

Phony Deflation Worries

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These days deflation risk is a concern that many central bankers, pundits, and journalists voice regularly.² Concern may be the wrong word; it might be better called an obsession. Central bankers – we are told – must battle deflation risk today at all costs because deflation slows growth, and may cause recessions and financial system collapses.

I agree with the view that the Fed should be targeting an announced long-run rate of inflation (my preference would be 1%, but I am almost as happy with the Fed's chosen 2% target). And so, I agree that monetary policy should seek to avoid sustained deflation or very low inflation as part of its inflation targeting commitment. But that is not the same as believing that a short-run deviation from 2% inflation to 3%, 1%, 0%, or -1% – *especially if it were a consequence of actions that better ensured adherence to the long-run 2% target* – would pose a severe economic risk. In particular, given the significant inflation risk associated with exiting from the Fed's QE3 policy, beginning to scale back the Fed's portfolio of long-maturity mortgage-backed securities and government bonds would be appropriate. That would limit medium-term inflation risk, despite the fact that it might result in a near-term rate of inflation that is slightly less than 2%.

As I will show in this essay, the economic risks associated with disinflation or deflation are being exaggerated by central bankers and others. Why? One possibility is confusion of language; deflation is correctly viewed as one of many *indicators* of economic weakness, but that is not the same as claiming that it is a cause or magnifier of economic decline. Another obvious possible explanation of exaggerated talk about deflation risk is that such talk helps to justify unwise and politicized central bank policies. Such exaggerations of deflation risk may be more worrying than deflation risk itself, especially in light of the all-too-visible politicization of monetary policy at the Fed, the ECB, and the Bank of Japan.³

² For example, Jon Hilsenrath and Brian Blackstone, "Risk of Deflation Feeds Global Fears," *Wall Street Journal*, October 16, 2014, A1-2, write that "...fresh signs of slow global economic growth, falling commodity prices, sagging stock markets and declining bond yields suggest the deflation risk hasn't gone away..." See also Justin Lahart, "Low Inflation Is Exacerbating the Problems from Slowing Global Growth," <http://online.wsj.com/articles/yield-sign-suddenly-in-feds-way-heard-on-the-street-143322663>, October 15, 2014.

³ Chairman Janet Yellen's first press conference featured references to her concerns about specific unemployed individuals, which was unprecedented. One of her recent speeches voiced concerns about trends in American inequality, which has never been a focal point of monetary policy discussions – for good reason, because monetary policy is not capable of addressing inequality. These speeches are some of the many indicators of what has become the most

When is deflation a worry? Theoretical and historical perspectives

What do economics and history tell us about the economic consequences of deflation, and what are the implications of those lessons for monetary policy today?

In theory, there is no obvious directional connection between disinflation or deflation today and changes in real economic activity tomorrow.⁴ Furthermore, because both price changes and growth changes are outcomes that reflect other exogenous influences (including monetary policy, technological change, regulatory policies, and external shocks related to other countries' circumstances), the meaning of "deflation shock" is somewhat incoherent. The right way to frame the question of deflation risk is to identify the circumstances under which deflation outcomes propagate adverse economic shocks, leading to further declines in economic activity. Once these issues are clarified, we can then consider whether concerns about deflation risk are relevant today.

One possible interpretation of "deflation fears" is that observers may see deflation as an early warning sign of deterioration in aggregate demand. If that were true, then deflation could be a signal of problems that will subsequently matter for the real economy. Virtually all macroeconomists today, however, regard price adjustments to shifts in aggregate demand as usually lagging output adjustments. Output changes generally should contain information content for price and wage changes (as advocates

politicized Federal Reserve System since the early 1970s. Another indicator of politicization has been the Fed's falling estimates of the natural rate of unemployment as the actual unemployment has fallen. Changing opinions about long-run unemployment – like the constantly changing list of economic indicators, where the list of chosen indicators varies to highlight whichever indicator appears to be lackluster at the moment – give the impression that targets are modified as needed to justify continuing politically convenient loose policy.

⁴ Empirically, the relationship between inflation and economic activity is generally found to be negative (see Judson and Orphanides 1999), which implies that reducing inflation is generally positive for growth, although it is not clear whether that empirical relationship holds at very low rates of inflation. There are numerous possible connections, in theory, between changes in the rate of inflation and changes in economic activity. Some models posit positive (negative) effects of higher (lower) inflation on economic activity as the result of increased (decreased) incentives to invest when inflation is higher (lower) (the Mundell-Tobin effect), while other models imply negative (positive) effect of higher (lower) inflation on economic activity (either due to greater relative price uncertainty, which accompanies higher inflation, modeled by Lucas, or due to a short-term positive wealth effect from a price decline, as modeled by Pigou, or due to adverse consequences for financial intermediation from higher inflation, as modeled by McKinnon).

of the Philipps Curve believe), but generally speaking, price changes adjust to aggregate-demand shocks too slowly to be useful as signals of shocks that have not already affected output.

Can deflation be a magnifier of adverse shocks, and thus produce declines in economic activity? History and theory tell us that three necessary conditions must be satisfied in order for a potential deflation (or, equivalently, reductions in inflation) to be associated with adverse changes in economic activity:

First, deflations *that come as a surprise* are the main source of concern because of their effects on the financial condition of borrowers. Surprise deflations are associated with transfers of wealth from debtors to creditors, and can result in adverse changes in the balance sheets of businesses and consumers.

Second, in order for such deflation shocks to be damaging to businesses and consumers they must be *sufficiently large and persistent*. The relevant time horizon for the persistence of the deflation shock is dictated by the payment schedule of the borrower. Even if the deflation shock is large, if it lasts only a quarter or two and is reversed it is likely to have no effect in producing delinquencies or weakening most borrowers' net worth. Some observers today are especially worried that a deflation shock could become persistent as the result of hard-to-reverse pessimistic expectations, which might become stubbornly negative as the result of a sharp economic contraction and deflation.

Third, the deflation shock in question *must not be the result of a positive aggregate-supply shock, but rather must reflect a negative aggregate-demand shock*. If the deflation shock were the result of changes in the economy that also produce simultaneous increases in consumers' or businesses' incomes (i.e., improvements in technology or a country's terms of trade that produce a positive aggregate-supply shock), then it would *not* be associated with a reduction in debtors' net worth, and therefore, will not be an source of financial distress or reduced spending by debtors. Conversely, although an adverse aggregate-supply shock that raises inflation and depresses real income may have positive consequences for borrowers, those generally will be more than offset by the direct contractionary effect of the supply shock (as, for example, during the 1970s).

The Great Depression is the most obvious example of a large, destructive deflation shock that was associated with, *and magnified*, a large series of aggregate-demand shocks (mainly monetary policy shocks in the United States and elsewhere). These aggregate-demand shocks produced both major declines in the spending power of businesses and consumers and major declines in the price level. The enormous deflationary shock produced by monetary policy contraction, from 1929 to 1933, was

the subject of analysis by some of the most prominent economists of the 1930s, including Irving Fisher and J.M. Keynes.

The worldwide collapse of the money supply during the early 1930s (the result of contractionary monetary policies by the U.S. and France) sent prices tumbling. This was not anticipated, and therefore, people who had anticipated being able to repay their mortgage or business debts from their earnings suddenly found that, as a consequence of price decline, their revenues were contracting sharply, but their debt service obligations did not change. This “debt deflation” problem meant that many could not repay their debts, which in turn also meant that many banks were at risk of insolvency. A spike in business failures and bank failures soon resulted, which was further associated with a decrease in the supply of money, and thus, further deflation, given the failure of the monetary authorities to counteract the financial collapse with expansionary monetary policy.⁵

Japan in the 1990s was an example of a less dramatic, but sustained deflation. It is less clear, however, whether this constituted a deflation shock, or whether it was a contributor to the long-term growth slowdown in Japan, which reflected a variety of supply-side influences (the collapse of the real estate market and the banking system, and delays in fundamental reforms in the areas of corporate governance, labor policies, and financial regulation).

More broadly, there is little evidence of important adverse effects of disinflation or deflation on economic activity historically. Neither during episodes of anticipated and protracted deflation (like the deflation that occurred in the U.S. in the 1870s), nor during episodes of small, short-lived deflation (as under the classical gold standard), do we see evidence that disinflation or deflation magnified economic decline.

The deflation experienced in the U.S. during the 1870s was anticipated, and reflected the fact that the gold standard was suspended. Under the fiat currency standard that operated, the rules governing the supply of national bank notes resulted in a constant and predictable rate of deflation. Because the deflation was anticipated it was reflected in low interest rates, and the trend output growth was positive and apparently unrelated to the steady deflation (Calomiris 1988).

Bordo and Redish (2003) and Bordo, Lane and Redish (2004) analyze the experience of the U.S., Canada, the U.K. and Germany under the classical gold standard. They find

⁵ For a discussion of Depression era deflation shocks, and financial sector propagation of those shocks, see Bernanke (1983), Calomiris (1993, 2011, 2013a), and Calomiris and Mason (2003).

that deflation resulted either from positive output supply shocks or negative money supply shocks. In the former case, deflation was associated with positive output growth. In the latter case, it was associated with small and short-lived contractions in output. These studies make clear that deflation is an outcome, not an independent source of disturbance, and that the direction of its covariance with output depends on which shock is driving deflation.

Is there a deflation risk today, and should the Fed try to raise inflation to hit its 2% target?

What about the risk of deflation now? The U.S. economy has been recovering, if unevenly and unimpressively, for several years. Most importantly, nominal GDP growth since 2010 has been remarkably stable and *consistently has exceeded potential real GDP growth* (with nominal GDP growth rates over that period varying between 3.7% and 4.3%). *That makes deflation a very remote possibility.* Fed and market forecasts of nominal GDP growth for the next three years are projected to increase, making the prospect of deflation even more remote.

In fact, economic forecasts uniformly predict an increase in near-term real growth with a current consensus forecast for 2015 and 2016 at about 2.8%. The rate of inflation, by various measures, remains at approximately 1.5-1.7%. The Core PCE deflator (the Fed's current preferred indicator of inflation) is projected to remain between 1.5% and 2.0% in every year from 2015 through 2017. Is there cause to worry that, despite the absence of deflation risk, market expectations of long-run inflation could shift downward, making it harder for the Fed to establish a credible 2% long-run inflation target? If so, should the Fed respond with a new round of QE4 to further spur monetary growth in an effort to raise inflation?

First, by all indications, inflation expectations remain well grounded. Judging either from surveys or from implied expectations embedded in a comparison of the 10-year Treasury and 10-year TIPS, the market seems to believe that inflation will continue at just under 2% for the indefinite future. There is no perception in the market of an imminent possibility of a large, persistent disinflationary or deflationary shock. The recent reduction in U.S. inflation and the slight slippage in the 10-year TIPS-Treasury spread to 1.9% are coinciding with a sharp decline in energy prices, which is precisely the sort of positive aggregate supply shock that Bordo and Redish's (2003) historical analysis emphasized as a positive factor for real economic growth. The story in Europe and Japan is quite different, and much more worrying, as the slowdown in inflation there is occurring alongside low and declining growth in nominal GDP (see Levy 2014).

Second, it is doubtful that the Fed would achieve much through expanded open market purchases of Treasury bonds. In the current environment, where bank lending is constrained by regulatory policies and policy uncertainty, and by weak loan demand, when the Fed buys bonds it mainly expands banks' holdings of excess reserves and reduces banks' (and other market participants') holdings of bonds; bank lending and deposit creation have been unresponsive to QE3. Thus, QE4 would have little effect either on economic activity or on the supply of liquid assets in the market, and thus, little if any immediate effect on economic activity or inflation. Some economists even worry that by reducing the supply of repo collateral (which would support increased liquidity through that channel), such interventions may actually be contractionary for aggregate liquidity. In any case, the effect on economic activity and inflation under current circumstances would be very small.⁶

Third, in contrast to the small potential gains from expanding its current balance sheet size, the inflationary risks associated with further growth in the Fed's balance sheet are not small. The Fed's balance sheet has more than quadrupled since the onset of the financial crisis. The Fed recognizes that once long-term interest rates rise (an inevitable, market-determined outcome), it will be difficult to shrink its balance sheet to contain inflation risks. Indeed, the Fed has already given up on this option, and recently announced that it plans to retain its \$1.7 trillion in mortgage-backed securities to maturity (many years in the future). Furthermore, the Fed also faces severe political risks from selling its long-term Treasury bonds at a capital loss, once long-term interest rates begin to rise (Calomiris and Tallman 2010, Calomiris 2012b). Thus, the Fed is also unlikely to sell much of its long-term Treasury bond holdings as part of its exit strategy.

The Fed's exit strategy to contain inflation risk will rely instead on a new policy tool known as reverse repos, and on interest payments on reserves. Large interest payments to megabanks on their excess reserves – to entice them to forego lending – may also raise political problems for the Fed, particularly if these payments are associated with the Fed becoming a net contributor to the government deficit, which is likely. The ability and political willingness of the Fed to pursue an aggressive exit strategy, therefore, remain highly uncertain. It would not be wise to add to this existing challenge by expanding the Fed's balance sheet further to achieve meager increases in

⁶ If the Fed wanted to have an immediate effect on spending and inflation it could do so through an even more unorthodox approach to monetary expansion, but such actions lie outside its authority. For example, the Fed could announce that at a certain time on a particular day it would contribute x% in additional funds to all deposits held in U.S. banks. This, of course, constitutes fiscal policy, and lies outside the enumerated powers of the Fed.

output growth or inflation, particularly in light of the evidence that the U.S. expansion is continuing.⁷

Is dollar appreciation a sign of deflationary troubles to come?

Recently, the U.S. dollar has been appreciating against other currencies, and this has magnified concerns about deflation. Is the appreciation of the dollar a signal of coming deflation? No, rather it reflects the strong position of the U.S. economy relative to Europe, Japan, China and other countries – *real dollar appreciation is forecasting higher relative U.S. productivity growth in tradable goods* (which could be called the Ricardo-Harrod-Balassa-Samuelson-Mundell-Dornbusch effect, in recognition of all the prominent economists who have espoused it over the ages).

It is true that officials in many emerging economies are sounding alarm bells over the rising dollar. These economies enjoyed massive capital inflows and temporary currency appreciations in 2009-2012 as the result of low U.S. interest rates, which have fueled investment bubbles in many asset classes. Now, emerging market policy makers worry that a reversal of those flows and a depreciation of their exchange rates might be crippling. The concerns are warranted, but it would be unwise for the Fed to try to prevent the inevitable adjustment back to more normal international capital market conditions. There is little to be gained from such a delay, and much potential harm from longer-term disruptions in global capital markets if such concerns were to impede the necessary Fed response to inflation risk.

The Fed should stick to its knitting, pay little attention to the dollar, and focus instead on its price stability mandate. That means pursuing policies that are likely to result in long-term price stability, not increasing long-run inflation risk in an ill-conceived attempt to pump up the price level now at all costs.

⁷ An effective means to contain inflation risk associated with the exit problem would be to announce a phased in increase in the Fed's reserve requirement, and to announce that reserve balances held at the Fed would receive the market rate (fed funds rate) going forward. This would permit continuing expansion of bank lending but prevent the possibility of a dramatic inflationary leap in deposits and bank lending. By paying the market rate, the increase would avoid adding a new tax on banks. Furthermore, this increase would have important value in bolstering prudential regulation of banks by ensuring that banks hold an adequate amount of riskless assets on a continuing basis (Calomiris 2011, 2012b, Calomiris, Heider and Hoerova 2014).

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