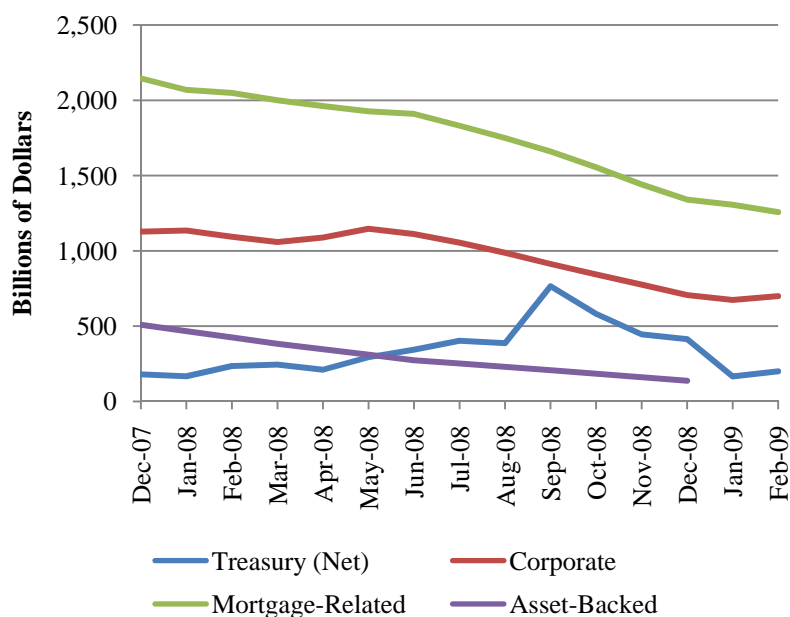
This dramatic increase in consumer savings would have very little impact on the velocity of money if consumers were depositing these savings into banks and then banks were lending that money out. However, as the graph to the right shows, banks are accumulating cash as well. Over the last nine months, bank reserves have swelled from \$43 billion to \$825 billion, an increase of \$782 billion (the same amount as the increase in the money supply).

Total U.S. Bank Reserves



*Source: Federal Reserve

Rolling 12-month Bond Issuance



*Source: Bond Market Association

Aside from banks, the bond market is the other major outlet for borrowers. However, as the chart to the left shows, bond market issuance is also down for all sectors except Treasuries. Total 12 month issuance is down \$1.7 trillion since December 2007. Treasury issuance will increase as the deficit expands with recently passed fiscal stimulus. However, as long as the Treasury’s increased leverage is more than counteracted by decreased leverage elsewhere in the market, then there is no inflationary pressure as a result.

Most recessions have caused the velocity of money to decline as economic uncertainty leads individuals and businesses to save rather than transact. However, the current recession has especially affected the velocity of money because banks and credit have been at the center of the economic crisis. The velocity of money has historically had a significant correlation to GDP growth which causes high GDP growth to be associated with inflation and low GDP growth with disinflation or deflation.

During the current recession, the drop in the velocity of money has more than offset the inflationary effects of the increasing money supply, increasing Federal deficits and the decline in real GDP. However, going forward, all of these inflationary pressures will be persistent and may even accelerate.

Going Forward

Certainly the inflation environment moving forward will be far more fluid and more unpredictable than in recent years. The inflationary pressures and deflationary pressures are both significant and appear at the moment to be in a steady state. Going forward, the inflation/deflation environment will be dependent upon economic conditions and policy actions.

Inflation Scenarios:

1. The economy recovers much faster than anticipated. The velocity of money rises substantially in the near future meaning that the massive monetary and fiscal stimulus was far greater than necessary. The Federal Reserve aggressively raises rates in response but not until they are certain that systemic financial risks have faded. This delay allows substantial inflation to enter the market.

Outperforming Assets	Median Performing Assets	Underperforming Assets
Equities (especially finance and real estate related)	TIPs	Bonds (especially Treasuries)
Commodities	Gold	

2. The U.S. economy proves weaker than those abroad and the American government is forced to provide further stimulus. Supply of Treasury bonds swell at the same time as foreign governments and investors reduce their purchases. The combination puts significant upward pressure on U.S. interest rates. The Federal Reserve monetizes debt (prints money to purchase Treasury bonds) to keep interest rates low but, as a result, the dollar plummets and inflation spikes.

Outperforming Assets	Median Performing Assets	Underperforming Assets
Commodities	Treasury Bonds	Equities (international equities outperform)
TIPS		Corporate Bonds
Gold		

3. Economic activity picks up slowly, but fear of another downturn and fiscal irresponsibility keeps monetary policy accommodative and fiscal deficits very high. Inflation rises slowly at first, but as economic activity picks up, inflation accelerates. The Federal Reserve is forced to raise rates at this point, stifling the infant economic recovery.

Outperforming Assets	Median Performing Assets	Underperforming Assets
Commodities	TIPS	Treasury Bonds
Gold	Equities	Corporate Bonds

Deflation Scenarios:

1. Economic activity continues to contract but Fiscal hawks in the U.S. government are able to disallow additional stimulus. Furthermore, they are able to restrict the Federal Reserve from taking any drastic monetary actions to prevent deflation.

Outperforming Assets	Median Performing Assets	Underperforming Assets
Treasury Bonds	Corporate Bonds	Commodities
	TIPS	Equities
	Gold	

2. After another significant economic downturn in the U.S, the dollar weakens and U.S. interest rates spike on fear of the credit-worthiness of the United States government. The Federal Reserve becomes unwilling to expand the monetary base for fear that it will exacerbate the weakening currency.

Outperforming Assets	Median Performing Assets	Underperforming Assets
Gold	Treasury Bonds	Equities
	Corporate Bonds	Commodities
	TIPS	

Middle of the Road Scenarios:

1. The Federal Reserve's economic forecast proves accurate. GDP growth slowly improves during the rest of 2009, turning positive in 2010. By the time economic activity picks up enough to cause inflation the Federal Reserve is raising interest rates and is able to maintain equilibrium.

Outperforming Assets	Median Performing Assets	Underperforming Assets
Equities (real estate and financial)	Corporate Bonds	Treasury Bonds
	Equities (all other sectors)	Gold
	Commodities	

2. Economic activity picks up faster than the Fed's estimates but not so fast that the Fed cannot adjust. Inflation rises but interest rate hikes by the Fed keep inflation within a moderate range.

Outperforming Assets	Median Performing Assets	Underperforming Assets
Equities (especially finance and real estate related)	Commodities	Treasury Bonds
	Corporate Bonds	Gold
	TIPs	

3. The global economy takes another downturn but the United States remains relatively strong compared to other economies. This allows the Treasury to still borrow at low interest rates and the dollar remains strong enough to accommodate continued expansion of the monetary base by the Federal Reserve. The fiscal and monetary stimulus counteracts the falling velocity of money (as it has over the last twelve months) to keep a near zero inflation rate.

Outperforming Assets	Median Performing Assets	Underperforming Assets
Treasury Bonds	Corporate Bonds	Equities (especially International equities)
Gold	Commodities	Real Estate

CCM's View

We believe that the “Middle of the Road Scenarios” appear most likely. The Federal Reserve has thus far done a remarkable job of preventing substantive deflation during the largest contraction of economic activity since the Great Depression. However, economic volatility is far greater than it has been since World War II so even in a “Middle of the Road” world, large spikes (up or down) in the month to month readings in inflation are likely.

In the coming quarters, inflation will probably become a greater and greater issue as economic activity picks up. The inflation rate should pick up but CCM feels that before inflation becomes above comfortable levels, the Federal Reserve will respond with higher interest rates.

In spite of our view that “Middle of the Road” is most likely, there is still a serious possibility that fiscal and monetary authorities are unable to maintain equilibrium. Should equilibrium falter the inflation scenarios are far more likely than deflation because the Fed would far prefer inflation to deflation. Federal Reserve Chairman Ben Bernanke is one of the world foremost scholars on the Great Depression and he has stated that systemic deflation was the most significant contributing factor in turning 1929's ordinary recession into the 1930's Great Depression. In a speech in 2002, then Fed Governor Bernanke said:

I am confident that the Fed would take whatever means necessary to prevent significant deflation in the United States and, moreover, that the U.S. central bank, in cooperation with other parts of the government as needed, has sufficient policy instruments to ensure that any deflation that might occur would be both mild and brief.

Therefore, Bernanke's policies are designed first to ensure that systemic deflation does not occur and second to prevent significant inflation. This does not mean that systemic deflation is impossible and it is more likely now than it has been at any point in the last 50 years, but it still remains quite remote.

What does all this mean for your portfolio? It is easy in times of such distress to position your portfolio for what has already happened. But in the world of investments, it is essential to be forward-looking. Look at what assets perform best in the most likely scenarios and make sure your portfolio has allocations to those assets. This would indicate that allocations to commodities, equities and Treasury bonds should provide a mix which is efficient in all scenarios, except deflation scenario #2, which CCM views as the least likely scenario and only Gold performs well in that case.