

## Discussion

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John Taylor's work takes an appealing middle ground between the extreme positions of rational expectations with flexible prices and wages and of no expectations at all. The assumption of flexible prices appears to disregard important market inflexibilities, while an absence of expectations appears to be contradicted by market phenomena. One such phenomenon is the rise in nominal interest rates over the past 15 years to levels that can only be explained by expectations of continuing inflation, and another is the sizable shifts in the Phillips Curve during the 1970s. I believe Taylor's model offers great promise, but for a slightly different purpose than he emphasizes. His paper stimulates me to say how I think we should view these issues and what direction further research should take.

Recognition of expectations has been a welcome antidote to the simple Phillips Curve tradeoff, but they create problems for economics as a model-building science. Expectations are not readily explained by the maximizing framework on which practically all economic theory is based. This may perhaps be overlooked in dealing with demanders' and suppliers' individually determined expectations of specific prices, but it is a serious matter in macro models where the outcome crucially depends on everyone's expectations, all of which depend on each other. I do not see that the assumption of rationality provides much of an answer. At present, when opinions differ widely on the business outlook, what are rational expectations supposed to be?

Certainly not very precise, for one thing. In bond yields, for example, the expectation of inflation appears to be an extrapolation of past trends with a large risk premium. I have yet to see evidence in the market that expectations are much more than extrapolations of past trends, aside from natural disasters like the threat of war or aside from forecasts of Federal Reserve behavior a few days ahead (that new industry supplied by former Fed employees). Most expectations may be described as the projection of an existing permanent component and an unknown transitory component. If the public uses statistical

methods to distinguish the permanent from the random transitory component, this gives rise, as **Brunner**, Cukierman, and Meltzer (1980) remind us, to good old adaptive expectations. Of course, a first-order adaptation will not do, because it ignores serial correlation in the expectational error, and no one is so stupid as to follow an escalating inflation from below indefinitely. So we need to recognize more complicated adaptations, as well as another modification which I suggest in a moment. Adaptive expectations of the permanent component in variables need not be biased and so can satisfy that technical requirement of rational expectations, but they still may be unable to anticipate future permanent changes.

Adaptive expectations, however complex, are backward looking. Taylor's model is based on forward-looking expectations, though constrained by inflexible wages determined by contracts. Let me question forward-looking expectations indirectly by way of the credibility issue, which Taylor mentions and which we hear much of in policy discussions these days.

It seems plausible that the "credibility" of a policy would have a major influence on expectations, and I have in past writings joined in the chorus paying homage to credibility. But, granted its current popularity among economists and dramatic implications, what has credibility done for us as an explanatory device? Consider that we do not know how to measure it, certainly do not know how to produce it, and have only the foggiest notion of whether or to what degree it is absent or present. It does, however, promise the wonders of disinflation without pain. In Taylor's model, as in others, credibility influences expectations of future inflation and therefore controls the effect of the future on newly negotiated contracts.

Does the current anti-inflationary monetary policy possess this credibility? Apparently not. Current bond yields belie it (as of August 10, 1982) by not implying a declining inflation rate over the maturity of the bonds. According to Taylor's model, our present unemployment means either that monetary deceleration has proceeded too rapidly or that credibility is lacking. Many economists seem to think it is the latter. But we have an announced policy of disinflation, and the administration seems determined to persist — at least until the next election, which admittedly raises the spectre of time inconsistency. If we have not yet achieved credibility for our anti-inflationary policy with back-to-back recessions and disaster in the union strongholds of

autos and steel and satellite industries, I shudder to think what more could be done: But I want to suggest a different point—that changes in policy almost never have credibility until they are viewed as permanent, and that takes time.

We are all aware—as is Taylor—that if the problem of unemployment reflects a deceleration that is too fast, a slower deceleration would then give hardly any visible support to the announced policy of deceleration. A related problem concerns velocity during disinflation. An anticipated disinflation will reduce velocity, thus increasing the appropriate amount of monetary growth. An optimal disinflationary policy might not initially call for much of a monetary decline. But how is an announced policy of disinflation to be made credible without visible support? If credibility requires not just good intentions but visible support, and disinflation without pain requires credibility, the two may not be compatible.

Suppose short-run changes in policy cannot be made credible and that, except for clearly foreseen nonpolicy developments, expectations extrapolate the past. In that case, expectations in Taylor's model are all backward looking. Without a change in aggregate demand growth, the staggered contracts simply maintain the prevailing inflation rate. Deceleration is possible only by squeezing profit margins and reducing employment. Nominal wages will decelerate gradually, but the process necessarily involves unemployment.

It should in principle be possible to test for the existence of forward-looking expectations and by inference the existence of credibility. Some of us have been trying to estimate whether the present deceleration of prices is the same or faster according to past short-run Phillips Curves. If it were faster this time, the explanation might be that the present disinflationary policy has more credibility. But we still need to distinguish between forward-looking expectations and increases in the parameter on current demand (that is, the effect of current demand on wages and prices). Taylor's model seems to be a more sophisticated framework for comparing the two alternative paths of the variables with the actual path. This is indeed an important issue and I would stress the desirability of constructing tests of it.

One of the different and attractive implications of Taylor's model which he has emphasized is that a steady rate of deceleration in nominal aggregate demand will produce a delayed deceleration in wages, even without forward expectations, thus recommending that

demand should decelerate more slowly at first but be expected to decelerate more rapidly later. If such a sophisticated path of policy is ignored by expectations, there will be a recession at first with a delayed effect on wages. I see impressionistic support for this pattern in the late 1950s. Despite continued efforts toward disinflation in the late 1950s and despite the recession of 1957-58, the inflation seemed entrenched. But then in the aftermath of the second recession of 1960-61, wages suddenly decelerated to usher in a half decade of price stability. A similar pattern would suggest a sudden deceleration of wages in the business recovery of 1983, though now of course we start from a higher rate of increase.

If wages are to decelerate during a recovery in aggregate demand, forward-looking expectations and credibility must of course be playing some role. But the credibility need not be attributed to talk about a change in policy; it can result from two recessions, bleak prospects for many entire industries, and the fact that wages and prices are seen to be decelerating. In other words, a gradual reduction of the expected permanent component of inflation based on hard experience.

If my view is right that the process involves largely extrapolative expectations, it has the incidental implication that we are wasting our time exhorting the Federal Reserve to improve its image of credibility. All it has to do is to continue decelerating average monetary growth, whether anyone believes it will continue or not!

I can summarize my suggestions — it is yet too tentative to be an argument — by saying that expectations are formed with the future in mind, but they are largely extrapolative, and that periods of a change in policy must fight against this extrapolation of past trends. Credibility plays a role only in the long run by hardening the belief in the persistence of past trends, so that a change in trends takes time to become the new expected trend. Such long-run credibility can be very important; if prices have been stable, it can generate market resistance to incipient inflationary movements. It may be worth considering that a possible advantage of a gold standard — and perhaps the only advantage — is such dynamic stability of prices. The fixity of exchange rates may be an important element. Everyone thinks that Swiss monetary authorities have credibility, yet they hold down their inflation rate only with repeated struggles. Would not they and others have an easier time if they could tie their currency to a stable dollar? But such stability cannot be achieved by simply *saying* we will maintain the gold stand-

ard. It has to happen.

As a final point, let me qualify my earlier suggestion that expectations are adaptive. Expectations depend not only on extrapolation of the past, but also on the expectations of others. Individuals' expectations have a gravitational pull for each other. It is hard to be a maverick. But this inhibits change, because the weight of expectations affects the outcome. The pull of new developments must attract a certain following before a general change of view can occur, but at some threshold views suddenly shift. Bond yields often tend to hover around a particular level and to ratchet to new levels in rather sharp movements. (Keynes' view of the bond market as based on an expectation of the "normal" level of yields is pertinent here.) The bond market collapse of late 1979 and early 1980 is an example. I see that movement as an adaptation to past inflationary developments that became rapid once it got underway; whatever effects were to be produced by the October 1979 change in monetary policy could not have been known by the market until later, though it may have contributed to a disturbing uncertainty. Another possible example is the sudden collapse in 1970 of the fairly stable Phillips Curve existing during the 1950s and 1960s. Thus the speed with which expectations adapt to past developments may be subject to a nonlinear process. We have a long way to go to succeed in modeling expectations.

## Reference

Brunner, K., A. Cukierman, and A. Meltzer (1980), "Stagflation, Persistent Unemployment and the Permanence of Economic Shocks," *Journal of Monetary Economics*, 6 (October), pp. 467-92.