Comment on The Genesis of Inflation and the Costs of Disinflation, by Dennis W. Carlton

This is a very well thought-out paper that builds on Ball’s previous and impressive work on price adjustment. Ball emphasizes correctly the distinction between levels of inflation and changes in those levels. His focus is on the effect of changes in the level of inflation. He seeks to explain why, once it starts suddenly, inflation is persistent and why a decline in inflation causes recessions.

Unlike most of the conference participants, I am a microeconomist who has studied how markets differ in their reliance on price to clear markets [for example, see Carlton (1989)]. Some markets have flexible prices while other markets do not and clear in other ways like delivery lags. I always have difficulty regarding inflation as a uniform and simultaneous increase in all prices. I need at least a two-sector model to understand prices so that I can observe relative price changes. Let me describe briefly my understanding of the effects of inflation and then use that as background to discuss Ball’s paper (Carlton 1982).

1. Effects of Inflation

As a rough first approximation, inflation creates a general trend in all prices but also adds noise to each price. As a result, relative prices become more variable. This simple fact contains several implications. The most important is that the cost of transacting rises during inflation. When relative prices become more variable, more time must be spent gathering information about prices and decision making becomes less routine. Each price contains less information than before, not only about true shadow prices but also about future prices. Planning becomes more difficult. In response to this increase in uncertainty, contracts (whether implicit or explicit) will shorten or will have to be renegotiated more often.

If prices become noisy, there will be an incentive to minimize transaction costs by moving to products whose prices have become the least noisy. I expect that the cost of transacting in relatively liquid markets rises less than the cost of transacting in illiquid markets during inflationary times. Markets that are liquid will have many transactions on which to estimate price. In contrast, illiquid markets have only a

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few, if any, transactions to base a price estimate on and market participants must rely on the information from related markets to estimate the price in the illiquid market. But because relative prices become noisier during inflationary times, the predictive power of related prices in estimating the price in an illiquid market declines. (For example, the price of a standard suit becomes a less reliable predictor of the price of a customized suit in inflationary times.) The result is that inflation causes a shift in relative transaction costs between standard and nonstandard products. Firms now have an increased incentive to rely more on standardized products sold in liquid markets. As firms rely more on standardized products, in combination with the increase in noise in price, the benefit of creating new and using existing futures markets rises.

In many markets, firms rely on knowledge gained through long-term relationships to allocate goods. For example, many firms "ration" goods to customers, that is, firms use their judgment as to which customers to satisfy first, and do not simply rely exclusively on a price auction to clear a market. In such a setting, the marketing knowledge that sellers have acquired about buyers over the course of a long-run relationship is a valuable asset. Inflation erodes the value of this asset because it becomes harder for a seller to predict a buyer's relative needs. Therefore, inflation results in a reduction in the value of marketing knowledge used to allocate goods and thereby leads to an increased use of prices alone to allocate goods. This represents a cost because it requires the movement away from the transaction methods that had been in place and were presumably efficient. Notice that in a world with transaction costs, it is theoretically wrong to claim that prices alone are the efficient allocation device (Carlton 1991). (The empirical evidence cited in Carlton [1986] confirms this point.)

The simple point is that inflation should be expected to raise transaction costs and to affect different commodities differently. More generally, inflation is known to have different effects across both assets and consumers. Specifically, assets with different lives are affected differentially by inflation because of, for example, the tax laws regarding depreciation. Consumers who are retired on fixed incomes or own bonds are affected by inflation differently than consumers whose wages keep pace with inflation or who own stocks.

2. Application of Framework to Ball

Ball tries to explain two facts: (1) the persistence of high inflation when a shock triggers it, and (2) the recessionary impact of a decline in the rate of inflation. The discussion about the persistence of inflation is pretty straightforward. A shock initially raises prices. This price increase affects the expectation of what inflation will equal next period. The Federal Reserve knows that shortfalls of actual inflation from expected inflation will produce a recession. If individuals have adaptive expectations regarding inflation, then there is a built-in incentive for the Fed to accommodate inflation in order to avoid not meeting consumers' expectations.
This explanation for persistent inflation has appeal but I raise two questions. First, from my earlier discussion, high actual inflation creates a loss to the economy by raising transaction costs. Therefore, the Fed should find it desirable to reduce inflation from high levels even if consumers’ expectations are thwarted. The speed with which the Fed should do this depends on the relative costs imposed by high inflation versus the costs imposed by thwarted expectations. Second, is it reasonable that consumers won’t catch on to a trend in inflation and that they will only have adaptive expectations about levels of inflation? Why don’t consumers have adaptive expectations about the change in inflation? Moreover, I can’t decide whether adaptive expectations are the result of past policies, rather than the cause, as Ball suggests. I’d like to know more about the empirical evidence on how long it takes consumers to adapt their expectations in an environment of changing inflation before I would base policy on this type of argument.

The link between Fed action and consumers’ expectations is a hard one to model. Certain rules could help the Fed signal credibly its intention about inflation. Suppose that there exists a well-functioning futures market in the change in the CPI and that we require that the Fed take a position in it based on the Fed’s inflation announcements. If we judge the Fed by its cumulative trading gains and losses in the futures market relative to those it would have earned if its announcements came true, we might get some credibility to inflation announcements.

A predictive theory of how the Fed behaves in trading off the costs of thwarted consumer expectations about inflation against the extra costs of high levels of inflation could be based on the economic theory of interest groups. In that theory, regulators respond to the economic welfare of the different interest groups whose desires they (or their bosses) want to satisfy. My earlier discussion stressed the differential effects of inflation across consumers. Figuring out which groups get hurt most by thwarted inflation expectations versus which groups bear most heavily the increased transaction cost of high levels of inflation could help explain the forces influencing the Fed’s monetary policy.

Let me turn now to the discussion of the recessionary impact of a decline in the level of inflation. (This decline is called disinflation.) Not being a macroeconomist, I am unaware whether it is widely accepted that actual disinflation causes recessions. I surveyed some macroeconomists (most not from Chicago) and the replies I received indicate to me that there may be some dispute about the relationship between disinflation and recession. In any case, assuming the relationship exists, I would be interested in knowing how long the negative effects of actual disinflation last when disinflation actually occurs.

Ball’s most convincing explanation for the recessionary effect of disinflation depends, as does the inflation persistence argument, on the expectations’ formation of consumers. If consumers have adaptive expectations, they ignore announcements of disinflation and then are surprised when disinflation occurs. The negative surprise causes a slowdown in the economy. My earlier comments about the adaptive expectations hypothesis apply here. I also would point out that if consumers use adaptive
expectations and ignore policy announcements, then policy announcements of disinflation should have no effect at all, even though actual disinflations cause recessions. This implication seems counter to Ball’s beliefs (see his footnote 2).

Ball offers an ingenious explanation for why disinflations reduce output. He combines credibility problems with fixed-price contracts and a particular assumption about the probability that a policymaker reneges on reducing money growth. This result strikes me as highly dependent on the assumed shape of the hazard function for reneging and I remain skeptical of its empirical importance. Moreover, I have never understood why price indexing doesn’t work perfectly in these simple models since inflation is uniform. To arbitrarily rule out indexing underscores that these models fail to capture the real reason indexing doesn’t occur—namely, as explained earlier, price inflation is heterogeneous across products and makes relative price more variable so indexing is not so easily done.

In summary, Ball deserves praise for identifying two phenomena that are hard to explain, inflation persistence and the recessionary effect of disinflation. His most convincing explanations of each phenomenon depend on adaptive expectations. Unfortunately, economic policymakers don’t yet know how to influence credibly expectation formation.

LITERATURE CITED


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Comment on The Genesis of Inflation and the Costs of Disinflation, by Peter Howitt

Rational Expectations
Larry Ball’s argument against the uncritical use of rational expectations is very suggestive. He justifies nonrational expectations by invoking costs of acquiring information, in the same way that modern Keynesian theory (to which Ball has made important contributions) justifies sticky prices by invoking menu costs. In