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# Monetarism Through the Looking Glass

## Why has monetary expansion failed to promote growth in the real economy?

### THE ECONOMY

Laurence B. Siegel and Paul D. Kaplan

Negative interest rates in Europe and Japan. Itsy-bitsy, teeny-weeny positive interest rates in the United States. One round of quantitative easing after another. An economy that stubbornly refuses to grow. Have we gone through Alice's proverbial looking glass?

In 1946, Henry Hazlitt, the great explainer of economics to the masses, distinguished between good and bad economics:

*The bad economist sees only what immediately strikes the eye; the good economist also looks beyond. The bad economist sees only the direct consequences of a proposed course; the good economist looks also at the longer and indirect consequences. The bad economist sees only what the effect of a given policy has been or will be on one particular group; the good economist inquires also what the effect of the policy will be on all groups.<sup>1</sup>*

In thrall to Hazlitt, we distinguished good from bad monetary economics:

*Bad [monetary] economics...looks at the initial impact [of an action]. We see interest rates fall at the time that the Fed buys the Treasuries and conclude that interest rates have fallen. However, the initial fall in interest rates is only the first of a sequence of events that will result in interest rates rising. [Bad monetary economics] assumes that because the Fed intends or wants to lower interest rates, it will succeed in doing so. There is no reason to expect this. It fails to distinguish between real and nominal interest rates.<sup>2,3</sup>*

We told a story in which the Nobel prize-winning economist Milton Friedman was a hero:

*In his presidential address to the American Economic Association in 1967, Friedman showed that the [Keynesian] Depression-era paradigm was bad economics.<sup>4,5</sup> He noted that the theory focused exclusively on short-run effects and confused real and nominal quantities. Through the Fisher effect, he explained, expansionary monetary policy leads to higher rather than lower interest rates. There is no long-run trade-off between inflation and unemployment, as Friedman's contemporary, Edmund Phelps, had recently demonstrated.<sup>6</sup> Expansionary*

1 Hazlitt, Henry. *Economics in One Lesson*. New York: Harper & Brothers, 1946.

2 Kaplan, Paul D., and Laurence B. Siegel. "Good and Bad Monetary Economics, and Why Investors Need to Know the Difference." Paul D. Kaplan, editor, *Frontiers of Modern Asset Allocation*, Hoboken, N.J.: John Wiley & Sons, 2012.

3 It was the great American economist of the early 20th century Irving Fisher who first made the key distinction between real and nominal interest rates. Nominal interest rates are what we observe in the market. However, because investors care about real values (how much can be obtained in goods and services), investors care about real interest rates rather than nominal rates. According to Fisher, the difference between nominal and real interest rates is the expected rate of inflation. Hence, the nominal interest rate is the real interest rate plus the expected rate of inflation.

4 Friedman, Milton. "The Role of Monetary Policy." *American Economic Review*, March 1968.

5 According to John Maynard Keynes, in his 1936 book, *The General Theory of Employment, Interest, and Money*, the level of employment in the economy depends on "aggregate demand," which is the sum of consumer spending, business investment spending, and government spending. If business investment spending is too low, the economy will settle on a low level of employment so that many people will be out of work, as was the case during the Great Depression. The remedy is to expand government spending sufficiently high to get the economy back to full employment. To this day, this is the position of Keynesian economists.

6 Phelps, Edmund S., "Phillips Curves, Expectations of Inflation and Optimal Unemployment over Time," *Economica*, Vol. 34, No. 135 (August 1967), pp. 254-281.

*monetary policy can lead to increasing inflation, even if unemployment is rising.*

Are our observations from 1997 still valid?

Despite massive monetary stimulus, both real economic growth and inflation are as low as they have been over any extended period in our lifetimes. Thus, our first tenet of good monetary economics from 1997, that a policy of lower interest rates leads to higher inflation—and, in time, higher interest rates—seems to have gone into reverse. If we can no longer rely on this most basic of tools in the monetarist toolkit, perhaps it is time for monetary economics to get a software update. How could Friedman, who was so right in 1967, appear to be so wrong less than half a century later?

We believe that while Friedman's principles are still correct, the environment in which they operate changed dramatically with the global financial crisis of 2008. This makes it appear that his ideas no longer hold, when in fact they do, but in a different way. In this article and in one next issue, we discuss those principles and how they apply precrisis and postcrisis.<sup>7</sup> We look at Friedman's ideas on both sides of Alice's looking glass.

This article asks the easier of two questions: Why has monetary expansion failed to promote growth in the real economy? The short answer, which we develop in detail here, is that monetarism is a theory of the price level; it was never intended as a theory of real economic growth. Friedman emphasized this in his 1967 presidential address. So, we should not be surprised that it does not explain real economic growth or give much guidance to policymakers on how to promote such growth.

The much tougher question is: Why has monetary expansion not caused inflation? This is more surprising, exactly because monetarism is a theory

of the price level, and the price level (inflation) has not responded in the way that traditional monetarism predicts. Leading thinkers are working on a solution. We will report on this progress as it occurs; this will be the focus of our second article, "The Dog that Did Not Bark."

Here, then, are our new tenets of good monetary economics:

- 1 Monetarism is a theory of the price level, not of real economic output.
- 2 The money supply matters mainly when it is broken, as John Stuart Mill said in 1848.<sup>8</sup>
- 3 Unless the money supply is "broken," the use of monetary techniques to promote real economic growth, what we call Monetary Keynesianism, is likely to fail.

### **The Development of Monetary Theory**

To explain monetarism in simple terms, we trace its historical development. Then, we describe the impact of monetary policy on the economy.

#### *The Quantity Theory of Money and the Equation of Exchange*

Friedman, who lived from 1912 to 2006, was known as the founder of the monetarist school of macroeconomics, so called because of his emphasis on the impact of money on the economy. He famously declared that "inflation is always and everywhere a monetary phenomenon." This statement is based on his version of Quantity Theory of Money, or QTM, which was first set forth by David Ricardo in 1810.<sup>9</sup>

The starting point of the QTM is the equation of exchange:

$$MV = PQ$$

where  $M$  is the money stock,  $V$  is the velocity of money,  $P$  is the price index, and  $Q$  is real national income (gross domestic product).

Note that this equation is just an identity and not a theory. It just tells us that the money in circulation must change hands enough times in a year to account for the purchase (or sale) of all the goods and services purchased (or sold) in that year. That is, the velocity of money—the number of times it changes hands—is the ratio of nominal national income ( $PQ$ ) to the amount of money in circulation, or "money stock."

Exactly what is meant by money in this context is a topic of ongoing contention, but a working definition could be "whatever triggers an exchange of real economic goods." In other words, money is whatever the market says it is.

#### *Friedman's Theory of the Price Level*

Many popular discussions of monetary economics go no farther than to state the equation of exchange, but let's push on a bit. To develop a theory of the price level, Friedman recasts the equation of exchange as a market-clearing condition (meaning that markets clear, with goods and services flowing one direction and money the other, only when the equation is "satisfied" or numerically correct).<sup>10</sup> This means that he needs theories for both the supply of and the demand for money.

As other economists did before him, Friedman developed a theory of the demand for money: The amount of money demanded is set by the real value, or purchasing power, of liquid balances that people wish to hold. Real balances are denoted by  $M/P$  (money balances adjusted for the price level). The theory proposes that the demand for real balances increases as real income ( $Q$ ) increases, and also increases as the nominal interest rate ( $i$ ) decreases, that is, as interest-paying bonds or bills become less attractive compared to money; these relationships are, together, expressed as  $M/P = L(i, Q)$ , where  $L(i, Q)$  is called the liquidity preference function

<sup>7</sup> We expect that the second article will appear in 2017 in *Morningstar* magazine.

<sup>8</sup> John Stuart Mill, in *Principles of Political Economy With Some of Their Applications to Social Philosophy* (Longmans, Green & Co. London, 7th edition, 1909), Book III, Chapter 7, section 8, wrote, "There cannot, in short, be intrinsically a more insignificant thing, in the economy of society, than money; except in the character of a contrivance for sparing time and labour. It is a machine for doing quickly and commodiously, what would be done, though less quickly and commodiously, without it: and like many other kinds of machinery, it only exerts a distinct and independent influence of its own when it gets out of order." See <http://www.econlib.org/library/Mill/mlP36.html>.

<sup>9</sup> Ricardo, David. "The High Price of Bullion, a Proof of the Depreciation of Bank Notes." John Murray, London, 1810.

<sup>10</sup> Friedman, Milton. "The Quantity Theory of Money: A Restatement" in Milton Friedman, editor, *Studies in the Quantity Theory of Money*, University of Chicago Press, Chicago, 1956.



because it determines how much “liquidity” (in this case real balances) people want to hold.<sup>11</sup> Because  $MV = PQ$ , by simple algebra the demand for money is thus related to velocity as follows:

$$V = \frac{Q}{L(i, Q)}$$

This means that—if the demand for real balances is proportional to real income, and logic and evidence suggest that it is—you cannot raise  $Q$  (income or real economic output) by lowering interest rates. All you will do is decrease velocity,  $V$ .

#### A Natural Experiment

This proposition was recently tested in a “natural experiment.” When interest rates fell dramatically after the global financial crisis of 2008, velocity fell, too, as we can see in **EXHIBIT 1**.

#### What Determines Inflation?

The market-clearing condition—what must be true if markets are to clear—is:

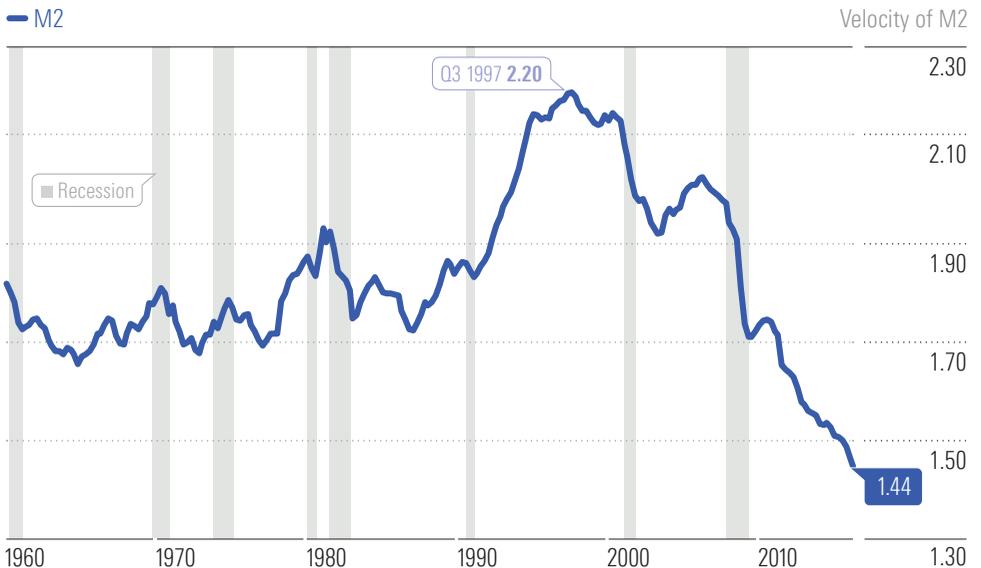
$$M^S = P \cdot L(i, Q)$$

where  $M^S$  denotes money supply. In other words, there must be enough money in circulation to satisfy the demand for real balances as described earlier. When this condition holds, at any given level of demand for real balances the price level moves in proportion to the money supply. So, if the money supply were to grow at some rate, that rate would become the rate of inflation.

If there is economic growth, the demand for real balances would grow and, according to monetarism, it would be incumbent on the central bank to grow the money supply at the same rate as the economy to achieve price stability. If the money supply grows at a slower rate, the quantity of money becomes suboptimal and is a restraining factor on economic growth; then, and only then, should central banks increase the rate of money supply growth to enable the real economy to grow.

EXHIBIT 1

### The Velocity of U.S. Money (M2), Q1 1960–Q2 2016



Source: FRED, Federal Reserve Bank of St. Louis.

If, however, the money supply is not suboptimal—not a restraining factor—then additional money supply growth will just cause inflation; it will not increase real output. This was Friedman’s insight in his 1967 presidential address, and it enabled him to forecast accelerating inflation in the 1970s, a forecast that came true.

#### Monetary Keynesianism and the Economy

Now, what does all this theory mean for the ability of central banks or governments to manage the real economy?

**EXHIBIT 2** shows the growth of two measures of the U.S. money supply (M2 and the monetary base), as well as of the real output of the U.S. economy (real GDP) and of consumer prices, over 2005–16. (The monetary base is defined as the sum of currency in circulation and reserve balances held by banks in their accounts at the Fed; M2, a broader measure, also includes checking and savings deposits, certain other deposits, and retail money market funds.) Because the real GDP line is hard to see at the

bottom of the graph, we reproduce it on a larger scale in **EXHIBIT 3**, which also shows annualized quarterly rates of real GDP growth.

The message of **EXHIBIT 2** is that, despite massive and unprecedented growth in the monetary base and much less dramatic but still substantial growth in M2, the economy hardly grew and neither did prices. In fact, we need to study **EXHIBIT 3** in the context of longer-term data to see just how terrible the performance of the real economy of this period was. After severe recessions, growth usually rebounds sharply; for example, after the 1981–82 recession, which saw a peak-to-trough decline in real GDP of 2.8%, the real GDP growth rate in the recovery year of 1984 was 7.3%.

This time, however, after a much worse recession, with a peak-to-trough decline of 4.2% in real GDP, the best recovery year was 2015, with a 2.6% growth rate, and the average growth rate during the recovery period of 2009–15 was a miserable 2.1%. What went wrong?

<sup>11</sup> Friedman discusses other variables in the liquidity preference function including wealth, the division between wealth in human and nonhuman forms, and the expected return on money and other assets.

We believe that Monetary Keynesianism is somewhat to blame.<sup>12</sup> Monetary Keynesianism is the use of monetary techniques, such as low interest rates and quantitative easing, to achieve the Keynesian goals of full employment of labor and capital. Central bankers try to stimulate economic growth by attempting to increase  $M$ , but all they accomplish is to raise  $P$  and/or lower  $V$ . If they raise  $P$ , they hope they will increase  $Q$  through the agency of a Phillips curve (which says that more inflation means less unemployment and consequently more output). However, as we noted earlier, Edmund Phelps, back in the day of Friedman's presidential address, showed that the Phillips curve is highly unstable and essentially unusable for policy.

In the postcrisis period, attempts to increase  $M$  have raised neither  $P$  nor  $Q$ ; they have lowered  $V$ . Nevertheless, Monetary Keynesianism has become gospel among central bankers almost everywhere. But it is not effective. Also, it is not monetarism. It is not even Keynesianism. It is bad monetary economics.

### Monetary Policy During and After the Crisis

While monetary easing is not effective at boosting real output in normal times, it does seem to be effective in emergencies. At the worst point of the global financial crisis, in September and October 2008, the money supply was contracting rapidly and the soundness of the global financial system, including the payments system that allows checks and other routine financial transactions to clear, was in question. A massive injection of liquidity by central banks was needed and achieved. This emergency monetary policy measure was successful because the money supply had shrunk to a level that was suboptimal and was likely to shrink further in the absence of intervention.

After the worst of the crisis was over, however, central banks continued to pursue radically accommodative monetary policies—one quantitative easing after another—in the pursuit of economic growth. Increasing a nominal

EXHIBIT 2

## Growth of the Monetary Base, the Money Supply, the Real Economy, and Consumer Prices Since 2005

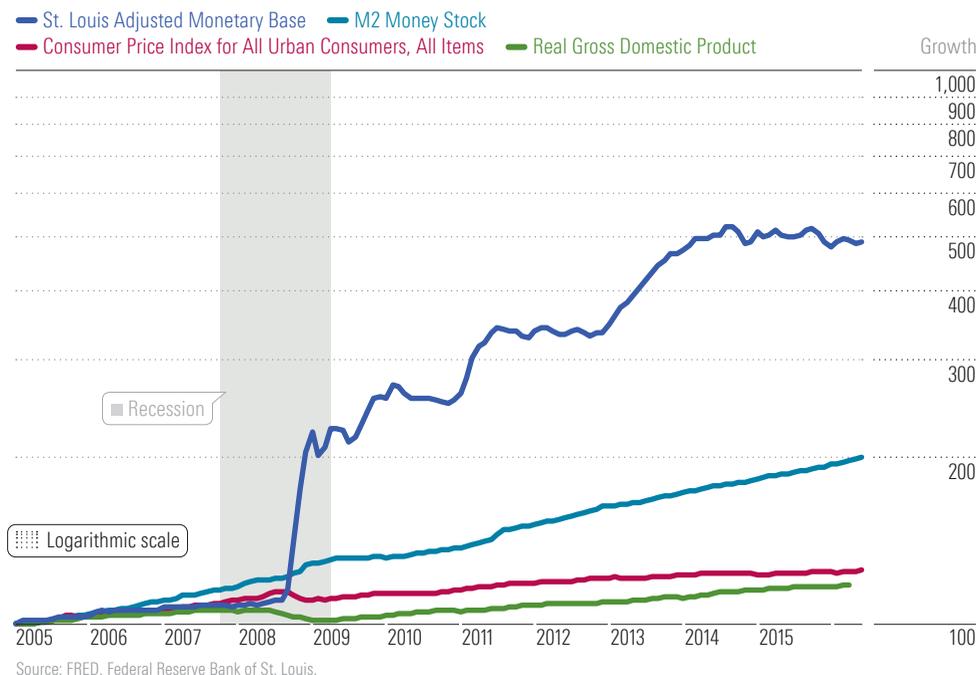
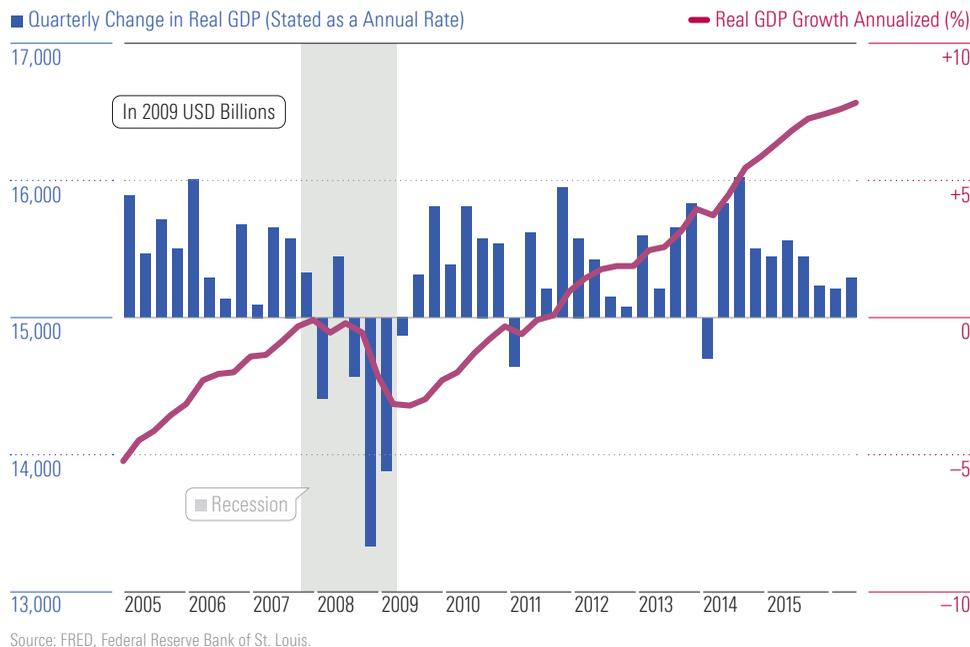


EXHIBIT 3

## U.S. Real GDP and Real GDP Growth, Q1 1960—Q2 2016



<sup>12</sup> To the best of our knowledge, "Monetary Keynesianism" in this sense was first used by Laurence B. Siegel and Stephen C. Sexauer, "Five Mysteries Surrounding Low and Negative Interest Rates," forthcoming, *Journal of Portfolio Management*, Winter 2017. Monetary Keynesianism has a slightly different meaning in academic economics.



value (the monetary base) cannot have a long-run effect on a real value (real GDP). No wonder monetary stimulus, in this case in the form of *QE*, has produced the lame macroeconomic results shown in **EXHIBIT 3**. You cannot fix a nonmonetary problem with a monetary solution.

There you have it. Monetarism offers a very limited toolkit for policy. It basically says that the quantity of money should never grow too slowly, or too quickly, but just right—and that, then, you will get the organic growth that the economy is capable of producing.

Monetary Keynesianism is the use of penicillin as if it were a performance-enhancing drug. It is not, and policymakers will always be disappointed if they act as though it is. Real monetarism is the use of penicillin to cure diseases that respond to penicillin, and not to overuse it lest we breed superbugs that do not. (Continuing our analogy, inflation and recession are among the superbugs that can be produced or exacerbated through unwise use of monetary techniques.)

Policymakers and citizens may be disappointed to hear that monetary theory does not offer a performance-enhancing drug. But economic growth is hard. It comes from innovation. To produce more in a given period than you did last period, you need either more people, more capital, or a way to combine people and capital in a way that is more efficient or creative than the way you did it last period. If people and capital are underemployed, you need to find ways to employ them, but increasing the monetary base will not lead to their employment, except possibly on a temporary basis.

When used properly, monetary policy has had its successes: fighting inflation after Paul Volcker assumed the chairmanship of the Fed in 1979; avoiding a recession after the 1987

stock market crash; and, in 2008, avoiding a financial crisis worse than the one that actually happened. However, ill-conceived monetary policy, based on bad monetary economics, has repeatedly failed to produce the desired results, as we have seen in the long period of very slow growth since the end of the Great Recession.

When you have tried a possible solution to a problem, and it has not worked, you can redouble your efforts—if you are convinced that the solution will eventually be effective—or you can try something else. We are at the point—some would argue long past the point—where it is time to try something else.

#### Implications for Investors

How should investors react if they accept what we have said? As long as Monetary Keynesianism is being practiced, investors should be on their guard—and it is being practiced almost everywhere. Real growth has been poor; we believe that, all other things being equal, Monetary Keynesianism has caused growth to be poorer than it would otherwise be because it distorts incentives, causes misallocation of resources, and rearranges the trade-offs between present and future consumption. In other words, growth is poor partly because of Monetary Keynesianism, not in spite of it.

Two observations point to this conclusion. First, Monetary Keynesianism has given us rock-bottom interest rates, just above zero in the United States and negative in many countries, depriving the economy of the income that savers have traditionally earned. This situation, which numerous authors have termed financial repression, cannot be good for growth.<sup>13</sup>

Second, low interest rates cannot stimulate the economy if businesses and consumers are already borrowing as much as they want (in

technical terms, if they are able to fund all positive-net-present-value projects). Borrowers seem to be satiated.

There is nothing in global fundamentals suggesting that growth rates should be this low. Innovation has not stopped and in some fields is accelerating.<sup>14</sup> Emerging markets now produce more in aggregate than the developed world, and this trend will extend further. Even aging populations and societies with slow or negative population growth can continue to improve per capita GDP even while total GDP remains stable or falls. Yet, through Monetary Keynesianism, we in the developed world are engineering a totally unnecessary quasi-recession that goes on and on, seemingly endlessly.

Someday we will look back on this period, as we now do on the 1930s, and wonder how we could have been so foolish as to pursue a policy of Monetary Keynesianism and financial repression in the hope of stimulating growth when a better alternative—a regime of normal interest rates, stable monetary growth, free trade, and low and simple taxes on businesses—was right in front of us. Those remedies, not more monetary madness, are probably what Milton Friedman would prescribe if he were alive today. ■■

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<sup>13</sup> For a discussion of financial repression and its role in resolving past sovereign debt stresses, see Carmen M. Reinhart, and Kenneth S. Rogoff, “Financial and Sovereign Debt Crises: Some Lessons Learned and Those Forgotten,” IMF working paper, December 2013.

<sup>14</sup> Although Robert Gordon, a distinguished Northwestern University professor, has repeatedly argued the opposite: that the unique nature of the second industrial revolution (the “special century” that started around 1870 and the full effects of which were not incorporated into the economy until around 1970) makes it almost impossible for future economic growth to equal that of the past. See, for example, Gordon’s *The Rise and Fall of American Growth: The U. S. Standard of Living Since the Civil War*, Princeton University Press, 2016. A response by one of us to Gordon’s argument, pointing out its flaws and forecasting future growth roughly on par with that of the past, is in Laurence B. Siegel, “Robert Gordon, the Special Century, and the Prospects for Economic Growth,” *Advisor Perspectives*, Dec. 22, 2015.

