

Observations

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<< But, in theory, the higher returns should boost investor demand for stocks with relatively large local ownership—especially if the stocks are of small companies—driving up their price and eliminating the return premium. History suggests at least one possible solution to this conundrum: Most investors may not yet know how to use this information to their benefit.

Some analysts believe such was the case with the “January effect,” first discussed in the late 1970s. Researchers found that investors would sell losing stocks at the end of the year in order to offset capital gains taxes and then buy them back in January, driving up that month’s returns. Knowledgeable investors could buy in December and sell in January, making an easy profit. According to more recent research, however, the January effect has diminished somewhat as individual investors have learned the game and better information technology has made it easier and faster for them to manage their own trades.

Will the local premium found by Ivkovich and Weisbenner follow a similar path? Currently, personal investors typically invest in only a couple of local publicly held firms, and few rigorously compute their gains and losses, so the benefits from local stock ownership may not be that obvious. Additionally, the information necessary to identify the best local stocks is harder to get. It is difficult for investors to know who the smart locals are, and other effects such as state taxes and trading regulations may complicate the process.

Still, as Internet communications and online databases become more sophisticated, it may become easier for investors to perform the calculations. Also, firms may start to advertise the percentage of local residents who own shares of their company if they think it will encourage other investors to buy their stock. In the long run, the opportunity for financial gain may vanish as investors catch on; in the short run, investors may have much to gain by thinking local.

—Brad Hershbein

issues in economics

What is the cost of deflation?

THE PROSPECT OF DEFLATION—a falling overall price level—received a fair amount of attention during late 2002 and 2003. Prompted by a steady decline in the core rate of inflation to levels not reached since the early 1960s, many people began to wonder about the economic consequences when the inflation rate drops below zero. Although the ongoing economic recovery suggests that there is a low probability of deflation in the near future, questions about the impact of falling prices are worth considering.

At first glance, falling prices might seem like a good thing. Who wouldn’t want the prices of the things he or she buys to be cheaper? But in a period of deflation, overall prices drop—including the price of labor (wages), houses and other assets, and most goods and services. In the simplest example of deflation, all prices and wages fall at the same rate. In this instance, the purchasing power of incomes and the relationship be-

With core inflation running at its lowest levels since the early 1960s, many have wondered about the economic impact when inflation drops below zero.

By Jeffrey Fuhrer and Geoffrey M.B. Tootell
Illustration by Joe Zeff



tween the prices of different goods (hamburger versus steak, for example) would not change.

One classic argument for deflation is that anyone holding cash benefits, since a dollar bill buys more as prices fall. However, it is worth noting that no developed country in the twentieth century has ever intentionally moved to a negative rate of inflation and decided to stay there. (Japan's recent experience with declining prices is probably best described as unintentionally moving to deflation and being stuck there, rather than deciding to stay). Apparently, countries behave as if the costs of deflation outweigh any of its benefits.

It also means that we have no post-WWII examples from which to draw conclusions about how damaging the costs would actually be. Nonetheless, we can make a rough assessment by first considering the short-run costs of getting to deflation and then the long-run costs that would be permanently incurred by an economy that persistently operates with falling prices.

THE TRANSITION COSTS

Transition costs arise in moving from an economy with a positive rate of inflation to one where prices are falling. This can happen either through a deliberate macro policy designed to reduce inflation or less

forming loans and eroding bank balance sheets—and raising the costs of the transition even more.

Although financial instruments and institutions eventually might adjust to an economy with falling prices, in the short run, these adjustments would contribute to economic weakness and increase the cost of moving the economy to deflation. And there are reasons to think that financial arrangements would have trouble adjusting completely, especially in the transition. For example, since people seem to care more about nominal losses than equivalent nominal gains, it might be difficult to get people to hold financial instruments that build in nominal declines in value in order to adjust to deflation.

Nominal wages (money wages not adjusted for inflation) tend not to fall. This may be an artifact of living with 60 years of post-war inflation where workers are hesitant to accept wage cuts, or it may be a more fundamental psychological attribute that people simply dislike seeing their paychecks shrink. John Maynard Keynes developed his early theories of downwardly sticky wages in the 1930s, a period not characterized by long-term inflation, suggesting that this tendency is not only the result of an inflationary environment.

Whatever the cause, if wages will not fall when other prices are falling during a significant economic contraction, real wages (wages

The biggest long-run cost of deflation may be the problems it poses for monetary policy

deliberately when economic forces reduce inflation without an effective policy counterbalance. While the term “transition” might suggest that these costs are trivial, in practice they can be large.

Significant economic weakness is typically what precipitates deflation. Deflation is usually triggered by a very weak economy, and the cost of such a period of economic weakness can be extremely serious. We knew this even before the recent 14-year Japanese episode, but that experience makes the case even more vividly—disinflation requires a cost in lost output. If historical relationships hold, the short-run cost of getting the United States economy from an inflation rate of 2 percent to a deflation rate of -2 percent, for example, would be about \$1.4 trillion in lost output—or about 13 percent of one year's GDP.

The financial system needs time to adjust to falling prices. Our modern financial system has evolved to accommodate steadily rising prices. Long-term contracts have been written under the assumption of a low but positive rate of inflation for the foreseeable future. Any unanticipated change in the inflation rate (or an expected change with only a small lead time) would require that these arrangements adjust. While it's difficult to know exactly how long such an adjustment would take, all the changes would probably not occur immediately. In the meantime, debtors would face increasing real debt payments—the opposite of what all parties assumed when the contracts were signed. Collateral values would decline over time. During an economic contraction, this would likely lead to an even further rise in delinquency and default rates, increasing the number of nonper-

adjusted for inflation) will rise. This inability to lower real wages during times of weak labor demand might restrict employment and exacerbate the contraction—at least until wages can adjust.

IN A STEADY STATE

If financial and labor markets are able to completely adjust, a stable deflation rate induces a positive real return to holding cash. However, an economy with stable deflation also incurs many of the same costs as when inflation is positive—and these costs may be larger than any gains to cash holders.

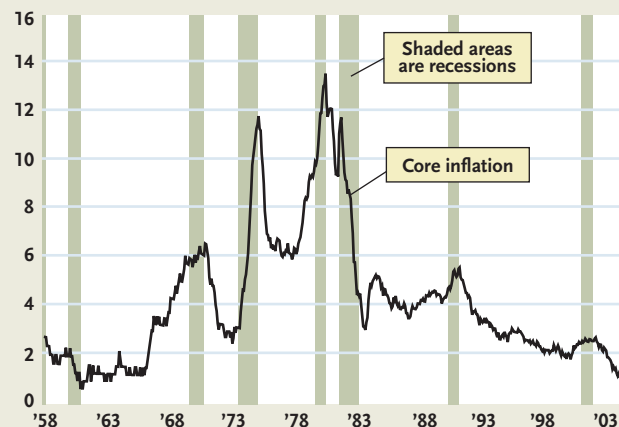
All price changes produce some costs. Distortions due to imperfectly indexed contracts or tax codes affect the economy just as much in deflationary environments as in inflationary ones. If taxes on capital income are not indexed to inflation, they might discourage investment in an inflationary environment (taxes would be figured on nominal returns, including the component reflecting inflation) and encourage too much investment in a deflationary period.

The government can lose revenue when the “inflation tax” is reduced. Since income tax rates are not indexed to prices, deflation lowers tax rates even if real spending power has not changed. At some point, those lost revenues must be recovered and other taxes must rise. If the new taxes distort economic incentives more than the inflation tax, then deflation increases the inefficiency of the economy. Even when tax rates are indexed to falling prices, there is an increased government obligation because the real rate of its outstanding debt is rising as prices fall.

Low U.S. inflation

Core inflation has declined to about 1.6 percent.

ANNUAL PERCENT CHANGE IN CORE INFLATION MEASURED BY CPI-U
(ALL ITEMS EXCLUDING FOOD AND ENERGY)



NOTE: Recession periods are defined by the National Bureau of Economic Research.
SOURCE: U.S. Bureau of Labor Statistics / Haver Analytics

There is a zero lower bound on nominal interest rates. But perhaps the biggest steady-state cost of deflation is its effect on monetary policy. For the most part, monetary policy operates through the central bank's ability to control the federal funds rate, which influences a broad array of credit market rates, such as Treasury bills, commercial paper, commercial lending rates, and mortgage rates. When the inflation rate is positive, as the Fed reduces nominal rates, real interest rates (nominal rates adjusted for inflation) drop as well. It is by lowering the real interest rate—often into negative territory—that monetary policy is able to encourage investment and other spending decisions that help increase production and bring the economy out of recession.

Thus, when an economy with deflation faces a recession, the fact that nominal interest rates cannot fall below zero means the central bank may not be able to push real interest rates low enough to alleviate the situation. As a result, an economy characterized by deflation would likely experience considerably greater fluctuations in output and employment than an economy with stable or rising prices. The central bank has other policy tools it can use—and these came under discussion last year when concerns about deflation surfaced. But, there is some risk associated with relying on these tools since they haven't been seriously tested in the post-war U.S. economy.

What prevents nominal rates from falling below zero? The main reason is that currency pays a zero rate of interest; this places an effective limit on any drop in interest rates below zero for these other assets—T-bills, certificates of deposit, etc. If their interest rates begin to fall toward zero, investors find currency an attractive alternative and increase their holdings of cash. There have been some instances when short-lived liquidity problems have temporarily produced negative interests, certain Japanese Treasury issues briefly in the late 1990s, for example. But to date, we have not observed any assets that have consistently offered a negative nominal interest rate.

Some have proposed to “solve” this problem by having currency

offer a negative interest rate. That is, at any point its value would be equal to its face value less accumulated interest. This would allow real rates on other assets to fall below zero. However, it would make currency less attractive, as people would have to calculate its worth every time they made a transaction (similar to trying to pay with a savings bond). Negative returns would also produce a rush to foreign assets, which would tend to depreciate the dollar and increase inflation.

CHOOSING THE INFLATION RATE

Some people argue that if deflation is the result of strong productivity growth, such downward pressure on prices is perfectly acceptable. Deflation brought on by strong productivity growth might reduce the transition costs, but it would not reduce the steady state costs. While an unexpected surge in productivity growth could temporarily put downward pressure on the inflation rate—as may have occurred in the late 1990s—there is no reason to accept this unintended deflation as an appropriate long-run resting place.

In the long-run, monetary policy should be able to move the economy to any rate of inflation for any rate of productivity growth. Four percent productivity growth is perfectly consistent with a long-run inflation rate of 2 percent, 0 percent, –2 percent, or any other number. Since the Fed can set this rate and most of the costs of deflation arise even when productivity growth is high, high productivity growth is not a good reason to incur those costs.

In fact, the central bank is the only actor that can determine, in the long run, the overall rate of increase of nominal prices. Inflation depends on the balance between aggregate nominal demand and aggregate nominal supply. There is essentially no way for individual consumers and firms to affect that balance.

Moreover, consumers' and firms' well-being depends primarily on relative prices. Consumers take their income and make purchases according to their desires and relative prices. It matters less whether prices and wages are rising at 0 percent or 5 percent, and more whether the price of hamburger and other things they buy are rising relative to their wages and other sources of income. Similarly, firms care more about the differences between input and output prices—wages paid compared to the price of their product—because this is what influences their bottom line. While they may care some about inflation, their primary concern is still these relative price movements.

When the central bank keeps inflation low, it ensures that the signals given to consumers and firms by relative prices are not confused by changes in inflation. When inflation is kept low, firms and consumers spend relatively few resources in activities aimed at neutralizing the influence of inflation on their economic well-being (think of the time spent in countries with extremely high rates of inflation avoiding the effects of inflation on consumer and financial transactions). A significant, sustained deflation would cause both of these problems. It would also make the conduct of monetary policy much more difficult when recessions occurred, increasing the costs from lost output that occur during such downturns. *

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