



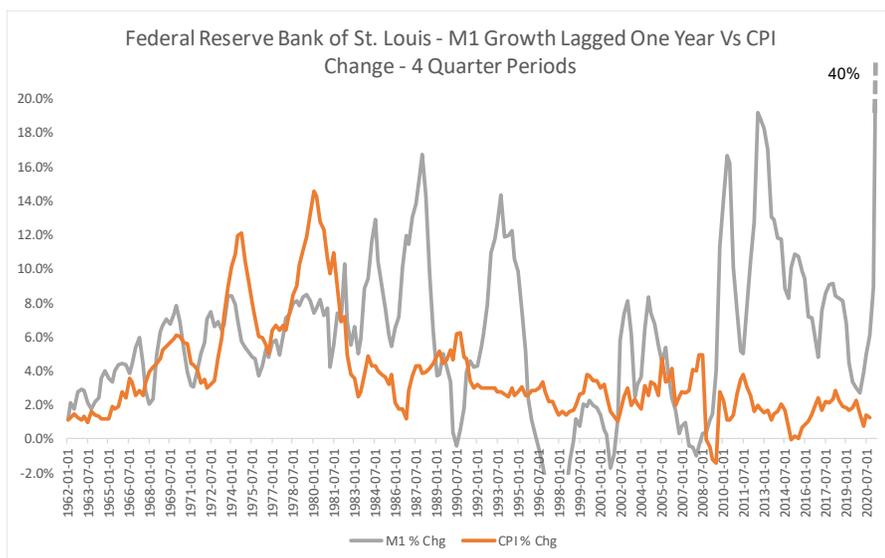
## The Great Inflation Awakening

The rate of price inflation has been low for so long now, just about everyone from the Federal Reserve Board and central banks around the world, to consumers and businesses, believe it is not a problem now and not likely to become one anytime soon. Yet price inflation worked its way up from low levels after World War II to an unthinkable peak in the early 1980s. What caused it to rise so much then and later to come back down to the less than 2% today? What would a reflationary environment look like today?

*The links between the money supply and inflation have changed...*

With each economic cycle from the end of WWII, price inflation (measured by the CPI) went higher until its peak annual rate in 1981 near 14%. It began even before President Nixon closed the Gold exchange window in August of 1971, and instituted wage and price controls, while the Fed attempted to stimulate the economy with M3 growth in the teens. The weakening of the exchange value of the dollar (with oil priced in dollars) helped trigger OPEC's oil embargo of 1973 that pumped up oil prices. While at the same time, oil price controls on U.S. production created a disincentive for exploration to increase supply. If the expansion of the money supply had not occurred along with these and other events, price inflation would not have spiraled out of control.

Price inflation was thought to be primarily the result of monetary policy. It was and is, but Milton Friedman's (one of the world's preeminent monetarists in his day) belief that with a lag, the rate of inflation was a function of the growth in money supply, has not proven to be consistent. The simple graph below compares the year over year change in the CPI and the growth in M1 lagged by one year since the early 1960s. M1 is the narrow definition of the money supply and essentially includes the cash and coin we each carry plus bank account demand deposits and traveler's checks. The grey line represents the 12-month percentage change in M1 and the orange line the change in the CPI.



Source: FactSet

Notice that from the early 1960s, as M1's growth accelerated to progressively higher rates, the rise in the CPI change followed suit, albeit with a lag as Friedman suggested. This continued with each peak and trough into the early 1980s when inflation got out of control. During this period, the growth in M1 explained roughly half of the variation in the CPI.

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uncorrelated to the rate of price inflation. Ranging from the high teens or more in years of economic recession and financial crisis, to negative when price inflation seemed to reaccelerate, has resulted in a near zero correlation over the nearly four decades that followed the early 1980s.

Furthermore, the combination of demand for U.S. currency in foreign exchange markets and financial innovation that included the growth in money market funds has reduced the usefulness of the narrowly defined M1. Today the monetary aggregate most useful is MZM (Money Zero Maturity) that includes cash, demand deposits (checking), large savings deposits, and all retail and institutional money market funds that can be accessed at par value (meaning no price risk). Still, the inflation rate is more than a product of fast money supply growth and many factors contributed to its dramatic fall.

Here are a few of the reasons:

1. Credit goes to Federal Reserve Board Chairman Paul Volcker, appointed by President Carter in 1979 with a mandate to attack the problem of high price inflation. The political will was established to accept the economic pain necessary to fight it. His shock treatment included raising the Prime Rate to 20% in March 1980, throwing the economy into recession and taking the wind out of inflation's sails. He remained at the Fed's helm into 1987.
2. As President Reagan came into office in 1981, he removed price controls on domestically-produced oil and on airline fares (to name two). With high oil prices (more than \$40 per barrel in 1980 dollar terms) there was a surge in the incentive to explore, develop and produce that brought West Texas Intermediate (WTI) oil prices down to \$10 per barrel by 1986. Thereby, relieving one of the great pressures on price inflation, energy prices.
3. Both the Reagan and Clinton administrations negotiated international trade deals that opened U.S. and foreign markets to freer trade with lower tariffs and lower non-tariff barriers, particularly with the bipartisan efforts to pass NAFTA, the North American Free Trade Agreement. Manufacturing expertise became more broadly distributed and lower cost labor markets in foreign countries created greater price competition for U.S. domestically-manufactured goods. Furthermore, trade deficits put a "ton" of dollars into foreign hands.
4. The "cost of interactions" fell as microelectronics reduced the cost of information processing. Much of this phenomenon was due to the introduction of the internet that made "price discovery" easier. Automobile pricing, for example, became less opaque as buyers could compare prices among dealers and identify true dealer costs. Brick and mortar retailers' cost structure were and still are disrupted by the likes of Amazon. In the last decade in particular, the proliferation of technological applications in the purchase of goods and services has created more price-competitive markets.

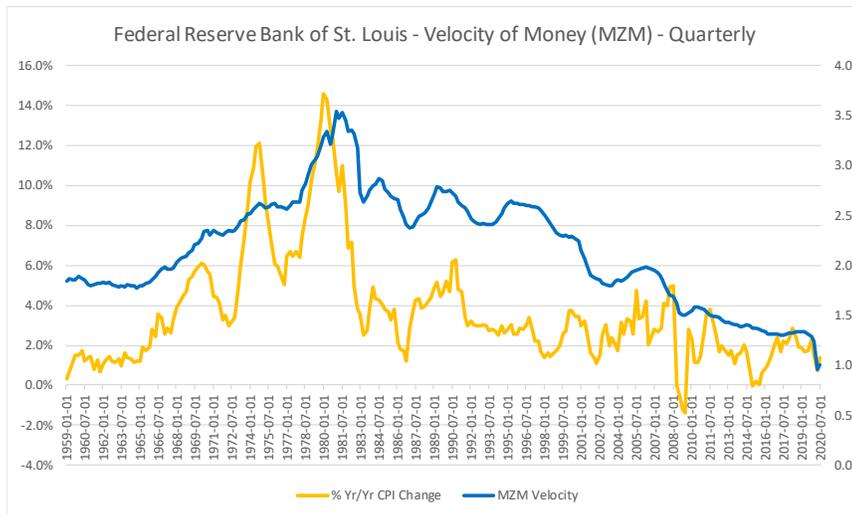
Since the peak in the inflation rate in 1981, the highs diminished and the lows trended lower. It's a good story. No?

*...Modern Monetary Theory (MMT) to the rescue...*

Unfortunately, the world economy has been lulled into a near coma of indifference to future risks, and these risks are compounded by the Federal Reserve Board's adoption of Modern Monetary Theory (MMT) to guide its policy and money creation activities. The resulting actions reflect a belief that as long as interest rates are low, no amount of Fed monetization of government deficit spending creates price inflation pressures. The fact that virtually no secular price inflation has been created by the movement toward MMT since the turn of the century has bolstered the Fed and financial market's false confidence that no inflation will appear as a result of these policies.

From a cyclical perspective, price inflation is popping up all over the place due to the massive stimulus of spending while the COVID 19 lockdowns have constrained supply and added significant costs to the stock of goods and services that are available. Furthermore, the supply constraints on services, with rising costs and the shrinking supply (e.g. from restaurant bankruptcies), force prices higher. Once the remaining restaurants are allowed to reopen, just try to get a reservation at a fine establishment! You'll really pay up. This cyclical part of the inflation picture should easily get headline CPI inflation back up above 2.5%, possibly within the next six months. The key question is, "Will the massive monetization of huge government deficits trigger the reawakening of the inflation at its core?" We believe it will.

Inflation is at its center a monetary phenomenon, but what determines whether monetary growth creates real growth in the quantity of goods and services or simply price inflation? The velocity of money is one of the keys. The graph below illustrates the role of the velocity of the money stock (using MZM) in enabling high money growth to translate into price inflation.



Source: Federal Reserve Bank of St. Louis

The level of MZM Velocity measures how many times a dollar changes hands via transactions of goods and services that create nominal GDP on a quarterly basis.

MZM velocity nearly doubled from roughly 1.8 times in the early 1960s to nearly 3.5 times by 1981. In the response to the debasement of the U.S. currency in those years, individuals and institutions responded by holding less dollars. In more common parlance, individuals purchased goods and services, and businesses invested in tangible assets to use the shrinking dollars they held before they shrank in value even more. The peak in velocity (blue line) coincided with high price inflation (the gold

line), and its secular decline since then has coincided with lower and lower peaks in subsequent cycles. The combination of the annualized growth in MZM (lagged by one year) and the level of MZM velocity explained three quarters of the variance in price inflation from 1960 through 1982 and over half of the variation for the entire 60-year period to today.

Nominal GDP is divided into the price of goods and services and the quantity of each produced and consumed. The rather simple identity formula below has been long understood:

$$P * Q = M * V$$

P = The Price Level in the overall economy

Q = The Real Quantity of goods and services produced

M = The Money Supply, such as the stock of transaction-based money in the system (using MZM)

V = The Velocity of Money (representing how many times \$1 is recycled and spent to buy goods and services during a period of time – usually measured quarterly)

It's not hard to understand that a certain level of nominal dollar GDP is created by the existing money supply and the pace at which (Velocity) it flows and is recycled through the system (purchasing goods and services or capital spending, for example). Furthermore, as the money supply growth rises and if Velocity stays constant, nominal GDP rises. The question as reposed earlier is, "how is this growth in nominal GDP divided between the real economy (Quantity) and the price inflation rate (the Price Level)?" This question has long bedeviled economic theorists and practitioners.

...the Great Inflation Awakening...

The 2020 cyclical plunge in money velocity (MZM) is associated with the cratering of the economy and the resulting sharp fall in transactions. Even with low returns on cash, consumers having lost their jobs hoarded dollars (as evidenced by a rising savings rate) as well as some consumer products (i.e. toilet paper!). The CPI fell as demand dramatically contracted. Yet this downward pressure on velocity and prices is coming to an end as COVID 19 vaccinations become more widespread. Now, policies that inherently debase the value of the currency should change the desirability of holding dollars as a store of value. We should see transactions of dollars begin to accelerate through the system once again, raising the velocity of money. When combined with the heightened level of money creation (the growth in the

money supply) rapid growth in nominal GDP should ensue. It won't take velocity back near to its past peak at 3.5 times to create an upside surprise in price inflation.

Higher price inflation comes with a booming economy (the highest likelihood over the next two years) or with stagflation, but in either case, the rise in price inflation could be surprisingly high and sustained.

Here are a few of the linkages:

1. Demand is and has been stimulated by deficit spending without a corresponding rise in supply, creating shortages of supply relative to demand.
2. Supply bottlenecks will become persistent, raising the costs of commodities, transportation services and packaging.
3. The potential for rising tax rates and regulation should reduce the incentive to supply goods and services at current price levels. In the face of heightened demand, suppliers of goods and services will demand higher prices to maintain after tax income, particularly after such a punishing dry spell under the curtailment with COVID 19 shutdowns. In economics, this is described as a backward shift in the supply curve.
4. With monetary easing now equal to or more aggressive than other developed countries, the exchange value of the U.S. dollar has begun to fall, making the U.S. a less attractive place to invest.
5. With constrained U.S. supply, energy prices could surge to far higher levels than currently expected, particularly as aviation fuel consumption returns by the fall of 2021.
6. The Fed's own commitment to not changing any of its easy money policies until inflation either hits 3% or stays above 2% for at least a year clearly signals that the Fed will ignore the rise of inflationary pressure on prices. They've drunk too much of their own Kool-Aid!

The confluence of these and other events are likely to launch price inflation to a sustained higher level. This won't lead to the near hyperinflation this nation felt in the late 1970s and early 1980s, but by today's standards a 3-4% inflation rate is would uncomfortably high and unexpected. It will not end well for both consumer wallets, bond prices, interest sensitive stocks, and stocks with high price/earnings ratios.

The Great Inflation Awakening has just begun. No its impact won't be anything like the real "Great Awakening" following the sermon preached by Jonathan Edwards in Enfield, Connecticut in 1741, but both the Fed and federal government's sins of commission (adopting MMT combined with unbridled deficit spending) and omission (disregarding savers) risk an acceleration that will be hard to contain without resorting to future economic pain.



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