DEPRESSION OR PRICE CONTROLS:

A FICTITIOUS DILEMMA FOR ANTI-INFLATION POLICY

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After rising by more than 13 percent in 1979, the growth rate of the Consumer Price Index has further increased in the first months of 1980. Consequently, attention is being directed toward proposals for wage-price restraint. Among the proposals that have been mentioned are a wage and price freeze (as in August 1971), a mandatory control program (similar to Phase II of the Nixon-era controls), or some system of tax incentives and penalties designed to slow wage and price increases. The latter system is often referred to as a Tax-Based Incomes Policy, or TIP.

The Argument for Restraint Whatever the exact form, wage-price restraint has well-known drawbacks: (1) it may not be effective, and (2) if effective, it can do severe damage to the economy (see, for example, [10]). Advocates of controls, however, argue that the costs of controls are outweighed by the costs of the alternative anti-inflation policy, that of totally relying on monetary and fiscal restraint. Arthur Schlesinger, for example, recently argued,

> [T]he prospect of depression is the economic reality behind Carter's anti-inflation program.... In the long run, recession will indeed slow the rate of inflation. But at what social and human cost? ... [T]he worst recession in nearly 40 years, widespread unemployment and considerable human anguish ... is ... peanuts compared to what would be required to bring down the 20+% inflation rate Mr. Carter is giving us. ... 'The reserve army of the unemployed will eventually squeeze inflation out of the system,' the economist Francis Bator has aptly commented '—if it doesn't trigger a social revolution first.' The Carter-Volker policy ... is one of enormously high risk to the stability of our political as well as of our economic system. It offers a future of bitter unemployment, accompanied by a very gradual reduction of inflation and by very dangerous intensification of social tension and class hostility. [9]

Evidence that monetary and fiscal restraint would produce a severe, prolonged recession is provided by econometric simulations. After evaluating simulations from six econometric models, Arthur Okun recently found, ". . . [T]he average estimate of the cost of a 1 point reduction in the basic inflation rate is 10 percent of a year's GNP. . . ." [7] If true, Okun's conclusion would mean that lowering the annual growth rate of the Consumer Price Index below 3 percent could be accomplished by a monetary policy restrictive enough to cause a 10 percent GNP gap for a decade. [The GNP gap is an estimate of the extent to which real GNP is below normal, as would occur in a recession. In the first quarter of 1975, the trough of a particularly severe recession, the GNP gap was about 9 percent.] That policy would reduce output by about $250 billion annually (that is, roughly 10 percent of current GNP), or by $2.5 trillion over the decade.

The Fallacy in That Argument Policy evaluations using econometric models such as those examined by Okun necessarily assume that what's past is prologue, in that it is assumed people will respond to projected policy decisions in exactly the same manner as they have in the past. This seemingly innocuous assumption does simplify analysis. However, previous policy evaluations based on that assumption have often led to false conclusions.

One illustration is the income tax surcharge of 1968 and 1969. Policymakers expected the surcharge to lower consumers' disposable income, thereby reducing total spending for goods and services and thus dampening inflation. The Council of Economic Advisers, for example, on the basis of the surcharge predicted a reduction in the inflation rate for 1969 to "a little more than 3 percent." [3] Actually, the GNP implicit price deflator rose by 5.3 percent in 1969 as consumer spending accelerated, growing at a 4.6 percent rate in 1967 and an 8.7 percent rate in 1968 and 1969. As Robert Eisner has noted [4], an important reason that consumer spending failed to weaken as many had predicted was the erroneous assumption that consumers would respond to a *temporary* tax surcharge in the same manner as they had earlier responded to *permanent* tax changes. In this case the past was not prologue; therefore the actual consumer reaction to the surcharge was misjudged.

When an econometric model fails to predict the effects of an economic policy correctly, many an economist's impulse is to tinker with the model—

that is, to add a variable to an equation here, to add a new equation there, to experiment with a new statistical technique, etc. Robert Lucas [6] took another course, however, by systematically analyzing the foundation for evaluating potential economic policies with econometric models. To understand Lucas's work, it will first be necessary to review the nature of econometric models.

An immense volume of statistics concerning the economy are regularly gathered. The role of economic theory is to suggest a limited number of potentially useful relationships among the many relations possible. Typically, one first specifies the economic choices available to individuals. The next step is to characterize the choices that best achieve certain goals.

Consider the problem of how a household can best allocate consumption expenditure over its members' lifetimes, for example. Since income can limit consumer spending, economic theory might suggest to the model builder that consumption should be related to income available for people to spend. This relationship could be expressed symbolically as

$$(1) \quad C = \theta(Y-T)$$

where C is national consumption expenditure, Y is national income, T is the level of taxes and θ is a parameter, that is, some number. Theory might further predict that θ is less than 1, since individuals would desire to have funds available for emergencies or retirement and would thus not consume every penny of available income. Therefore, equation (1) states that national consumption is a fraction of national income, net of taxes. Unfortunately, theory does not often provide the exact value for a parameter. To meet that difficulty, an econometrician estimates the parameter θ by statistical methods using past data.

After an estimate of θ has been made, equation (1) could be used to predict the effect of a tax cut on consumption spending. As is often done in elementary textbooks, equation (1) could also provide a basis for a relation between national income and taxes, such as

$$(2) \quad \Delta Y = -\frac{\theta}{1-\theta}\Delta T.$$

In words, an increase in the level of taxes, ΔT, causes a fall in national income by the amount $\frac{\theta}{1-\theta}$ times the tax hike. If an econometrician estimated θ as .9, for example, equation (2) would imply that a $10 billion tax increase would reduce national income by $90 billion. It is this type of exercise that is labeled "econometric policy evaluation." Although hundreds of equations and advanced statistical techniques may be used, the process of econometric policy evaluation is a mechanical extrapolation, just as indicated by this example.

Lucas argued that this policy evaluation technique is not logically consistent.[1] That is, the same economic theory that is used to suggest equations such as (1) also predicts that a parameter such as θ will not be a *fixed* number. Instead, when economic policy changes it will often be in an individual's self-interest to change his economic behavior, which in turn may change a parameter's value. That is exactly what happened in 1968-69. The temporary tax surcharge induced consumers to spend a temporarily higher fraction of their incomes (in equations (1) and (2), that would mean that θ would be larger). Most econometric models therefore yielded incorrect predictions of the effect of the surcharge since parameters had been estimated from individuals' past behavior.[2]

A particularly graphic illustration of misleading policy evaluation can be constructed by applying Okun's 10 percent GNP gap rule to Germany in August 1922 through October 1923. Since the annual inflation rate was 300,000 percent, Okun's rule would imply that eliminating inflation in Germany would have taken a 50 percent GNP gap for 600 centuries! Actually, the German inflation was virtually eliminated in 1924 with a 10 percent GNP gap. In this example the error of making an unwarranted extrapolation is clear. It will be argued below that

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[1] Econometric models have many uses in addition to policy evaluation, and this critique does not challenge their efficacy for such uses. Moreover, it does not deny that changes can be imagined that would allow valid policy evaluation (for example, see [2]). Such changes are not trivial and have not been made on widely used models, however, including the models examined by Okun.

[2] Lucas and other members of the New Classical school of economic thought (such as Robert Barro and Thomas Sargent) have criticized Keynesian macro-econometric models on several grounds. It is useful to focus only on the critique of econometric policy evaluation since many writings by leading Keynesian economists follow the same logic. As noted above, Eisner's writing on the 1968-69 tax surcharge is consistent with the Lucas critique. Also, Alan Blinder and Robert Solow [1] briefly made an analogous argument, that "treating the fiscal and monetary tools . . . as exogenous in the statistical sense . . . involves a specification error that all econometric models will continue to commit until they specify and estimate a proper reaction function for the authorities."

the same error is made in the well-publicized econometric policy evaluations that predict excessive costs if monetary restraint is used to lower inflation.

Such forecasts rely on an equation similar to

$$(3) \quad \pi = a\pi^e + bE,$$

where π is the actual rate of inflation, π^e is the extrapolated rate of inflation,[3] E is excess capacity (usually measured either as above-normal unemployment or below-normal GNP), and a and b are parameters whose exact values are unknown. This equation, sometimes called an aggregate supply function, a price equation, or a Phillips Curve, states that the actual rate of inflation is determined by the extrapolated rate of inflation and the degree of excess capacity.[4] In this framework restrictive monetary policy can lower inflation only by slowing the economy and causing excess capacity. By statistically estimating the value of the parameter b one can then guess the amount of excess capacity needed to lower the inflation rate by a given amount. That procedure is the basis for estimates such as those examined by Okun.

These estimates assume that the parameter b is fixed. That assumption is questionable, since the estimates are based on data from the post-Korean War era—an era dominated (in fact if not in rhetoric) by only one monetary policy, that of frequently shifting targets (Robert Hetzel [5] discusses this policy, labeling it "leaning against the wind"). Briefly, the shifting target strategy involves responding to the most pressing short-run concern, such as interest rates, unemployment, inflation, the foreign exchange value of the dollar, etc. The most pressing short-run problem today, of course, will not necessarily be the most pressing problem tomorrow. In such an environment, it is not surprising that individuals have been slow to change their price or wage-setting strategies. They have observed that monetary restraint has previously been temporary, and that sooner or later the focus of monetary policy changes. Such anticipations have so far proved correct. Thus rather low estimates of the parameter b are not surprising, since individuals knew that if excess capacity should appear, the Fed would soon shift from fighting inflation to fighting unemployment.

If lower inflation were to become the dominant goal of monetary policy, the outlook could be dramatically different. Abandoning the policy of shifting targets would change the context in which individuals make price and wage decisions, thereby invalidating previous estimates of the parameter b in equation (3) and, consequently, the estimated cost of monetary restraint. A difficulty in implementing such a fundamental policy change would lie in convincing individuals that policy has in fact been changed. Simple announcement will not suffice since anti-inflation rhetoric has accompanied recent increases of inflation.

Two steps toward making future announcements more credible have recently been taken, however. Section 108 of the Full Employment and Balanced Growth (Humphrey-Hawkins) Act requires the Federal Reserve to announce annual targets for growth of monetary aggregates no later than February 20 of each year, and to explain any deviation which later occurs. This bill gives the Fed the opportunity to announce targets, and more importantly, the opportunity to establish a track record of meeting its stated targets. Such a track record would increase the responsiveness of individuals to future announcements. The second step was taken when the Fed's operating target was changed from an interest rate to nonborrowed bank reserves. Many economists believe that this change gives the Fed more control over the money supply, should such control be desired.

Conclusion The foundation for wage-price restraint is anchored in the quicksand of econometric policy evaluation. Frighteningly large estimates of the costs of monetary restraint are irrelevant if there is a credible replacement for the old policy of shifting targets. Even if such a replacement were adopted, reducing inflation would not be costless. However, a credible anti-inflation policy would lead to changes in individuals' wage and price setting strategies which would alter the economic outcome away from that predicted by models with parameters based on discarded strategies of individuals. This conclusion suggests two key questions that are not addressed in this paper: (1) whether lowering the inflation rate should be the principal goal of monetary policy, and (2) if so, what further steps are necessary to make policy credible?

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[3] The extrapolated rate of inflation is often labeled as "the expected rate" or "the underlying rate." Since these concepts are usually implemented as extrapolations of recent activity, the indicated expression may be more accurate.

[4] It may not be easy to see how this equation results from individual decisions. Phelps [8] contains several seminal essays on this point.

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