

## Response to a Defense of Zero Inflation

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### **Abstract**

This essay distills the differences between zero inflation proponents and critics to three main questions: Can the central bank make a credible commitment to maintaining a stable price level? Should monetary policy be used to reduce the tax on capital income? And would reducing uncertainty about inflation produce significant social benefits? Proponents of zero inflation answer all three questions yes, while critics answer no. The essay reviews both answers for each question and suggests that the disagreements are at least partly due to inadequacies in economic models. The essay repeats the author's view, argued in an earlier study, that when other policy options are considered, the overall benefits of a zero inflation policy shrink close to zero, and maybe even become negative.

*The views expressed herein are those of the author and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System.*

In the preceding essay, W. Lee Hoskins, president of the Federal Reserve Bank of Cleveland, reiterates the case for zero inflation and counters some of my criticisms of that potential policy goal (made in Aiyagari 1990). He speaks, I think, for many who find zero inflation a laudable goal. In this essay, I try to respond to that point of view and to clarify where and why my point of view differs. I conclude with a few comments on some common concerns about existing theoretical and empirical models.

### The Central Issues

The differences on zero inflation revolve around the answers to these questions:

- Can the central bank make a credible commitment to pursue a policy aimed at maintaining a stable price level?
- Should monetary policy be used to reduce the tax on capital income?
- Would reducing uncertainty about inflation produce significant social benefits?

Zero inflation proponents answer all of these questions yes, while critics like me answer no. Why such a disagreement? In general, I think it is fair to say that answering these questions is not just a matter of applying current economic knowledge. The theoretical models we have are incomplete, unsatisfactory in several ways, and possibly incorrect guides to policymaking. The empirical evidence is often inconclusive and open to different interpretations. Therefore, answering these questions necessarily involves a fair amount of judgment. One person's judgment leads to one set of answers; another person's, to another.

Let's examine these central issues in more detail.

#### *Central Bank Credibility*

Moving from the current rate of inflation to zero inflation may have some social costs, for it would temporarily increase unemployment. How great this transition cost would be depends crucially on the credibility of the central bank's commitment to a zero inflation goal. I concur with Hoskins that the variety of opinions among economists on the size of this transition cost arises from disagreement about how credible the public regards the policy to be.

Zero inflation proponents must believe that the public can be convinced that the central bank will stick to an announced zero inflation goal. I am rather skeptical about that.

Hoskins, for example, asserts that "a central bank can, over time, control the price level of goods and services denominated in its own currency." This conclusion is warranted only if the central bank can make a credible commitment to pursuing a particular monetary policy. Making such a credible commitment depends on coordination between the central bank and the fiscal authorities over the *long run*. The central bank can control long-run inflation if the fiscal authorities accommodate by adjusting taxes to maintain balance in the federal budget over the long run. If the fiscal authorities do not accommodate in this way, then sooner or later the central bank will be forced to monetize the accumulating mountain of public debt. Then the central bank's commitment will not be credible, and—despite intermittent, short periods when it seemed able to control inflation—it will not be able to control inflation in the long run.

Therefore, the issue of central bank credibility in pursuing an inflation target is closely connected to whether fiscal policy will be accommodative. Zero inflation proponents believe that it will be and, hence, that the central bank can make credible commitments to pursue a stable price level target. The recent repeated failures by the federal government to contain the deficit make me (and, I think, the general public) skeptical that fiscal policy will accommodate monetary policy.<sup>1</sup>

This is probably not an area in which further theorizing of a purely economic sort is likely to help narrow our differences. To do that, we need theories about the political processes governing spending, taxation, and monetary policy.

#### *The Capital Income Tax*

Reducing the inflation rate to zero would reduce the effective capital income tax rate because it would raise the real value of the depreciation deduction for businesses. The real value of that deduction would increase because the federal tax code bases it on the original dollar cost of acquiring capital goods rather than on their current market value. Some studies indicate that shifting the burden of taxation away from capital improves welfare.

I suggested (in Aiyagari 1990) that a simpler way to do that would be to index the tax code (so that changes in the average inflation rate do not shift the burden of taxation across categories of income or expenditure) and then to lower the tax rate on capital income. That is, if certain shifts in the tax burden are desirable, then these should be made directly by Congress, the authority constitutionally responsible for tax policy, rather than indirectly by the monetary authority.

Zero inflation proponents emphasize that, from a practical point of view, indexing the tax system is a difficult job. Even if indexing is the more desirable policy option, Hoskins says, why not reduce inflation now instead of waiting for a reform of the tax system?

My response has four parts.

First, if reforming the tax system is the better way to proceed, then adjusting monetary policy may well lessen the incentive to do so.

Second, while indexing certainly is difficult, it clearly is not impossible: Considerable progress has already been made, and recently. The individual income tax brackets, for example, are now indexed to some extent. We ought to be urging more progress on this front rather than considering measures that reduce the incentive for more progress.

Third, even if monetary policy managed to reach zero inflation and thereby lower the effective tax on capital income (and incur the transition cost), what guarantee is there that Congress would not respond someday by raising the statutory tax rates on capital income? If we, as economists, favor reforming the tax system and reducing the capital income tax, then we should focus our efforts on persuading Congress of the benefits of doing so. This way, the benefits are likely to last longer.

Fourth, it may not be all that difficult to link inflation and the depreciation deduction for businesses, a major channel of inflation's influence on the capital income tax. Basically, what needs to be done is to use some average inflation rate figure to annually adjust the market value of capital goods (if reliable market data on current values are not available). This wouldn't likely be a perfect system,

but it should be a significant improvement over the current system of valuing capital goods at original cost for depreciation purposes.

### *Inflation Uncertainty*

I questioned (in Aiyagari 1990) whether there was any significant benefit associated with reduced uncertainty about inflation. My reading of the theoretical and empirical studies suggests at best very weak support for the notion that reduced uncertainty itself yields much of a benefit. My reading suggests similarly weak support for the notion that deliberately reducing the average rate of inflation by reducing the average growth rate of money will reduce uncertainty about inflation.

The average inflation rate depends on the average growth in real output and money. The variability of inflation depends on the shocks hitting the economy and the way monetary and fiscal policies respond to them. So, there need not be any connection between inflation's average rate and its variability. Furthermore, the variability of inflation is not generally sufficient to assess the impact on welfare. The appropriate way for monetary and fiscal policies to respond to economic shocks need not always produce both lower inflation variability and higher welfare.

Hoskins suggests that currently available theoretical models do not take adequate account of long-run uncertainty, which he feels is very important. He cites studies that show a positive relation between the average inflation rate and long-run uncertainty and between the variability of inflation and economic growth.

Such correlations are unlikely to ever resolve these issues any more than correlations between money and output will resolve the issue of whether business cycles are driven primarily by monetary shocks or by real shocks, with money responding passively. What we need to find is not just correlations, but a causal mechanism that explains these relationships and suggests appropriate policies.<sup>2</sup>

### **A Reminder**

The cost of moving to zero inflation may be significant under the current institutional arrangement, but I agree with Hoskins that it may be insignificant under other arrangements which involve imposing rules on the central bank. I would like to remind readers, however, that in my earlier essay my negative judgment about the zero inflation policy rested on more than the policy's transition costs; it was also based on a close examination of the policy's overall welfare benefits. As I argued, when other policy options are taken into account, the benefits of zero inflation shrink close to zero—and may even turn negative.

Besides tax code changes, those other policies include deregulating interest rates on all demand deposits and paying interest on bank reserves. If we made those changes, the welfare benefit from zero inflation would only come from the use of currency. This benefit couldn't be large; currency is a very small part of total liquid assets. And most U.S. currency—over 80 percent, according to some studies (Avery et al. 1987)—is held by people living in other countries and by people active in the underground economy. Those facts make the argument for eliminating inflation much less persuasive.

### **Concluding Comments**

My criticisms of the zero inflation policy and suggestions of alternative policy options are based on my judgment of the best available theoretical models. Zero inflation proponents are dissatisfied with some of these models and suspicious of the answers they give. Hoskins, for instance, is quite skeptical of the estimates of the transaction cost of inflation because these estimates are based on market-clearing, flexible-price, rational expectations models whereas models used to estimate the transition cost contain some ad hoc friction like nominally sticky price contracts.<sup>3</sup>

I agree in principle that if models with frictions are going to be used to study the cost of shifting to zero inflation, then such models should also be used to study the cost of maintaining any particular inflation rate. However, the use of different types of models for these different purposes may simply reflect a judgment that while frictions are quantitatively important for measuring the transition cost, they are not so important for measuring the cost of a given average rate of inflation. Hoskins may be right to question that judgment. This is one area in which further research would be helpful.<sup>4</sup>

As noted earlier, Hoskins is also very skeptical of the relevance of models which suggest, in my judgment, an insignificantly low welfare benefit from reduced inflation uncertainty. This skepticism appears to be primarily due to the feeling that existing models of money and the effects of monetary and fiscal policies do not capture some important elements of how actual economies work.

I certainly agree that the present state of theoretical and empirical knowledge in this area is incomplete and thus possibly an incorrect guide to policy. Policymakers have a difficult problem that only more research can solve. Hoskins deserves credit for actively promoting such research.

<sup>1</sup>Hoskins suggests (in this issue) that requiring the central bank to pursue a low and stable inflation rate would provide credibility and minimize the transition cost. A considerable literature suggests that rules are more desirable than discretionary policymaking. I would agree with both of these propositions. Still, there remains the question of whether zero inflation is where we ought to be.

<sup>2</sup>In the United States during the 1970s, inflation's average rate and its variability were higher than during the 1960s. In Aiyagari 1990, I cited a study by John Taylor (1981) which argues that this positive relation is due merely to monetary policy responses to supply shocks that had lifted the inflation rate. This is an example of a causal mechanism that explains the observed correlation and implies that deliberately reducing the average inflation rate is not likely to reduce the variability of inflation.

<sup>3</sup>Hoskins argues that the sorts of frictions that make the transition to zero inflation costly (that is, nominal contracts) are also likely to imply significantly larger costs of maintaining a particular inflation rate. He suggests that the frictions which generate nominal contracts "must involve resource costs that are positively related to the average rate of inflation." But why should it be more costly to index contracts to a steady inflation rate of 10 percent than to one of 5 percent?

<sup>4</sup>In Aiyagari 1990, I referred to a paper by Ayse Imrohoroğlu (1989) which attempts to show that taking account of the friction of imperfect insurance markets leads to a larger estimate of the cost of a given average rate of inflation than estimates from other studies which did not take this friction into account. In her model, however, money is the only asset available for self-insurance, so I think her estimates are too large. (See Aiyagari 1990, p. 3, n. 3.)

## References

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