

Why is US inflation so low?

By Martin Feldstein

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Why has quantitative easing coexisted with price stability in the United States? Or, as I often hear, “Why has the Federal Reserve’s printing of so much money not caused higher inflation?”

Inflation has certainly been very low. During the past five years, the consumer price index has increased at an annual rate of just 1.5%. The Fed’s preferred measure of inflation – the price index for personal consumption expenditures, excluding food and energy – also rose at a rate of just 1.5%.

By contrast, the Fed’s purchases of long-term bonds during this period has been unprecedentedly large. The Fed bought more than \$2 trillion of Treasury bonds and mortgage-backed securities, nearly ten times the annual rate of bond purchases during the previous decade. In the last year alone, the stock of bonds on the Fed’s balance sheet has risen more than 20%.

The historical record shows that rapid monetary growth does fuel high inflation. That was very clear during Germany’s hyperinflation in the 1920’s and Latin America’s in the 1980’s. But even more moderate shifts in America’s monetary growth rate have translated into corresponding shifts in the rate of inflation. In the 1970’s, US money supply grew at an average annual rate of 9.6%, the highest rate in the previous half-century; inflation averaged 7.4%, also a half-century high. In the 1990’s, annual monetary growth averaged only 3.9%, and the average inflation rate was just 2.9%.

That is why the absence of any inflationary response to the Fed’s massive bond purchases in the past five years seems so puzzling. But the puzzle disappears when we recognize that quantitative easing is not the same thing as

“printing money” or, more accurately, increasing the stock of money.

The stock of money that relates most closely to inflation consists primarily of the deposits that businesses and households have at commercial banks. Traditionally, greater amounts of Fed bond buying have led to faster growth of this money stock. But a fundamental change in the Fed’s rules in 2008 broke the link between its bond buying and the subsequent size of the money stock. As a result, the Fed has bought a massive amount of bonds without causing the stock of money – and thus the rate of inflation – to rise.

The link between bond purchases and the money stock depends on the role of commercial banks’ “excess reserves.” When the Fed buys Treasury bonds or other assets like mortgage-backed securities, it creates “reserves” for the commercial banks, which the banks deposit at the Fed itself.

Commercial banks are required to hold reserves equal to a share of their checkable deposits. Since reserves in excess of the required amount did not earn any interest from the Fed before 2008, commercial banks had an incentive to lend to households and businesses until the resulting growth of deposits used up all of those excess reserves. Those increased deposits at commercial banks were, by definition, an increase in the relevant stock of money.

An increase in bank loans allows households and businesses to increase their spending. That extra spending means a higher level of nominal GDP (output at market prices). Some of the increase in nominal GDP takes the form of higher real (inflation-adjusted) GDP, while the rest shows up as inflation. That is how Fed bond purchases have historically increased the stock of money – and the rate of inflation.

The link between Fed bond purchases and the subsequent growth of the money stock changed after 2008, because the Fed began to pay interest on excess reserves. The interest rate on these totally safe and liquid deposits induced the banks to maintain excess reserves at the Fed instead of lending and creating deposits to absorb the increased reserves, as they would have done before 2008.

As a result, the volume of excess reserves held at the Fed increased dramatically from less than \$2 billion in 2008 to \$1.8 trillion now. But the new Fed policy of paying interest on excess reserves meant that this increased availability of excess reserves did not lead after 2008 to much faster deposit growth and a much larger stock of money.

The size of the broad money stock (known as M2) grew at an average rate of just 6.2% a year from the end of 2008 to the end of 2012. While nominal GDP generally rises over long periods of time at the same rate as the money stock, with interest rates very low and declining, households and institutions were willing to hold more money relative to total nominal GDP after 2008. So, while M2 grew by more than 6%, nominal GDP grew by just 3.5% and the GDP price index rose by only 1.7%.

So it is not surprising that inflation has remained so moderate – indeed, lower than in any decade since the end of World War II. And it is also not surprising that quantitative

easing has done so little to increase nominal spending and real economic activity.

The absence of significant inflation in the past few years does not mean that it won't rise in the future. When businesses and households eventually increase their demand for loans, commercial banks that have adequate capital can meet that demand with new lending without running into the limits that might otherwise result from inadequate reserves. The resulting growth of spending by businesses and households might be welcome at first, but it could soon become a source of unwanted inflation.

The Fed could, in principle, limit inflationary lending by raising the interest rate on excess reserves or by using open-market operations to increase the short-term federal funds interest rate. But the Fed may hesitate to act, or may act with insufficient force, owing to its dual mandate to focus on employment as well as price stability.

That outcome is more likely if high rates of long-term unemployment and underemployment persist even as the inflation rate rises. And that is why investors are right to worry that inflation could return, even if the Fed's massive bond purchases in recent years have not brought it about.

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